THE ICTP EXPERIENCE:
THE TRIL PROGRAMME
PREFACE

Anyone who knows ICTP would agree on its substantial contributions to building scientific capacity in developing countries. Often, however, I have been asked for concrete evidence of the impact; an immediate response would be the number of scientific papers that owe their origin to ICTP and the scientific programs that are built up through ICTP’s support and involvement. Indeed, at least in the last few years, the annual reports made to the ICTP Scientific Council contain these data.

There is another type of evidence that comes from direct testimonials from the participating scientists themselves. Here, the focus is as much on facts as on qualitative aspects which have meant a lot to the formation of scientific careers of thousands of young scientists who have gone through ICTP. The collection of brief essays in front of you summarizes the responses of participants in just one of ICTP’s programs, namely the TRIL, the acronym for Training and Research in Italian Laboratories. This Program is for young scientists at the post-doctoral level who are selected and funded by ICTP, to be enrolled for training and research in an Italian laboratory that best matches the Fellow’s needs. The Program is quite flexible in duration and includes – perhaps even stresses – areas that are not traditionally covered at ICTP proper.

The contributions included here are responses to a questionnaire prepared by the TRIL office. The responses were assembled as running text. I have read and edited all the essays for consistency, grammar and language. Even though the changes were extensive in some instances, I have left most expressions in their original form without changing their meaning. If there are unintended changes in meaning from the writer’s own, or if some errors remain, the responsibility for them lies entirely with me.

The collection has some 280 responses out of a total of over 1,000 TRIL Fellows. Unfortunately, the Program has lost contact with some older Fellows, some among whom have retired from active science and chose not to respond; some have changed their institutions – in some cases countries of residence – without keeping us informed; some were clearly not sufficiently motivated. Taking these factors into account, the
response rate is to be regarded as quite good. Perhaps if the Program had undertaken this exercise periodically every ten years, say, we would have heard from many more TRIL Fellows. Indeed, that should be the norm for the future.

While the essays are quite diverse in length and flow, some common observations stand out and are worth summarizing. The first of them is clearly that the TRIL Program has been immensely valuable. Its value is not simply restricted to the work done under the Program, but includes the boost it provided to many researchers in developing their careers, most of them highly successful. Some Fellows have expressly stated that they learnt how to do research, from choosing the right problems to tackling them with free inquiry. Some have also noted how the Fellowship gave them opportunities to form and maintain several long-term scientific associations with Italian scientists – who, in many cases, later become personal friends. The skills developed through the TRIL period took the Fellows to higher levels of performance later, and the experience made it possible for the Fellows to explore their research potential far better. This is indeed the gratifying facet of TRIL.

Other positive features of TRIL, as seen by its Fellows, are the access that the Program provided to modern equipment, and, in several instances, the impetus that this exposure provided them to build or establish similar facilities in their own countries. Many Fellows assess the working conditions in Italian laboratories to be on par with those in other developed nations, sometimes rendered better by the social ease with which Italians take to collaborative work. For a number of Fellows, TRIL provided a turning point for the better. They rejoiced the access to outstanding scientists and equipment, freedom to pursue their work under the watch of a gentle guiding hand. What more does a motivated young scientist need?

Most Fellows are thrilled by their exposure to Italy as a country, with much to offer in terms of culture (including, of course, its famous cuisine). It is remarkable how uniformly enthusiastic the TRIL Fellows are about Italy, and how Fellows from countries as diverse as Argentina, China, Cuba, India, Morocco and Nigeria – to name a few – feel that Italy is quite close to their own. This kinship shows the vastness of the Italian culture and its extraordinary vicissitude, with different aspects of it striking sympathetic notes with different peoples! Even the language, a barrier for many, did not seem to dampen their enjoyment of Italy and its people.

There is one aspect about which many Fellows are unhappy. They repeatedly comment that getting visa to visit Italy, and the subsequent procedures with the permit of stay, were unpleasant, bureaucratic and time-consuming. They suggest that a separate procedure for visa and permit of stay for visitors invited by scientific institutions, especially the international ones such as ICTP, setting them apart from general tourists or aspiring immigrants, will be useful. I should say that those who went through Questura
formalities through ICTP found the process quite smooth, suggesting the warm relations built up over time between ICTP and the Questura office in Trieste. I thank the responsible officials in that office. This excellent relation (in contrast to the hardship in other places) has prompted some Fellows to suggest that ICTP should take the responsibility for Questura formalities no matter where the Fellows end up staying. Some people had difficulties in finding proper and reasonably inexpensive accommodations and others found that the Fellowship amount was inadequate.

A rich range of responses has come through on the level of interest in science in developing countries. If there is a universal point to be made, it is that the practice of basic sciences is far less rewarding monetarily than are some other professions where the norm, perhaps ironically, consists of fewer years of less rigorous training. This might well have been so nearly always but the responses have called attention to the fact that the disparity has been growing lately, thus distorting the sense of societal values. Leaving aside those instances in which one’s interest in science is sturdy enough to withstand any deterrent, one has to examine how to make science more interesting to a larger number of capable people; I emphasize that merely increasing the numbers without assuring quality will do no good to anyone. Increasing salaries of scientists is not the entire answer though it could be a partial solution. At least as important is to provide easier access to the latest ideas, equipment and the most interesting scientists, an opportunity to travel to scientific meetings to exchange ideas and receive some external validation – basically become a part of a community that cares for the particular science that one does. The ability to build around oneself a small (or large) group of people who can bootstrap and support each other towards building better quality of life is what is missing in most developing countries; ICTP has been working to enhance just this ability. Often, through the TRIL Program, the Fellows have been able to get some equipment into their labs and a long-lasting connection that extends also to their students. A one-shot assistance is not enough.

Some excellent suggestions have come forth from the TRIL Fellows. One of them is that ICTP should organize on its premises a month-long course in Italian to ease the Fellows into the country before embarking on their research and training, following the practice at the Humboldt Foundation. Another was to support repeat visits of productive TRIL Fellows to the host labs, even if they are for short durations. A third suggestion was that much of the preliminary work relating to the TRIL project should occur, and be agreed upon between the Fellow and his host, before the actual visit takes place. A fourth one is that the scope of the Fellowship should be extended to all countries in the European Union. All of them will be considered (and some already have been), and will be built into the next generation of the TRIL Program. There are some suggestions that are difficult to follow: for instance, routine support of the TRIL Fellows by send-
ing them equipment and financial support.

This is a good occasion to ask: What next? Since the Program has been clearly successful, the natural response is to continue it by making incremental improvements along the lines discussed in the previous paragraphs. Perhaps there is a way to enhance the value of the Program to a qualitatively higher level. I shall discuss this briefly now.

To do so, one must look for improvements of the TRIL Program in its present form. I should stress that the analysis below is no reflection whatsoever on the great work done by Professor Furlan and his team. First, despite its enormous value to the Fellows, the TRIL Program is hardly a house-hold name among scientists, unlike, say the Humboldt Fellowship. It does not have established mechanisms for the TRIL Fellows to meet each other, learn from each other, and, in general, form a well-knit TRIL family spanning generations and countries. The TRIL office does not formally keep an active tab on the careers of most TRIL Fellows. Repeat visits are often not the rule, and the Fellowship is barely enough to live on, especially in expensive cities such as Rome, Milan and Florence. The name TRIL does not generate any special cognitive connection to Italy (unlike the name Humboldt does to Germany). I believe that with a bit more care and expense, the value of the Program can be enhanced immensely and subliminally associate Italy’s name with it; after all, Italy does pay the bill! I shall now attempt to describe the steps that need to be taken.

First, we should rename the Fellowship after a famous Italian scientist. One can go back a few hundred years and resurrect great names such as Galileo and Leonardo, but it is perhaps better to name it after Fermi. In my view, Fermi symbolizes the best of the Italian genius which can observe and explain things in their simplest form. So, let’s say that TRIL Fellows become Fermi Fellows henceforth. The psychological value is obvious: everyone knows Fermi’s name and associates it with Italy. Ask anyone who has herself not received TRIL Fellowship, and see if she recognizes the connection of TRIL to Italy!

Second, the selection of the Fellows should be done by a national committee, instead of by a single person – albeit with consultations as now. A formal process adds certain status to the selection. ICTP will continue to administer the Fellowship and set up mechanisms similar to those used by the Humboldt Foundation. I wish to expressly note one important difference from the latter. The Fermi Fellowships will be meant only for scientists from developing countries, and will build on traditions established already by TRIL mechanisms.

Third, commensurate with the increased visibility, the financial remuneration of the Fellowship should be increased. There are other possible improvements. The host professors should take the Fellowship more seriously than they now do (the comment does
not apply to all of them, clearly). An applicant should be in touch with a host lab well before arriving at the door step of the host; the hosts must set up better mechanisms for absorbing the Fellows into their groups; ICTP should indeed organize a month-long language and culture course on Italy before sending them off to the host lab. Without this last step, the Fellows get little of Italy and its greatness, however much they may appreciate the science of the host lab; and no Fellow will know the other except by sheer accident. The Program should spend more time and resources in following the careers of the Fellows, arrange repeat visits where they are worthy, make sure that Fermi Chapters are established and will keep running in major countries. The Chapters must set up connection to the Italian diplomatic missions in the respective countries. And so forth. In short, let’s do it with some vision that makes the Fellowship a classier act.

It is clear that the implementation of these suggestions will require (modest) additional funds and some more administrative structure. Given the value to the country, I believe that this will not be hard to find (and I have already had a few discussions about it). The Program office will be an integral part of ICTP (because it remains to be the best vehicle in Italy for working in developing countries), but the selection of the staff who run it must be done formally through an open and inclusive process.

In short, I would like to see something of national importance to be built on the work that ICTP has done through the TRIL Program already. Doing so is in everyone’s interest.

* * *

The TRIL Fellows have praised Professor Giuseppe Furlan and the TRIL staff for the care they have invested on the Program and Fellows – and deservedly so! Since the inception of the Program, TRIL has been Pino Furlan’s domain (and he has added an article to this volume giving an overview of the Program), and I take this opportunity to thank him and his staff, Ms. Elena Dose and Ms. Luisa Durrani, for their wonderful work over the years, and also for their cooperation in producing this volume.

Needless to say, none of it would be possible without the generous financial support of the Italian Government. It is true that by this means the influence of Italy spreads positively all over the developing world, but the comprehension that such things are important is not to be taken for granted. I have much pleasure in recording thanks to the officials in the Italian Ministries who have shown personal interest in the TRIL Program, and to the Italian scientists and people who have an altruistic outlook despite their own difficulties: perhaps they readily see in their history the panorama of the world’s problems.
The Fellows have uniformly appreciated the generosity of their host scientists. This is therefore the perfect occasion for me to add my gratitude to the many Italian scientists who acted as hosts to the thousand or so TRIL Fellows. These scientists, many of whom have been named in the essays in front of you, have clearly advanced the image of their country and should feel proud to be a part of the endeavor. Just imagining how many labs in the developing world owe something to Italy is nothing short of remarkable!

Finally, I wish to express my indebtedness to all the contributors to this volume (without which there would be no substance), to Dr. Danilo Mauro who put the responses into the running text format, Ms. Anne Gatti who inserted all my changes on several different occasions and read through the entire text, Mr. Guido Comar for his numerous technical efforts in creating the volume.

As you see, the volume is a collective effort on the part of many.

Trieste
April 30, 2007

K.R. Sreenivasan
Abdus Salam Research Professor
Director, ICTP
# CONTENTS

## THE ICTP TRIL PROGRAMME

List of Contributors

### Contributors

Mohamed Abdel Aziz ................................................................. 1
Noaman Abd El Latif El Tahawy .................................................. 3
Kamel Abdeladim ........................................................................... 4
Tareq Youssef Abdelwahed ......................................................... 5
B.L. Acharya ................................................................................ 1
K.G. Adanu .................................................................................. 8
Rajendra Singh Adhikari ............................................................. 9
Ram Kumar Agarwal ................................................................. 10
A.K. Aggarwal ............................................................................ 12
Yuri Aguilera ............................................................................... 13
Farid Ahmed ............................................................................... 15
Abdelmajid Ainane ....................................................................... 17
Afolabi Akintunde Akindahunsi .................................................. 18
Carlos Alonso Hernandez ........................................................... 19
Fernando Alvarez ......................................................................... 20
José Leonardo Alvarez Gómez .................................................... 21
Javaid Anwar ............................................................................... 22
Cosmas Ngozichukwu Anyanwu ................................................. 23
Kheradmand Arashianab Reza .................................................... 24
Adeseye Arogunjo ......................................................................... 25
Zafer Aslan ................................................................................. 26
Nabil Ayoub ................................................................................ 29
Francisco Javier Azpilicueta ....................................................... 30
Jonathan Oyebamiyi Babalola .................................................... 31
B.S. Bajwa .................................................................................. 32
Carlos Federico Balestrini ........................................................... 35
Christovam Barcellos ............................................................... 37
Sukumar Basu ............................................................................. 38
Julio Benegas ............................................................................. 40
Farida Bentayeb ......................................................................... 41
The ICTP experience: the TRIL programme

Djibril Diop................................................................. 91
Tuncay Dogeroglu....................................................... 92
Yu-Hui Dong............................................................... 93
Atanu Dutta................................................................. 94
Viresh Dutta................................................................. 96
Walter Estrada.............................................................. 98
Fakhar ul Inam.............................................................. 99
Jael Cristina Faloh Gandarilla..................................... 100
Xianping Feng............................................................. 101
Oscar Andrés Frumento............................................. 103
Ramana Rao Gandham............................................ 104
Julio A. Garcia Pelaez................................................... 106
Wilson O. Garcia........................................................ 108
Krishna B. Garg............................................................ 109
Mauricio Gende........................................................... 111
Fabiana Gennari.......................................................... 112
Vesna Gersanovska..................................................... 113
P.K. Giri......................................................................... 114
Mohan Gollapally........................................................ 115
O’Leary F. Gonzalez Matos......................................... 116
Silvia Gremes-Cordero............................................. 118
Dardo Guaraglia.......................................................... 119
Emilia Georgieva........................................................ 120
Ratnesh Gupta............................................................. 121
A.J. Haija................................................................. 122
Tigistu Haile............................................................... 124
Mohamed Halim........................................................ 126
Ivan Haltakov.............................................................. 127
Alejandro Raul Hernandez Montoya......................... 128
Saw-Wai Hla............................................................... 129
Semra Ide................................................................. 130
Ebru Ince Yilmaz........................................................ 132
Florin Ionica............................................................... 133
Fauzia Jabeen............................................................. 138
Kamlesh K. Jain.......................................................... 139
Virander Kumar Jain.................................................. 140
Mahyar Janahmadi..................................................... 141
Vesna Janicki............................................................... 142
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

Alemayehu Lakew Jemberie..............................................................143
Zuimin Jiang..............................................................144
Gin Jose...............................................................................145
Hypolito Josè Kalinowski..........................................................146
S.R. Kannan..........................................................................148
Alireza Karimian....................................................................149
Somajah Karnati.....................................................................151
Jin Seung Kim..............................................................152
Anastasiya Kirilova..............................................................153
Thomas A. Kodenkandath.........................................................154
Edvard Kokanyan..............................................................155
Milos Kopecky.......................................................................156
Sivasankara Rao Kota............................................................157
László Kovács.......................................................................158
Renata Krempaska...............................................................159
Juraj Krempasky..............................................................160
Vinod Krishan.....................................................................161
S.V. Kukhlevsky..................................................................162
Adenike Kuku.......................................................................163
Titilayo Adelaja Kuku............................................................165
Dinesh Kumar..............................................................167
J. Kumar............................................................................168
Ravi Kumar........................................................................171
Ayca Kumluca Topalli..........................................................172
Alberto Lamagna..............................................................173
Mike Leszczynski..............................................................174
Pablo Levy..........................................................................175
Guochang Li.......................................................................176
Haiyang Li..........................................................................178
Xing Zhong Li....................................................................179
Young Li...........................................................................181
Nianqing Liu.......................................................................182
Xia-Ji Liu...........................................................................183
Marija Luic..........................................................................185
Djibrilla Maiga.....................................................................186
Milan Majoros....................................................................187
Shahid Manzoor..............................................................188
Francisco das Chagas Marques..................................................190
### The ICTP experience: the TRIL programme

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rajender Singh</td>
<td>302</td>
</tr>
<tr>
<td>Sasa Sladic</td>
<td>303</td>
</tr>
<tr>
<td>Emil Smeu</td>
<td>304</td>
</tr>
<tr>
<td>Alberto Somoza</td>
<td>306</td>
</tr>
<tr>
<td>Amine Boudghene Stambouli</td>
<td>310</td>
</tr>
<tr>
<td>Vesna Stanic</td>
<td>311</td>
</tr>
<tr>
<td>Chengyong Sun</td>
<td>312</td>
</tr>
<tr>
<td>Marcel Tabak</td>
<td>313</td>
</tr>
<tr>
<td>Joaquim Teixeira de Assis</td>
<td>314</td>
</tr>
<tr>
<td>Jasmina Tekic</td>
<td>315</td>
</tr>
<tr>
<td>V.C. Tewari</td>
<td>316</td>
</tr>
<tr>
<td>Nestor Jaime Torres Salcedo</td>
<td>318</td>
</tr>
<tr>
<td>Valer Tosa</td>
<td>320</td>
</tr>
<tr>
<td>Shyama Prasanna Tripathy</td>
<td>322</td>
</tr>
<tr>
<td>Nataliya Tsud</td>
<td>324</td>
</tr>
<tr>
<td>Aleksandra Turkovic</td>
<td>325</td>
</tr>
<tr>
<td>Nikolay Uzunov</td>
<td>326</td>
</tr>
<tr>
<td>Hooman Vahedi Tafreshi</td>
<td>328</td>
</tr>
<tr>
<td>Edgar A. Vallar</td>
<td>329</td>
</tr>
<tr>
<td>Dinesh Varshney</td>
<td>332</td>
</tr>
<tr>
<td>Ricardo Hugo Velasco</td>
<td>333</td>
</tr>
<tr>
<td>Ionel Valentin Vlad</td>
<td>334</td>
</tr>
<tr>
<td>Jan Vrba</td>
<td>336</td>
</tr>
<tr>
<td>Abdul Waheed Khan</td>
<td>337</td>
</tr>
<tr>
<td>Li Wang</td>
<td>339</td>
</tr>
<tr>
<td>Peng-Ye Wang</td>
<td>340</td>
</tr>
<tr>
<td>Xiuming Wang</td>
<td>341</td>
</tr>
<tr>
<td>Jaime Wright Gilmore</td>
<td>342</td>
</tr>
<tr>
<td>Ti-Qiao Xiao</td>
<td>343</td>
</tr>
<tr>
<td>Yaozhong Xu</td>
<td>344</td>
</tr>
<tr>
<td>M.A. Yaghoubi</td>
<td>345</td>
</tr>
<tr>
<td>Ali Yilmaz</td>
<td>346</td>
</tr>
<tr>
<td>Yanguang Yu</td>
<td>348</td>
</tr>
<tr>
<td>Hamit Yurtseven</td>
<td>349</td>
</tr>
<tr>
<td>Guillermo Zampieri</td>
<td>350</td>
</tr>
<tr>
<td>Antonio Ricardo Zanatta</td>
<td>352</td>
</tr>
<tr>
<td>Martiale Gaetan Zebaze Kana</td>
<td>353</td>
</tr>
<tr>
<td>Sasa Zelenika</td>
<td>354</td>
</tr>
</tbody>
</table>
THE ICTP TRIL PROGRAMME
TRAINING AND RESEARCH IN ITALIAN LABORATORIES

“Unless it has its own scientists and technicians, no country can call itself free. This involves the whole problem of scientific and technical training from secondary education to fundamental research...”
René Maheu, UNESCO Director General (1965)

1. Introduction

The Abdus Salam INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS (ICTP) in TRIESTE set up in 1983 a fellowship scheme indicated as Programme for TRAINING AND RESEARCH IN ITALIAN LABORATORIES (TRIL). The main motivation was the increasing demand from many Developing Countries scientists to have an advanced experimental counterpart to the theoretical research and lecture-based training offered at the Trieste Centre.

A more farsighted view was to favour, through direct contacts and side-by-side research, the regular development of collaborations between the Italian scientific community and individuals, groups, and institutions in Developing Countries, enlarging substantially the line of action of the ICTP. The main objective remains to strengthen a permanent elite which, being aware of the needs of their own country and cognisant of the frontiers of science and technology, may properly influence the decision-makers’ choices.

The specific purpose of the TRIL Programme is to offer scientists from developing countries who have participated in the ICTP scientific activities (conferences, workshops, schools), the opportunity of widening their experience by getting actively involved, in different branches of physical sciences, with the research work of laboratories at Italian universities and at public and private research centres. This includes academic studies as well as practical applications and industrial projects. In general, stays in the laboratory last several months (mostly one year and longer), but shorter visits are also envisaged.

The fields covered, which reflect current activities held at the ICTP, can be broadly classified as:
Grants in a specific area are announced by a poster which contains a list of the Italian Laboratories agreeable to host scientists from Developing Countries together with a short presentation of the research activity carried out in each of them.

The selection is done jointly with the Italian laboratory indicated by the candidate as a priority in his application and is based mostly on scientific merit and on the matching of the candidate’s expertise to the research lines pursued in the laboratory.

2. Achievements

The TRIL Programme represents no doubt one of the most successful and fruitful activities of the Centre. From 1983 to December 2006, in this framework 1104 scientists (for a total of 1677 grants and 15,242 person-months) from Developing Countries have been offered many interesting opportunities to participate in side-by-side high level research, mostly experimental, working in active Italian teams with advanced equipment and experiencing an international atmosphere. (see table 1).

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants awarded</td>
</tr>
<tr>
<td>Grants of less than 3 months</td>
</tr>
<tr>
<td>Grants of more than 3 months</td>
</tr>
<tr>
<td>Fellows</td>
</tr>
<tr>
<td>Person-months</td>
</tr>
<tr>
<td>Laboratories involved</td>
</tr>
<tr>
<td>Publications submitted</td>
</tr>
<tr>
<td>Countries involved</td>
</tr>
</tbody>
</table>

*Several fellows were awarded more than one grant.
**Results obtained from the 1540 grants terminated.
It can also be interesting to have a geographical distribution of grants and fellows. This is presented in Tab. 2 which shows the figures relevant to the twelve countries which have till now better profited by TRIL.

Table 2

<table>
<thead>
<tr>
<th>Country</th>
<th>Applications</th>
<th>Grants</th>
<th>Fellows</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHINA</td>
<td>1620</td>
<td>285</td>
<td>219</td>
</tr>
<tr>
<td>INDIA</td>
<td>1404</td>
<td>311</td>
<td>211</td>
</tr>
<tr>
<td>ARGENTINA</td>
<td>233</td>
<td>109</td>
<td>76</td>
</tr>
<tr>
<td>NIGERIA</td>
<td>620</td>
<td>85</td>
<td>49</td>
</tr>
<tr>
<td>BRAZIL</td>
<td>94</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
<td>CUBA</td>
<td>160</td>
<td>73</td>
<td>40</td>
</tr>
<tr>
<td>EGYPT</td>
<td>386</td>
<td>43</td>
<td>27</td>
</tr>
<tr>
<td>TURKEY</td>
<td>164</td>
<td>39</td>
<td>26</td>
</tr>
<tr>
<td>POLAND</td>
<td>131</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>ROMANIA</td>
<td>268</td>
<td>46</td>
<td>24</td>
</tr>
<tr>
<td>BULGARIA</td>
<td>139</td>
<td>41</td>
<td>21</td>
</tr>
<tr>
<td>MOROCCO</td>
<td>117</td>
<td>41</td>
<td>19</td>
</tr>
</tbody>
</table>

More than 370 Italian laboratories have till now contributed to TRIL without any charge for the assistance offered to the fellow. Universities are the most numerous host institutions because of their historical ability of dealing with different problems and interesting solutions. On the other hand laboratories of public and private Research Institutions - CNR, ENEA, INFN and several others - often make available equipment specifically suited to a given research and the presence of good-level foreign visitors can be a valid solution to temporary personnel problems. The Italian Ministries of Foreign Affairs (MAE) and of University and Research (MIUR) also support special projects. The stay in Italy also represents a rewarding cultural and human experience, even more if the fellow is accompanied by his family members.

As a measure of the success one can mention the often significant contribution offered by the fellow to the research activity of the laboratory, the good standard of the reports published, the fact that frequently a TRIL fellowship, considered a guarantee of academic excellence, has been instrumental for the scientists to progress in his academic carrier (to the rank of Full Professor, Vice Chancellor, High Ministerial Official, even Minister). Another positive aspect is represented by the ever increasing interest
The ICTP experience: the TRIL programme

and participation of the Italian scientific institutions which offer the possibility of a high level scientific collaboration and often contribute financially to the costs of the grant, sometimes through specific agreements (in 2006 the financial contribution from those sources constituted almost two thirds of the TRIL budget!).

3. Developments

The visit of an individual scientist in many cases constitutes the seed for a more extended collaboration, which sometimes involves the institutions. One can quote the fruitful, almost regular collaboration between Italian Laboratories and corresponding institutions in India, China, Cuba, Argentina, Morocco, Nigeria. This side of the programme, i.e. the “follow-up” stage, represents one of the main objectives of the TRIL and needs continued attention and support. Many return visits have been supported but in order to make the “follow up” action more effective, the creation of a TRIL Associate Scheme was recently advocated. Paralleling the original ICTP-Associate Programme, the TRIL Associates are entitled to pay regular visits to the laboratory of their first stage (preferably), 5 visits in 5 years, 2-3 months each time, to complete and update original research projects.

Twenty-four years later, the above summary confirms that the TRIL Programme can be considered a very valuable component of the action of the ICTP (and of the Italian Government) to strengthen a scientific-technological élite in the Developing World, in the broader framework of the relations between the North and the South. A natural development of TRIL is a series of “more”, more funds, more topics to be included, more fellowships, more collaborations, more synergy among the several ICTP programmes and so on. But also more industrialized countries supporting our endeavour: in particular partners from Europe are welcome any time! Will our community of physicists be willing to set up for instance a TREL (E for Europe) Programme?

Trieste
February 2007

Professor Giuseppe Furlan
University of Trieste - ICTP
LIST OF CONTRIBUTORS

Mohamed Abdel Aziz
National Centre for Nuclear Safety and Radiation Safety
3 Ahmed El Zomar - El Zohour District
Nasr City - P.O. Box 7551
Cairo
Egypt
aazziz25@yahoo.com

Noaman Abd El Latif El Tahawy
Center for Radiation Research and Technology
3 Ahmed El Zomar St., 8th Sector
Madint Nasr-P.O.Box:29 Madint Nasr
Cairo
Egypt
noamaneltahawy@yahoo.com

Kamel Abdeladim
Centre de Developpement des Energies Renouvelables
BP 62
Bouzareah 16340
Algiers
Algeria
abdeladim92@hotmail.com

Tareq Youssef Abdelwahed
Department of Meteorology, Photochemistry and Agriculture
National Institute of Laser Enhanced Sciences (NILES)
Cairo University
Giza
Egypt
tareq.youssef@niles.edu.eg

B. L. Acharya
Radiation Physics Unit
Department of Radiodiagnosis and Radiotherapy
RNT Medical College ( University Medical College)
and Associated Group of Hospitals,
Udaipur – 313001
India
bhairun@yahoo.co.in

K. G. Adanu
Department of Physics
University of Ghana
P.O. Box LG 626 Legon
Accra
Ghana
adanu-kg@ug.edu.gh

Rajendra Singh Adhikari
Politecnico di Milano
Department of Building Environment Sciences & Technology (BEST)
Via Garofalo 39
20133 Milano
Italy
rajendra.adhikari@polimi.it

Ram Kumar Agarwal
Department of Trade & Taxes
Government of NCT of Delhi
Vyapar Bhawan
New Delhi –110002
India
ramara_62@yahoo.com

A.K. Aggarwal
Central Scientific Instruments Organisation
Sector-30c
Chandigarh-160030
India
aka1945@rediffmail.com

Yuri Aguilera
Instituto Superior de Tecnologías y Ciencias Aplicadas
Quinta de Los Molinos Plaza
Ciudad Habana
Cuba
yuri@instec.cu,
The ICTP experience: the TRIL programme

Farid Ahmed
Department of Physics
Jahangirnagar University
Savar, Dhaka 1342
Bangladesh
fahmed_ju@yahoo.com

Abdelmajid Ainane
Moulay Ismail University
Faculty of Sciences
Physics Department
B. P. 11201
Zitoune, Meknes
Morocco
ainane@fsmek.ac.ma

Afobari Akintunde Akindahunsi
Department of Biochemistry
Federal University of Technology
Akure
Nigeria
aaakindahunsi@yahoo.co.uk

Carlos Alonso Hernandez
Centro de Estudios Ambientales de Cienfuegos
AP5 Ciudad Nuclear
Cienfuegos
Cuba
carlos@ceac.perla.inf.cu

Fernando Alvarez
Instituto de Física “Gleb Wataghin”
Departamento de Física Aplicada
Unicamp
13083-970 Campinas, São Paulo
Brazil
alvarez@ifi.unicamp.br

José Leonardo Alvarez Gómez
Centro Nacional de Investigaciones Sismológicas
Caja Postal 2775, Habana 13
Cuba
leovalvar@chcenais.cu

Javaid Anwar
Department of Physics
COMSATS CIIT
Park Road Campus
Islamabad
Pakistan
drjavedanwar@comsats.edu.pk

Cosmas Ngozichukwu Anyanwu
National Centre for Energy Research and Development
University of Nigeria Nsukka
410001 Enugu State
Nigeria
cosmasanyanwu@yahoo.com

Kheradmand Reza Arashtanab
Research Institute for Applied Physics and Astronomy
University of Tabriz
51665-163, Tabriz
Iran
r.kheradmand@tabrizu.ac.ir; rkherad@yahoo.co.uk

Adeseye Arogunjo
Department of Physics, Federal University of Technology
P. M. B. 704
Akure Ondo State
Nigeria
arogmuyi@yahoo.com

Zafer Aslan
Anadolu Bil Meslek Yüksekokulu
Bilgisayar Teknolojileri ve Programlama
Anadolu Bil Professional School of Higher Education
Computer Technologies and Programming
İnönü Cad. Karadeniz Sok. No: 5 Sefaköy
Istanbul
Turkey
zaslan@itieu.edu.tr
Nabil Ayoub  
Department of Physics  
Yarmouk University  
21163 Irbid  
Jordan  
nayoub@yu.edu.jo

Francisco Javier Azpilicueta  
Facultad de Ciencias Astronómicas y Geofísicas  
Universidad Nacional de La Plata  
Paseo del bosque s/n  
(1900) La Plata  
Argentina  
azpi@fcaglp.unlp.edu.ar

Jonathan Oyebamiji Babalola  
Biophysical Chemistry Unit  
Department of Chemistry  
University of Ibadan  
Ibadan  
Nigeria  
bamijibabalola@yahoo.co.uk

B.S. Bajwa  
bsbajwa@gmail.com  
Department of Physics  
Guru Nanak Dev University  
Amritsar  
India

Carlos Federico Balestrini  
Departamento Oceanografía  
Servicio de Hidrografía Naval  
Av. Montes de Oca 2124  
(1271) Buenos Aires  
Argentina  
cfbales@mail.retina.ar

Christovam Barcellos  
DIS/CICT/FIOCRUZ  
Av. Brasil 4365, Rio de Janeiro, RJ  
21045-900, Brazil  
and  
Health Information Research Department  
Centre of Scientific and Technological Information  
Oswaldo Cruz Foundation  
Av. Brasil 4365, Manguinhos  
Rio de Janeiro  
Brazil  
xris@fiocruz.br; xris@dce001.cict.fiocruz.br

Sukumar Basu  
B9/12 Marshelin Co-operative Housing Ltd.  
Phase II, Kolkata (Calcutta) 700107  
West Bengal  
India  
sukumar_basu@yahoo.co.uk

Julio Benegas  
IMASL-Fac. Cs. Fis. Mat. y Naturalea  
Universidad Nacional de San Luis  
5700 San Luis  
Argentina  
jbenedas@unsld.edu.ar

Farida Bentayeb  
Département de Physique  
Facultédes Sciences, Avenue Ibn Battota  
Rabat  
Morocco  
bentayebfr@yahoo.fr

Graciela Bertuccelli  
Instituto de Física “Arroyo Seco”  
Facultad de Ciencias Exactas  
Universidad Nacional del Centro Provincia de Buenos Aires  
Pinto 399  
7000 Tandil  
Argentina.  
gbertucc@exa.unicen.edu.ar
Vu Thi Bich
Center for Quantum Electronics
Institute of Physics and Electronics
Vietnamese Academy of Sciences and Technology
10, Dao Tan, Ba Dinh, Hanoi
Vietnam
vtbich@iop.vast.ac.vn

Muhittin Bilgili
Gazi University
Engineering and Architecture Faculty
Mechanical Engineering Department
Maltepe 06570
Ankara
Turkey
bilgili@gazi.edu.tr

Carla Bittencourt Papaleo Montes
Carla Bittencourt
Materia Nova
Parc Initialis
Avenue Nicolas Copernic 1
B - 7000 MONS
Belgium
carlabittencourt@yahoo.com

Tomas Bleha
Polymer Institute
Slovak Academy of Sciences
84236 Bratislava
Slovakia
upolble@savba.sk

Piotr Bogus
Department of Physics and Biophysics
Medical University of Gdansk
Debinki 1
80-211 Gdansk
Poland
and
Rail Vehicel Institute TABOR
Warszawska 1
61-055 Poznan Poland
piotr.bogus@amg.gda.pl

R. Boopathy
Department of Biological Sciences
Nicholls State University
Thibodaux, LA 70310
USA
biol-rrb@nicholls.edu

Emil Bournaski
Institute of Water Problems
Bulgarian Academy of Sciences
Acad.G.Bontchev Street, Block 1
BG--1113, Sofia
Bulgaria
bournaski@netscape.net

Paul Kingsley Buah-Bassuah
Laser and Fibre Optics Centre
Department of Physics
University of Cape Coast
Cape Coast
Ghana.
buahbass@hotmail.com

Dunjia Bulajic
University of Novi Sad
trg Dositeja Obradovica
Novi Sad
Serbia
dnjb88@hotmail.com

Ana Ester Cabal Rodriguez
Centro de Aplicaciones Tecnológicas y
Desarrollo Nuclear (CEADEN)
5ta ave. esq. 30, No. 502, Miramar, Playa
La Habana
Cuba
acabal@ceaden.edu.cu

Francisco Calderón Piñar
Faculty of Physics-IMRE
San Lázaro y L Vedado
La Habana 10400
Cuba
calderon@fisica.uh.cu
Octavio Anacario Calzadilla Amaya
Facultad de Física
Universidad de La Habana
10400 La Habana
Cuba
calza@fisica.uh.cu

Ljiljana R. Cander
Rutherford Appleton Lab Ljiljana R. Cander
Laboratory
Space Science & Technology Department
Radio Communications Research Unit
Chilton, Didcot, Oxon OX11 0QX,
United Kingdom
l.cander@rl.ac.uk

Chuanbao Cao
Research Center of Materials Science
Beijing Institute of Technology
Beijing 100081
P.R. China
cbcao@bit.edu.cn

Ivan Chambouleyron
Institut de Physique de l’Ecole Normale Supérieure
155 Cours de Vincennes
94235 Courbevoie Cedex
France
ivanch@phy.sorbonne.fr

Dornadula Chandrasekharam
Department of Earth Sciences &
Centre of Studies in Resources Engineering,
Indian Institute of Technology Bombay,
Mumbai 400076
India
dchandra@geos.iitb.ac.in

Chen Chenjia
Physics School
Peking University
Beijing, 100871
P.R. China
jiachen@pku.edu.cn

Xianfeng Chen
Institute of Optics and Photonics
Department of Physics,
Shanghai Jiao Tong University
Shanghai 200240
P.R. China
xfchen@sjtu.edu.cn

Yong Chen
Ecole Normale Supérieure
24 Rue Lhomond,
75231 Paris,
France
yong.chen@ens.fr

Bingying Cheng
Optical Physics Laboratory
Institute of Physics
Chinese Academy of Sciences
Beijing 100080
P.R. China
bycheng@aphy.iphy.ac.cn

Theo Chidiezie Chineke
Department of Physics
Imo State University
PMB 2000
Owerri
Nigeria
chidiezie@yahoo.com

Xiangfeng Chu
School of Chemistry and Chemical Engineering
Sun Yat-sen University
Guangzhou 510275
Guangdong
P.R. China
xfchu99@hotmail.com

Kervin Chunga
Universidad de Guayaquil
Facultad de Ciencias Naturales
Av. 25 de Julio y Pio Jaramillo
Guayaquil
Ecuador
kervin.chunga@gmail.com
The Abdus Salam International Centre for Theoretical Physics
The ICTP experience: the TRIL programme

Héctor Oscar Di Rocco
Instituto de Física Arroyo Seco
Facultad de Ciencias Exactas
Universidad Nacional del Centro de la Provincia de Buenos Aires
Pinto 399
7000 Tandil
Argentina
hdrocco@exa.unicen.edu.ar

Sergio Díaz-Castañón
Laboratorio de Magnetismo
Instituto Ciencia y Tecnología de Materiales (IMRE)
Universidad de La Habana
La Habana C.P 10400
Cuba
magnete@fisica.uh.cu

Djibril Diop
Département de Physique
Faculté des Sciences et Techniques
Université Cheikh Anta Diop
Dakar
Sénégal
ddiop@ucad.sn

Tuncay Dogeroglu
Environmental Engineering Department
Faculty of Engineering and Architecture
Anadolu University
Iki Eylül Campus
26480 Eskisehir
Turkey
tdogeroglu@anadolu.edu.tr

Yu Hui Dong
State Key Laboratory for Surface Physics
Institute of Physics
Chinese Academy of Sciences
P.O. Box 603
Beijing 100080
P.R. China
dongyh@mail.ihep.ac.cn

Atanu Dutta
Fuel Cell and Battery Section
Central Glass and Ceramic research Institute
196 Raja S.C. Mullick Road
Kolkata- 700 032
India
duttaatanu@rediffmail.com

Viresh Dutta
Center for Energy Studies
Indian Institute of Technology
Haus Khas
New Delhi 110016
India
vdutta@ces.iitd.ac.in

Walter Estrada López
Instituto Peruano de Energía Nuclear (IPEN)
Lima
Peru
westrada@terra.com.pe

Fakhar ul Inam
Department of Physics
Ohio University
Athens OH 45701
USA
inam@helios.phy.ohiou.edu

Jael Cristina Faloh Gandarilla
Laboratorio de Magnetismo
Facultad de Física
Universidad de La Habana
La Habana C.P. 10400
Cuba
cristina@fisica.uh.cu

Xianping Feng
Shanghai Institute of Optics & Fine Mechanics
Academia Sinica
P.O.Box 800211
Shanghai
P.R. China
pfeng@cnnet.upr.edu
The ICTP experience: the TRIL programme

Oscar Andrés Frumento  
Centro Nacional Patagónico - CONICET  
Boulevard Brown s/n  
U9120ACV Puerto Madryn  
Argentina  
oscar@cenpat.edu.ar

Ramana Rao Gandham  
Department of Physics  
University College  
Vidyaranya Puri  
Warangal 506009  
India  
ganramana@yahoo.com  
(temporary till end of October 2007)  
Eritrea Institute of Technology  
Asmara  
Eritrea

Julio A. Garcia Pelaez  
National Center of Seismological Researches  
CENAIS  
La Habana  
Cuba  
jalgp@yahoo.com; julio@chcenais.cu

Wilson O. Garcia  
National Institute of Physics  
College of Science  
University of the Philippines  
Diliman, Quezon City 1101  
Philippines  
wilson@nip.upd.edu.ph

Krishna B. Garg  
Department of Physics  
University of Rajasthan  
Jaipur-302004  
India  
krish35@sancharnet.in

Mauricio Gende  
La Facultad de Ciencias Astronomicas y Geofisicas  
Universidad Nacional de La Plata  
Paseo del Bosque S/N - (B1900FWA)  
La Plata  
Buenos Aires  
Argentina  
gmende@fcaglp.fcaglp.unlp.edu.ar

Fabiana Gennari  
Centro Atomico Bariloche (CNEA)  
S. C. de Bariloche  
R8402AGP Rio Negro  
Argentina  
gennari@chcneag.gov.ar

Vesna Gersanovska  
Institute of Radiology  
University Clinical Center  
Vodnjanska 17, Skopje  
Macedonia  
vgersan@yahoo.com

P. K. Giri  
Department of Physics  
Indian Institute of Technology  
Guwahati, Guwahati 781039  
India  
giri@iitg.ernet.in

Mohan Gollapally  
H.No.9-8/3, Road. No.7A  
Dwarakapuram, Dilsukhnagar  
Hyderabad 500060  
India  
gmohan@iitb.ac.in

O’Leary F. Gonzalez Matos  
National Centre of Seismological Research  
Calle 17 n. 61 4 y 6 Rpto. Vista Alegre  
Santiago de Cuba  
Cuba  
olearygm@yahoo.com; oleary@chcenais.cu
The Abdus Salam International Centre for Theoretical Physics

Gin Jose
Department of Physics
Indian Institute of Technology Guwahati
Guwahati-781039
India
gjose@iitg.ernet.in

Hypolito José Kalinowski
Centro Federal de Educacao Tecnologica do Paran
Av. Sete de Setembro, 3165
80230-901 Curitiba
Brazil
hjkalin@cpgei.cefetpr.br

S.R. Kannan
Department of Mathematics
Gandhigram Rural University
Gandhigram 624 302
Dindigul District, Tamil Nadu
India
srkannaniitm@mail.com;
srkannan_gri@yahoo.co.in

Alireza Karimian
Nuclear Research Center for Agriculture and Medicine (NRCAM – AEOI)
P.O.Box: 31485 – 498
Karaj
Iran
akarimian@nrcam.org;
A_R_Karimian@yahoo.com

Somaiah Karnati
Department of Physics
Osmania University
Hyderabad 500007
India
karnati_somaiah@yahoo.com

Jin Seung Kim
Department of Physics
Chonbuk National University
Jeonju 561-756
Korea
jin@chonbuk.ac.kr

Anastasiya Kirilova
Dianadab, blok 1 vhod1 ap.32
Sofia 1172
Bulgaria
Anastasiya.Kirilova@meteo.bg

Thomas A. Kodenkandath
American Superconductor Corporation
Two Technology Drive
Westborough, MA 01581-1721
USA
tkodenkandath@amsuper.com

Edvard Kokanyan
Institute for Physical Research
National Academy of Sciences of Armenia
Ashtarak
Armenia
edvkok@yahoo.com

Milos Kopecky
Institute of Physics
Academy of Sciences of the Czech Republic
Na Slovance 2
CZ-182 21 Praha 8
Czech Republic
kopecky@fzu.cz

Sivasankara Rao Kota
Department of Physics
Kuwait University
P. O. Box. No. 5969
Safat 13060
Kuwait
ksrao@iitb.ac.in

László Kovács
Research Institute for Solid State Physics and Optics
Konkoly-Thege M. út 29-33,
H-1121 Budapest
Hungary
lkovacs@sztki.hu
The ICTP experience: the TRIL programme

Renata Krempaska
Paul Scherrer Institute
5232 Villigen PSI
Switzerland
renata.krempaska@psi.ch

Juraj Krempasky
Sommerfeldstr. 3C
5200 Brugg AG
Switzerland
juraj.krempasky@psi.ch

Vinod Krishan
Indian Institute of Astrophysics
Bangalore-560034
India
vinod@iiap.res.in

S.V. Kukhlevsky
Department of Experimental Physics
Institute of Physics
University of Pécs
H-7624 Pécs
Hungary
szergej@fizika.ttk.pte.hu

Adenike Kuku
Department of Biochemistry,
Obafemi Awolowo University,
Ile-Ife,
Nigeria
adenikekuku@yahoo.com

Titilayo Adelaja Kukú
Department of Electronic and Electrical Engineering
Obafemi Awolowo University
Ile-Ife,
Nigeria
titilakuku@yahoo.com; takuku@oauife.edu.ng

Dinesh Kumar
Electronic Science Department
Kurukshetra University
Kurukshetra 136 119
India
dinesh_elsd@yahoo.com

J. Kumar
Crystal Growth Centre
Anna University
Chennai - 600 025
India
marsjk@yahoo.com; marsjk@annauniv.edu

Ravi Kumar
Materials Science Division
Nuclear Science Centre
P.O. Box 10502 Aruna Asaf Ali Marg
New Delhi 110067
India
ranade@nsc.ernet.in

Ayca Kumluca Topalli
SONY UK Limited
Jåys Close Viables
Basingstoke
RG22 4SB Hampshire
UK
atopalli@isnet.net.tr

Alberto Lamagna
MEEMS Group Unidad de Actividad Fisica
CNEA Av. Libertador 8250
1429 Buenos Aires
Argentina
lamagna@tandar.cnea.gov.ar

Mike Leszczynski
Unipress Sokolowska 29/37
01 142 Warsaw
Poland
mike@unipress.waw.pl

Pablo Levy
Departamento de Física
Centro Atómico Constituyentes
Comisión Nacional de Energía Atómica (CNEA)
Av.Gral Paz 1499 (1650) San Martin,
Prov. de Buenos Aires
Argentina
levy@cnea.gov.ar

XXX

The Abdus Salam International Centre for Theoretical Physics
Guochang Li
Department of Physics
University of Science and Technology of Hebei
No.186, Yu Hua East Road
Shijiazhuang, 050018
P.R. China
gcli@hebust.edu.cn

Haiyang Li
Rd. Zheda 38#, Hangzhou
Zhejiang Province
P.R. China
phyhyli@zju.edu.cn

Xing Zhong Li
Department of Physics
Tsinghua University
Beijing 100084
P.R. China
lxz-dmp@tsinghua.edu.cn

Yougui Liao
École Polytechnique de Montréal
P.O. box 6079, Succ. centre-ville
Montréal, Québec, H3C 3A7
Canada
yougui.liao@globalsino.com

Nianqing Liu
Institute of High Energy Physics
Chinese Academy of Sciences
100049 Beijing
China
liunq@ihep.ac.cn

Xia-Ji Liu
21# 403 Hongxingxiaoqiu
Qiqihaer
Heilongjiang Province
China
(presently at: ACQAO
School of Physical Sciences
The University of Queensland
Brisbane, Queensland 4072
Australia)
xiaji@physics.uq.edu.au

Marija Luic
Laboratory of Chemical and Biological Crystallography
Division of Physical Chemistry
Rudjer Boskovic Institute
Bijenicka 54
Zagreb 10000
Croatia
marija.luic@irb.hr

Djibrilla Maiga
Direction Nationale de la Météorologie
B.P. 237
Bamako
Mali
djibamaigaf@yahoo.fr

Milan Majoros
9 Ferndale Rise
Cambridge
CB5 8QG
U.K.
mm293@cam.ac.uk

Shahid Manzoor
Physics Research Division
Pakistan Institute Nuclear Science Technology
P.O. Nilore
Islamabad
Pakistan
manzoor@bo.infn.it

Francisco das Chagas Marques
Departamento de Física Aplicada
Instituto de Física Gleb Wataghin
Universidade Estadual de Campinas - UNICAMP
P.O. Box 6165
Campinas, SP 13083-970
Brazil
marques@ifi.unicamp.br
Artur Martirosyan  
Institute for Physical Research  
National Academy of Sciences of Armenia  
Ashtarak 378410  
Armenia  
artur_m1@freenet.am

Jose Luis Medina Monroy  
Departamento de Electrónica y Telecomunicaciones  
Centro de Investigación Científica y de Educación Superior de Ensenada B.C.  
Km. 107 Carretera Tijuana - Ensenada  
Ensenada, Baja California  
C.P. 22860  
México  
jmedina@cicese.mx

Ariadna Mendoza Cuevas  
Calle 3ra e/ 2 y 4 Edif. MINREX Apto. 1D, Vedado, c.p: 4 , Plaza, Ciudad de La Habana  
Cuba  
amendoza@aemail4u.com

Xiangti Meng  
Institute of Nuclear Energy Technology  
Tsinghua University  
Energy Science Building  
Beijing 100084  
China  
mengxt@mail.tsinghua.edu.cn

Daniela Maura Migliardi  
CETA  
Area Science Park  
Padriciano 99  
34012 Trieste  
migliardi@area.trieste.it

Hrvoje Mihanovic  
Hydrographic Institute of the Republic of Croatia  
Zrinsko Frankopanska 161  
Split 21000  
Croatia  
hrvoje.mihanovic@hhi.hr

Virglijus Minialga  
Department of Physics  
Kaunas University of Technology  
Studentu 50-243  
LT 5136  
Kaunas  
Lithuania  
virglijus.minialga@ktu.lt

Zein Mirghani  
Department of Biochemistry  
College of Medicine  
University of Sharjah  
P.O. Box 27272  
Sharjah  
United Arab Emirates  
zmirghani@sharjah.ac.ae

Rosaline Mishra  
Environmental Assessment Division  
Bhabha Atomic Research Centre  
Modlab  
Anushakti Nagar  
Mumbai 400085  
India  
rosaline.mishra@gmail.com

Oscar Moran  
Istituto di Biotisica  
Consiglio Nazionale delle Ricerche  
Via De Marini, 6  
Genova 16149  
Italy  
moran@ge.ibf.cnr.it

Karim Movassaghi  
Department of Chemistry  
Ishafan University  
Ishafan 8174  
Iran  
movassaghi2000@libero.it
The Abdus Salam International Centre for Theoretical Physics

Oyediran Kayode Owoade
Department of Physics
Obafemi Awolowo University
Ile-Ife
Osun State
Nigeria
owoade2001@yahoo.com

Amlan Jyoti Pal
Department of Solid State Physics
Indian Association for the Cultivation of Science
Jadavpur
Kolkata 700032
India
sspajp@iacs.res.in

Chidambaram Palaniappan
Planters Energy Network
No.5, Power House Street
N.R.T. Nagar
Theni 625 531
India
pen01@sify.com

Felix Palumbo
Consejo Nacional de Investigaciones Científicas y Técnicas
Centro Atómico Constituyentes-Comisión Nacional de Energía Atómica
Av. Gral Paz 1499
Buenos Aires
Argentina
palumbo@cnea.gov.ar

Carlos Leopoldo Pando Lambruschini
Instituto de Física
Universidad Autónoma de Puebla
Av. 18 Sur y San Claudio, C.U.
San Manuel, Puebla
Mexico
carlos@venus.ifup.buap.mx

Imtiyaz Ahmed Parvez
Council of Scientific and Industrial Research
Centre for Mathematical Modelling and Computer Simulation
Solid Earth Modelling Program
NAL Belur Campus
Bangalore 560 037
India
parvez@cmmacs.ernet.in

Ida Ines Pedroso-Herrera
Departamento de Geologia Ambiental, Geofísica y Riesgo
Instituto de Geofísica y Astronomía
Agencia del Medio Ambiente
Calle 212 No 2906 entre 29 y 31
ZP 11600
La Lisa
Ciudad de la Habana
Cuba
ida@iga.cu

Thilakan Periyasamy
Appasamy Research Institute of Nanotechnology
Navamal Kapper Village, M.N. Kuppam
Kandamangalam (PO), Villupurum (Dt)
Tamil Nadu 605102
India
thilakan@hotmail.com

Igor Petenko
A.M. Obukhov Institute of Atmospheric Physics
Russian Academy of Sciences
Pyrzhvesky per., 3
Moscow 119017
Russia
i.petenko@isas.cnr.it

Boyan Petko
Solar-Terrestrial Influences Laboratory
Bulgarian Academy of Sciences
Stara-Zagora branche
P.O.Box 73
Stara Zagora 6000
Bulgaria
b.petkov@isas.cnr.it
The ICTP experience: the TRIL programme

**Jai Prakash**  
Vice Principal & Reader in Physics  
Ramjas College  
University of Delhi  
Delhi 110007  
India  
jprakash48@yahoo.com

**Hektor Preza**  
Department of Chemistry  
Faculty of Natural Sciences  
University of Tirana  
Bulevard “Zog I”  
Tirana  
Albania  
hpreza@yahoo.com

**Adriana Puiu**  
National Institute for Laser, Plasma and Radiation Physics  
409 Astomistilor St  
P.O. Box MG-36  
Bucharest-Magurele 077125  
Romania  
adrianap@nipne.ro

**Vijaya Kumar Puppala**  
Project Directorate for Cropping Systems Research  
Modipuram 250110  
Meerut, Uttar Pradesh  
India  
pvkumar@crida.ernet.in

**Abdallah Qteish**  
Department of Physics  
Yarmouk University  
Irbid 21163  
Jordan  
aqteish@yu.edu.jo

**Nikolay Rachev**  
Department of Meteorology and Geophysics  
Faculty of Physics  
Sofia University “St. Kliment Ohridski”  
3 James Bouchier Blvd.  
Sofia 1164  
Bulgaria  
nick@phys.uni-sofia.bg

**J. K. Radhakrishnan**  
Solidstate Physics Laboratory  
Lucknow Road, Tamarpur  
Delhi 110054  
India  
jkrkrish@yahoo.co.in

**Vasanthi Rajaraman**  
Council for Scientific and Industrial Research  
Electrode and Electro Catalysis Division  
Central Electro Chemical Research Institute  
Karaikudi 630 006  
India  
avasanthi_rajaram@yahoo.com

**Wael Abd El-Mohsen Ramadan**  
Department of Physics  
Faculty of Science  
Mansoura University  
Damietta  
Egypt  
wramadan_eg@yahoo.com

**Rosula Reyes**  
Department of Electronics, Computer and Communications Engineering  
School of Science and Engineering  
Ateneo de Manila University  
Katipunan Rd., Loyola Hgts.  
Quezon City 1108  
Philippines  
rjsreyes@ateneo.edu
Pedro Augusto Matos Rodrigues  
Instituto de Física  
Universidade de Brasília  
Caixa Postal 04455  
Brasília, DF  
Brazil  
pedro@unb.br

Tatjana Rokvic  
Balzakova 1  
21000 Novi Sad  
Serbia & Montenegro  
t_rokvic@yahoo.com

Svetla Rousseva  
Department of Soil Erosion  
N. Poushkarov Institute of Soil Science  
Shosse Bankya 7  
Sofia 1331  
Bulgaria  
svetlarousseva@gmail.com

Anushree Roy  
Department of Physics  
Indian Institute of Technology Kharagpur  
West Bengal 721302  
India  
anushree@phy.iitkgp.ernet.in

Jose Luis Ruvalcaba Sil  
Instituto de Física  
Universidad Nacional Autonoma de Mexico  
Apdo. Postal 20-364  
Mexico DF 01000  
Mexico  
sil@fisica.unam.mx

Mohammed Saber  
Département de Physique  
Faculté des sciences  
Université Moulay Ismail  
B.P. 11201  
Meknes  
Morocco  
saber@mpipks-dresden.mpg.de

Laszlo Sajo Bohus  
Laboratorio de Física Nuclear  
Universidad Simon Bolivar  
Valle de Sartenejas - Baruta  
P.O. Box 89000  
Caracas 1080A  
Venezuela  
sajobohus@yahoo.com

Walter Salgueiro  
Departamento de Ciencias Fisicas y Ambientales  
Facultad de Ciencias Exactas  
Instituto de Física de Materiales Tandil  
Universidad Nacional del Centro de la Provincia de Buenos Aires  
Pinto 399  
Tandil 7000  
Argentina  
wsalgue@exa.unicen.edu.ar

Srdjan Samurovic  
Astronomical Observatory Belgrade  
Volgina 7  
1160 Belgrade 76  
Serbia  
srdjan@aob.bg.ac.yu

Dirtha Sanyal  
Radioactive Ion Beam Project  
Physics Division  
Variable Energy Cyclotron Centre  
RIB, Physics Division  
I/AF, Bidhannagar  
Kolkata 700064  
India  
dirtha@veccal.ernet.in

Manoranjan Sarkar  
Nuclear and Atomic Physics Division  
Saha Institute of Nuclear Physics  
I/AF, Bidhannagar  
Kolkata 700064  
India  
manoranjan.sarkar@saha.ac.in
Deep Sarmah  
P. O. Box 784168  
Vill. Dhenuddhara P.O. & P.S.  
Dhenuddhara Srinagar  
Sonitpur (Assam)  
India  
deepeep_2@yahoo.com

Murali Sastry  
Nanoscience Group Materials  
Chemistry Division  
National Chemical Laboratory  
Pune 411 008  
India  
sastry@ems.ncl.res.in

Diego Seuret-Jimenez  
Facultad de Fisica  
Instituto de Materiales y Reactivos  
Universidad de la Habana  
Ciudad Habana  
Cuba  
dseuret@fisica.uh.cu

Beibei Shao  
Engineering Physics Department  
Tsinghua University  
Beijing 100084  
China  
bbshao@tsinghua.edu.cn

Jianda Shao  
Shanghai Institute of Optics and Fine Mechanics  
Chinese Academy of Sciences  
P. O. Box 800-211  
201800 Shanghai  
China  
jdsiao@mail.shenc.ac.cn

Ramphal Sharma  
Department of Physics  
Dr. Babasaheb Ambedkar Marathwada University  
Aurangabad 431004  
India  
ramphalsharma@yahoo.com

Sunil Dutta Sharma  
Department Radiological Physics & Advisory Division (RP&AD)  
Faculty of Medical Physics and Radiation Safety  
Bhabha Atomic Research Centre  
CT7CRS Building  
Anushaktinagar  
Mumbai 400094  
India  
sdsharma_bar@rediffmail.com

Ahmad Shoaiib  
PINTECH  
P. O. Nilore  
Islamabad  
Pakistan  
shoaiib@pinstech.org.pk

Milan Simek  
Department of Pulse Plasma Systems  
Institute of Plasma Physics  
Za Slovankou 3  
18200 Prague 8  
Czech Republic  
simek@ipp.cas.cz

Bhajan Singh  
Department of Physics  
Punjabi University  
Patiala 147002  
India  
bhajan2k1@yahoo.co.in

Kamal Singh  
Sant Gadge Baba Amravati University  
Tapovan Road  
Amravati 444602  
India  
kamalsingh48@indiatimes.com

Nandlal Singh  
Department of Physics  
Faculty of Science  
M.S. University of Baroda  
Vadodara 390002  
India  
singhnl_msu@yahoo.com
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

Rajender Singh
School of Physics
University of Hyderabad
Central University P.O.
Hyderabad 300 046
India
rspp@uohyd.ernet.in

Sasa Sladic
Power Electronics and Control Laboratory
Faculty of Engineering Rijeka
University of Rijeka
Vukovarska 58
Rijeka 51000
Croatia
sladics@riteh.hr

Emil Smeu
Department of Physics
Faculty of Applied Sciences
University “ Politehnica” of Bucharest
Spl. Independentei 313
Bucharest 060042
Romania
eamil_smeu@physics.pub.ro

Alberto Somoza
Instituto de Fisica de Materiales Tandil
Universidad Nacional del Centro de la Provincia
de Buenos Aires
Pinto 399
7000 Tandil
Argentina

Amine Boudghene Stambouli
University of Sciences & Technology of Oran
B.P. 1505
El M’Naouer
Oran 31000
Algeria
aboudghenes@yahoo.com

Vesna Stanic
Croatia
vestanastanic@turbocoating.it

Chengyong Sun
Via Bruxelles 56
00198 Rome
Italy
sunchybb@yahoo.com.cn

Marcel Tabak
Instituto de Quimica de Sao Carlos
Universidade de Sao Paulo
C.P. 780
13560-970 Sao Carlos
Sao Paulo
Brazil
marcel@sc.usp.br

Joaquim Teixeira de Assis
Rua Alberto Rangel sn
C.P. 97282
Nova Friburgo, Rio de Janeiro
Brazil
joaquim@iprj.uerj.br

Jasmina Tekic
Department of Physics
The Beijing-Hong Kong-Singapore Joint Centre
for Nonlinear and Complex Systems
Hong Kong Baptist University
Kowloon Tong
Hong Kong
jtebic@hkbu.edu.hk

Vinod Chandra Tewari
Sedimentology Group
Wadia Institute of Himalayan Geology
(Under Department of Science and Technology,
Government of India)
33, General Mahadeo Singh Road
Dehradun 248001
Uttarakhand
India
vtewari@wihg.res.in
The Abdus Salam International Centre for Theoretical Physics

Nestor Jaime Torres Salcedo  
Departamento de Física  
Universidad Nacional de Colombia  
Calle 45 carrera 30  
Bogotá  
Colombia  
njtorres@unal.edu.co

Valer Tosa  
National Institute for R&D Isotopic and Molecular Technologies  
Donath str. 71-103  
P.O. Box 700  
Cluj-Napoca 400293  
Romania  
valertosa@gmail.com

Shyama Prasanna Tripathy  
Radiation Safety Systems Division  
Bhabha Atomic Research Centre  
Modlab  
Anushakti Nagar  
Mumbai 400085  
India  
sam.tripathy@gmail.com

Nataliya Tsud  
Advance Device Materials Group  
(temporary address:  
Advanced Electronic Materials Centre  
National Institute for Materials Science  
3-13 Sakura  
Tsukuba 305-0003  
Japan  
Nataliya.TSUD@nims.go.jp)  
and  
Department of Electronics and Vacuum Physics  
Charles University  
V. Holesovickeho 2  
18000  
Prague 8  
Czech Republic

Aleksandra Turkovic  
Rudjer Boskovic Institute  
Bijenicka 54  
P.O. Box 180  
HR-1002 Zagreb  
Croatia  
turkovic@irb.hr

Nikolay Uzunov  
Department of Theoretical and Applied Physics  
Faculty of Natural Sciences  
University of Shumen “Konstantin Preslavsky”  
115 Universitetska Str.  
Shumen 9712  
Bulgaria  
Nikolay.Uzunov@lnl.infn.it

Hooman Vahedi Tafreshi  
NCRC, North Carolina State University  
2401 Research Drive  
Raleigh, NC 27695-8301  
USA  
hvtafres@unity.ncsu.edu

Edgar Vallar  
Department of Physics  
De La Salle University  
2401 Taft Avenue  
Manila 1004  
Philippines  
vallare@dlsu.edu.ph

Dinesh Varshney  
School of Physics  
Devi Ahilya University  
Khandwa Road Campus  
Indore 452001, M. P.  
India  
vdinesh33@rediffmail.com
Ricardo Hugo Velasco  
Grupo de Estudios Ambientales  
Instituto de Matematica Aplicada de San Luis  
Universidad Nacional de San Luis  
Av. Ejército de los Andes 950 (D5700HHW)  
San Luis  
Argentina  
hvelasco@unsl.edu.ar

Peng-Ye Wang  
Laboratory of Soft Matter Physics  
Institute of Physics  
Chinese Academy of Sciences  
Beijing 100080  
China  
pywang@aphy.iphy.ac.cn

Ionel Valentin Vlad  
The Romanian Academy  
National Institute of Laser, Plasma and Radiation Physics  
Department of Lasers  
Laboratory of Nonlinear and Information Optics  
409, Atomistii Str.  
P.O.Box MG-36  
077125 Bucharest-Magurele  
Romania  
vlad@nipne.ro

Xiuming Wang  
Exploration Department  
Daging Petroleum Institute  
Daging, Heilongjiang 163318  
China  
wangxm1@yahoo.com

Jan Vrba  
Department of EM Field  
Faculty of Electrical Engineering  
Czech Technical University in Prague  
Technicka 2  
166 27 Prague 6  
Czech Republic  
vrba@fel.cvut.cz

Jaime Wright Gilmore  
Departamento de Fisica  
Universidad Nacional  
Heredia  
Costa Rica  
jwright@una.ac.cr

Abdul Waheed Khan  
Abasyn University of Science and Technology  
No. 1 Rehman Baba Road  
University Town  
Peshawar (NWFP)  
Pakistan  
khanawaheed@hotmail.com

Ti-Qiao Xiao  
Shanghai Institute of Applied Physics  
Chinese Academy of Sciences  
P.O. Box 800-204  
201800 Shanghai  
China  
tqxiao@sinap.ac.cn

Yaozhong Xu  
School of Life Sciences  
University of Science and Technology of China  
Hefei, Anhui Province 230026  
China  
xuyaoz@ustc.edu.cn

Mahmood Arab Yaghoubi  
Engineering School  
Shiraz University  
Zand Ave  
Shiraz  
Iran  
yaghoubi@shirazu.ac.ir
The ICTP experience: the TRIL programme

Ali Yilmaz  
Dicle Universitesi  
Fen-Edebiyat Fakultesi  
21280 Diyarbakir  
Turkey  
yilmaz@dicle.edu.tr

Yanguang Yu  
College of Information Engineering  
Zhengzhou University  
75 Daxue Road, Erqi District  
Zhengzhou 450052  
China  
yanguangyu@zzu.edu.cn

Hamit Yurtseven  
Department of Physics  
Middle East Technical University  
06531 Ankara  
Turkey  
hamit@metu.edu.tr

Guillermo Zampieri  
Centro Atomico Bariloche and Instituto Balseiro  
Av. Bustillo 9500  
8400 San Carlos de Bariloche  
Argentina  
zamp@cab.cnea.gov.ar

Antonio Ricardo Zanatta  
Instituto de Fisica de Sao Carlos  
Universidade de Sao Paulo  
Sao Carlos 13560-250, SP  
Brazil  
zanatta@if.sc.usp.br

Martiale Gaetan Zebaze Kana  
Physics Advanced Laboratory  
Sheda Science & Technology Complex (SHESTCO)  
Federal Ministry of Science & Technology  
Abuja  
Nigeria  
zebaze@shestco.org

Sasa Zelenika  
Faculty of Engineering  
University of Rijeka  
Vukovarska 58  
Rijeka 51000  
Croatia  
sasa.zelenika@riteh.hr

Ning Zeng  
Department of Atmospheric and Oceanic Science  
University of Maryland  
College Park, MD 20742  
USA  
zeng@atmos.umd.edu

Jie Zheng  
College of Electronic Science and Engineering  
Jilin University  
2699 Qianjin Street  
Changchun 130012  
China  
zhengjie@jlu.edu.cn

Linjin Zheng  
Institute for Fusion Studies  
The University of Texas at Austin  
1 University Station C1500  
Austin, Texas 78712-0262  
USA  
lzheng@mail.utexas.edu

Dazhuang Zhou  
NASA - Johnson Space Center  
Mailcode SF21  
2101 Nasa Road 1  
Houston, TX 77058  
USA  
dazhuang.zhou-1@nasa.gov

Lanzhang Zhou  
Institute of Metal Research  
Chinese Academy of Sciences  
72 Wenhua Road  
Shenyang 110015  
China  
lzz@imr.ac.cn

xlii
Pingheng Zhou  
Key Laboratory for Magnetism and Magnetic  
Materials of MOE  
Department of Physics  
Lanzhou University  
Lanzhou 730000  
China  
zhoupf@lzu.edu.cn

Mahmoud Ziaei  
Northern Lights College  
P.O. Box 1000  
Fort St. John, B.C.  
V1J 6K1  
Canada  
mziaei@nlc.bc.ca

Jovan Zoto  
Rruga "Qamil Guranjaku" Pall. 14/1  
Shk. 6, Ap. 11  
Tirana  
Albania  
inp@albaniaonline.net

Aleksandra Zuic  
Department of Physical Chemistry  
"Vinca" Institute of Nuclear Sciences  
P.O. Box 522  
Belgrade 11001  
Serbia  
zuic@vin.bg.ac.yu
Mohamed Abdel Aziz  
*Egypt*

ICTP-TRIL has had a good impact on my present work. As a specialist in the field of environmental and engineering geophysics, I am interested in the evaluation of sites receiving civil engineering projects such as nuclear power plants, radioactive waste disposal repositories and dams. The paleoseismological studies, which were the area of my study during my stay in Italy for two months in 2002, represent a crucial tool in clearing up the debate about the capability of active faults as a phenomenon associated with earthquake occurrence. I therefore acquired a good and important tool governing the suitability of a site candidate for a vital building in case of its effluence of surface faulting. In addition, the analysis of the ground effects associated with the earthquake of Aqaba in 1995 allowed us to arrive at the conclusion that it is the correct way to identify the intensity value of that earthquake in rural areas. Finally, my work during the stay in Italy was summarized in a nice paper entitled: “Assessing Intensity Values for Earthquake Affecting Low Populated Areas: The Case of Aqaba Earthquake 1995.” This paper was presented at the Conference on seismotectonic and seismic hazard of North Africa, Mansoura, Egypt, in 2003.

TRIL gave me the chance to understand the relationship between the earthquake and its associated phenomena and how to quantify the intensity of that earthquake through the analysis of ground effects. But more studies should be conducted to realize and confirm this relationship through the analysis of ground effects associated to other earthquakes.

I still have regular and good scientific contacts with my colleagues at the National Agency for Environmental Protection in Rome and Insubria University in Como.

The Italian language represented a barrier for me to be more involved in the culture and civilization of the Italian people especially because most Italians speak poor English. To overcome this problem, I studied Italian at the end of the working day and during weekends. In this way I succeeded in contacting people in my little Italian towards the end of my two-month fellowship.

Regarding the younger generation in my country, science is of decreasing interest: most young people are now looking for posts and careers that are easy to practice and yield money as fast as possible such as being a singer, musician, football player and working in commerce.
The ICTP experience: the TRIL programme

As a suggestion, I think that if this experiment were to be repeated, it would be very fruitful for the fellows to receive an Italian course in parallel to their scientific engagements.
Given new techniques and good ideas, an area of scientific knowledge will advance rapidly if the people feel it is important. About myself I can add that during my stay with the TRIL grant, I found a gap especially in the new techniques used in Italy. At the moment I am trying to introduce these new techniques in my country. Recently, I gave some lectures on these new techniques and how to use them in applied sciences, but I need help from the ICTP for purchasing the apparatus and equipment.

I think that the TRIL performs all things it says but I suggest that, when the TRIL selects a scientist for the award of a grant, it should encourage more pre-arrival contact between the fellow and scientists of the Italian host laboratories.

Now I have regular contacts and collaborations only with Italian host laboratories scientists in Bologna University.

Concerning the cultural impact of my staying in Italy, I can say that there is no difference between the culture of the Italian people and the culture of the Egyptian people, which are similar in many ways, but in Italy I found more freedom due to a good system and good government.

I think that if you ought to advise new TRIL awardees that they should learn the basics of the Italian language; this will facilitate many things for them.

I have only the experience in the University of Umm Al Qura, Faculty of Applied Science and Engineering, Department of Applied Biology, Makkah Almukarramah, Saudi Arabia, but this is in teaching, so I cannot compare it with my TRIL experience.

I think that science is not attractive for 55% of young people in my country but most of the women prefer science than men.

I can help the TRIL as follows: if you are choosing any new colleague from the Arabian countries or from the African countries, I can help him to prepare for this grant if he contacts me before arrival in Italy.
I participated in a workshop from 08/31/93 to 09/20/93, held in Trieste on non-conventional energy. After that I went to Catania and had training with the Conphobus Centre from 09/21/93 to 08/94. That was the best experience I ever had during my work period. During the stay I learned a lot of techniques that were used in my field, which was wind energy assessment. After my stay I brought with me a lot of documentation, software and data. These were useful tools for performing my work.

When I got back to my home country, I did set up in my centre a programme with my colleagues in order to establish the wind atlas of Algeria, using the Aiolos model which I brought from Conphobus---with their agreement, of course. So I did teach my colleagues all the techniques I have learned. Now the Wind Atlas exists and it is almost completed thanks to the TRIL programme. Many technical reports were written including one communication and one publication. Other colleagues had achieved communications and publications using the model, the data I brought and the techniques they actually learned from my experience---thanks to the programme. Furthermore, a post-graduate degree was obtained by a colleague of mine using the Aiolos model in her thesis. Before being awarded a grant with the TRIL programme I did not have much information, documentation, software and data, which are essential to perform my work.

After my TRIL experience, I used to have contacts with my Italian colleagues, but many of them have now left the centre because a new person took charge and made many changes. However, I still have contact with one of them.

The cultural impact was just great; I had many exchanges with my Italian colleagues and people I met there. This allowed me to learn an extra language, which is Italian: I also improved my English. The first day we got there people from ICTP asked us to learn Italian and told us that they would appreciate it if we did so. For me learning Italian was a means to say “thank you” to the ICTP. The only problem encountered was with the police office in order to get the permit of stay.

I think that science is still and will always be attractive for all kinds of people in my country.

I suggest that you inform directly the interested people about the possibilities that are available with the TRIL programme, in order to make sure that the information gets to the right people and at the right time.

By the way, let me thank the ICTP-TRIL programme for the help you are providing to the scientific community in developing countries. You are doing a great job and we do appreciate that. So please continue doing so, because many scientists still need your help.
The TRIL programme at ICTP has had a great impact on my past and present research career. It has given me a wide exposure to the Italian Institutes and their research lines. The training period has definitely enhanced my practical skills, working with highly qualified scientists. Also the theoretical background has been covered by professionals that helped me reach a deep understanding of the problems. This in turn has affected the quality of my research activity and the number of publications.

The Programme has also given me the opportunity to participate in international conferences, coming in contact with foreign expertise and sharing views on research difficulties encountered. Now I have been able to establish a new laboratory in the field of Photobiosciences.

The programme has always been of great significance, enriching my scientific merits that were considered valuable in winning a competition for a permanent job at the National Institute of Laser Enhanced Sciences (Cairo University), where I have recently been promoted to Head of Department.

The availability of equipped laboratories and advanced instrumentations under the guidance of high-level expertise helped me to get a good experience in practical work and to become well acquainted with the new techniques.

One of the major problems that I suffered from since I graduated is how to connect the experimental results with the corresponding theories. This problem was almost overcome and it is now getting easier. I also acquired the right way of scientific thinking.

I never lost contact with staff members of the TRIL Programme or with the host laboratory, even after concluding the training period. Sharing my views and consulting my supervisors at the host laboratory on newly initiated work has helped me a great deal in my scientific career. It is worth mentioning that a joint research project has been consequently launched with great achievements.

As an additional benefit, I was greatly influenced by the Italian culture. Certainly, exposure to a different culture, and especially to a country of heritage and glorious history like Italy, has cultivated my knowledge and triggered my willingness to learn about the Italian culture in depth. I found the medical assistance to be excellent, accommodation was fine, and I did not find any language barrier. Such difficulties were eased by the friendly attitude of almost all TRIL members and people at the
The ICTP experience: the TRIL programme

I encountered several regulations in issuing a visa for family members at the Italian consulate in Cairo. Questura formalities were one of the difficulties, but only during my first stay in Pisa. Repeat visits, however, gradually dissolved such difficulties as I became familiar with the governing regulations and prevailing policies. I had experience in one of the laboratories in the US and another in the Netherlands. There is absolutely no difference when comparing the equipped laboratories and the organized systems of the host institute (Institute of Biophysics in Pisa). However, one of the advantages of the Italian laboratories is the harmonious teamwork and friendly approach of the Italian groups with whom I have worked, which made it a lot easier for me to cope with the working system in a foreign country when compared to other foreign laboratories.

Concerning the attractiveness of science, young people in Egypt start their scientific career with great enthusiasm but after a while they lose interest due to the many difficulties they face, as well as the lack of instrumentation and routine steps required to run a simple experiment.

I would like to express my gratitude to ICTP-TRIL staff assisting me to proceed with the grant programmes. And my sincere thanks to Professor Furlan (Head of the TRIL Programme) for his usual support over the past years of my scientific career and also to Professor F. Lenci (former Director of the Institute of Biophysics) for being such a dedicated mentor providing me all the guidance needed.
The Medical Council of India recognizes the medical physics field. The work done on mammography during my stay in Italy is highly appreciated by the scientific community and now they are going to consider a national programme to check the units.

It is difficult to carry out the collaborative work with the host laboratory in Italy by electronic mail. The TRIL programme can help in this regard. The past fellows should be given the opportunity to visit the host institution for a period of 3-4 months every 3 years. The collaborative papers and status of TRIL fellows will be greatly increased.

I have regular contact with the ICTP Office of Associates for considering my application for regular associate membership so I have the opportunity to discuss with the host Institution. However, host laboratory colleagues are very busy in day-to-day work so for them it is very difficult to reply to my letters.

I enjoyed my stay in Italy; the staff helped me a lot so I did not feel any difficulty in any field.

I also visited the Medical Physics Department of McGill University, Canada, under a UICC fellowship. UICC gives further chance to past fellows for a short period (1-3 months) to visit other advanced centers to bring the technology to their countries. The TRIL structure should be modified as per UICC to help the past TRIL fellows.

I am a Life Member of the Indian Chapter of ICTP. They have not conducted any activity or workshop in medical physics.

Science is still attractive for young people in my country, but the interest is more towards Technical Science.

The needy past TRIL Fellows should be invited for other activities of ICTP, e.g., associate membership or colleges or workshops so they will get the opportunity to recharge their intellectual batteries. The email addresses of past TRIL fellows in Medical Physics should be communicated to every past fellow of TRIL in Medical physics.
It was a very useful experience spending time at Ispra for the period I was there. I learnt a lot and this has enormously helped my subsequent research activities. Currently I teach a course in Energy to undergraduate and post-graduate students. This is in addition to carrying out research in solar energy photovoltaic systems. I also carry out consultancy in many fields of energy. However, due to the absence of measuring equipment, the actual research work has taken a nosedive.

The acquisition of research materials and research equipment was greatly enhanced by my stay at Ispra. The well-equipped library facilities also helped a lot in collecting information.

Unfortunately I have lost contact with all the people I worked with at Ispra.

I did not meet with any difficulty during my stay at Ispra. The one thing I remember very vividly was the ease with which I was able to acquire the Italian language. That, in fact, helped me to enjoy my stay. I was delighted whenever I was congratulated about my mastery of the language; the worst moment was when I spoke my Italian at the airport in Rome on my way home and the officer on duty insisted that I speak English to him. Perhaps he was also trying to learn English just as I was trying to polish and show off my Italian. I enjoyed my stay in Italy and particularly enjoyed the cuisine.

I had spent a long time at the laboratories at the University of Bristol and at the University of Sussex, both in England. I enjoyed my experiences there just as much as I enjoyed Ispra.

There is a lot of effort to push young people to study science. But I think that, left to themselves, there will not be as much interest in science due mainly to the non-availability of laboratory equipment both for teaching and learning.

Thanks for this opportunity to express these ideas on my Ispra experience.
The major impact of the TRIL programme is:
- International exposure (working with Italian and European scientists, participation in international conferences and IEA Tasks)
- Knowledge update (access to state-of-the-art books and journals in the field and on-line services)
- Learning and training on advanced research tools (software related to building energy simulation, optical, thermal and electrical simulation etc.)
- Value addition (research reports and paper publication).

In particular, it helped me to develop and carry out research independently.

My stay in Italy provided me with an opportunity to understand Italian cultural traditions and their roots. Fortunately, I have not faced any problems related to day-to-day activities.

I am a Life Member of the Indian Chapter of ICTP since 1996. In my opinion, it needs to be strengthened and enlarged.

In my country there has been a decreasing interest in science in the recent past, particularly in basic sciences. Young people are more interested in Informatics, Management and Engineering disciplines.

The TRIL programme provides a great opportunity to scientists from developing countries to carry out research work in Italian Laboratories. I hope that this programme will be continued for the benefit of the developing world.
The TRIL programme has given me an opportunity to contact, and get an overview of, the international organization in science and research. It helps me to continue scientific learning, acquire knowledge and to foster research in relevant fields. The programme and ICTP are very useful to me personally in many directions. They have opened a window to see a world for scientific, technological, cultural, and social impact. The programme has also helped me on a professional level to carry out a systematic and result-oriented approach for solving many problems which I have encountered in my day-to-day work. TRIL has helped scientists in many ways to disseminate scientific knowledge in frontier areas to all developing countries. Higher education and research are considered to be unique instruments to eradicate poverty and defeat underdevelopment. It is indeed true that ICTP is an institution run by a few scientists for the benefit of many.

The TRIL programme is still very relevant for pursuing scientific knowledge in frontier areas. It provides a unique platform, resources and opportunities for scientists to perform research. TRIL is a well-designed and result-oriented programme to foster the growth of advanced studies and research in developing countries. The Programme has been recognized for achieving an outstanding scientific, technological impact for all developing countries. This programme fits in well with the fact that ICTP provides a lot of information on higher education and research. Seminars, workshops, conferences and the training programme which are organized by ICTP and other Italian Laboratories are very useful. TWAS is doing its best for providing the necessary help to all scientists of developing countries for doing research.

I keep in regular contact with ICTP to attend training courses and to carry out my research. I also got an opportunity to be a Regular Associate to visit the centre.

Italy is a wonderful country. People are very friendly. Things are so normal that there are no complaints. Language, accommodation, police formalities are day-to-day matters of routine life. These are not difficulties. It is just a question of understanding the things in a different environment and culture.

Although I have no experience in other laboratories abroad, I can say that the TRIL Programme has made an outstanding contribution to humanity, mankind, and society in developing countries.

I am a life member of the Indian Chapter of ICTP at IIT, Delhi. There is a need and
scope to strengthen this Chapter for the benefit of young scientists and to strengthen the relationship with Italian Laboratories.

With regard to the younger people in my country, science is of decreasing interest and not too attractive for the young generation: they are not getting good job opportunities as well as social respect in comparison to young management people who are getting a handsome salary along with good status in society.

**TRIL Programme** is very beneficial for scientific learning and knowledge, and to foster research in relevant fields. This programme should be continued for young scientists as a good opportunity for getting scientific, technological, cultural and social knowledge. It is playing an important role for scientific development and research for all developing nations.
The Abdus Salam International Centre for Theoretical Physics

A.K. Aggarwal
India

TRIL helped me in working on problems related to industry at CISE, Milan. It would be highly beneficial if another chance is given to me now. My stay in Italy had a great impact. I learned a lot from the Italian way of life and did not encounter any difficulty.

I had worked in other laboratories in USA, Germany and China. I feel the TRIL structure is quite good except for the fact that, in my opinion, a TRIL reunion at ICTP must be hosted once in a while so that a continuation remains and senior TRIL members with better professional background may be asked to give seminar lectures on their work with a possibility of revisiting their old laboratories in Italy.

No contact has been made with the Indian Chapter of the ICTP. It should certainly be strengthened.

I am noticing a decreasing interest in science with respect to the past.

It is nice to hear from you after almost 10 years, when we were asked to give a feedback like this but nothing happened. We must make a platform for old TRIL participants to meet once in a while at ICTP to see the new changes that are taking place.
The impact of the TRIL fellowship on my professional activities has been quite important. I founded a new research group in my university and began to work with very important scientists from different centres and universities in Latin America and Europe (Spain and Germany). I got my doctoral degree (Ph.D.) and participated in different international workshops in Cuba and abroad. I am the head of 3 national projects and 1 international project related to environmental fields. After my research in Italy I was appointed to a new position in my University: Head of the Technology Environmental Department, 2002-2004, and I am currently Vice-Rector of the University for scientific and technical works.

I am an auxiliary researcher and in this current year I applied for the position of titular researcher. I published more than 10 papers in the last 3 years and managed 1 doctoral thesis and 5 master degree theses. This year I received a scientific prize from the Nuclear Energy and Advanced Technology Agency.

The main difficulty is the up-date of scientific information and advanced equipment to permit me to carry out some research at high scientific levels. It would be good if, from time to time, some fellows of the TRIL programme can come back for a short period of time to run some experiments together with Italian scientists.

I have regular contacts with my Italian host laboratories (Trisaia ENEA) and the scientific leader, Ing. Cornacchia. We are planning together a workshop in Cuba for 2006 and are writing some articles.

I consider Italy as my second homeland. I got an invaluable cultural exposure and, when I came back to my country together with the knowledge that I acquired in Italy, I gained a new language (Italian).

I think that at the beginning the police formalities and medical assistance were so complicated (take into account that I was in another region of Italy far from the ICTP).

The TRIL structure is adequate, if you compare it with arrangements in other laboratories. The only problem is with the stipend, especially when you are in a laboratory so far from the ICTP, because the Fellow needs an account and so on. Other laboratories send the money (for the full period, if it is about 1 or 3 months, at the beginning of the stay). On the other aspects (previous contact, information and other attention...
aspects) the TRIL programme is better.

Science is still attractive for the young people and especially those subjects related to the environment. The problem, I think, is that information technology and new computer equipment are not available for scientists from underdeveloped countries and the differences between our countries grow year by year. In this sense, when the young person tries to reach a high scientific level he needs to begin from very low levels and will find a lot of difficulties.

I want to send my gratitude for the opportunities to get some scientific experience in Italy to Professor Furlan and to all the administrative team of the TRIL programme. The TRIL programme should continue as a big chance for all scientists from underdeveloped countries.
I was at the Institute of Microelectronics and Microsystems (IMM), Bologna, under the TRIL programme from September 2001 to July 2003. ICTP-TRIL helped me a lot to enrich my academic career. Without the help of ICTP-TRIL it would not have been possible to write some good papers. During my stay I published three papers, which helped me a lot to get promotion from Associate Professor to Professor. Nowadays ICTP-TRIL is the heart of my research.

I am an experimental physicist. There are few scientific instruments in my University at Bangladesh. At the Institute of Microelectronics and Microsystems (IMM), Bologna, I worked in Class 100 Clean Room with very sophisticated modern equipment and gathered knowledge to build a small experimental set-up. After returning to Bangladesh, by using the acquired techniques, I have built a tube furnace, dielectric cell for the measurement of capacitance, etc. in my laboratory. Now I am planning to set up facilities for crystal growth in solution.

I still have a close contact with my host Dr. Gian Carlo Cardinali, IMM, Bologna. I have correspondence with the co-workers, Dr. Ivan Elmi, Dr. Stefano Zampolli and others. I am a Junior Associate of ICTP. Now I am in ICTP for three months (from 30/06/05 to 28/09/05) and, also, I visited ICTP last year as Junior Associate for the same period. Moreover, I visited IMM, Bologna, twice in the last year and once in this year with the financial support of TRIL. Thanks to TRIL for the financial support to visit the host Institute.

I have found Italians are very social, friendly and cooperative. Initially I faced a language problem, but not much. In Bologna, the accommodation is very expensive. My host arranged a good accommodation for me for a reasonable price. Medical facilities are very good and well organized. I enjoyed my stay in Bologna.

I was in the Department of Electrical Engineering, Osaka University, Osaka, Japan, from January 1995 to March 1998 for doing my Ph.D. There I used ion beam sputtering, SEM, X-ray, AFM, etc. In IMM, Bologna, I had the experience to work in a Class 100 Clean Room. This was a great opportunity for me as a Bangladeshi scientist to use one of the best laser ablation facilities for thin film fabrication in Italy. Here, I also used SEM, X-ray, TEM, Dektak thickness monitor, etc.

Young people in our country are still very interested in science. Unfortunately, due
to lack of technical facilities, we cannot provide the opportunities for all those interested students.

The TRIL programme is a great opportunity to work in an Italian Laboratory with modern technology for the people of developing countries. I would suggest that there should be a follow-up programme for TRIL Fellows after every two or three years for a period of three to six months.
Abdelmajid Ainane

Morocco

I thank very much the TRIL programme which allowed me to carry out my research work in the best conditions, to interact with eminent Italian scientists, to exchange ideas and culture in an international environment of peace, and to acquire Italian friends. This has had a very interesting impact on my life as well as my past, present, future research and my professional activities.

The TRIL helped me to achieve:
- Cooperation with Italian colleagues
- Training and Research in Italian Laboratories
- Exchange of culture and education.

I still have contacts with Professor P. Mazzoldi and Professor A. V. Drigo.

I appreciated my stay in Italy. It was very interesting and had a positive cultural impact on my life. I did not have difficulties in Italy.

I had other experiences abroad with:
1- the Ecole Polytechnique Montreal, Canada
2- the Max Planck Institut, Dresden, Germany
3- the ALARICO, Cosenza, Italy.

The TRIL Programme is similar to the ALARICO structure.

Since there are limited opportunities to get permanent positions, science is no longer attractive for young people in my country. There is a decreasing interest with respect to the past.

Maybe the Associate scheme with the TRIL would be very interesting.
The ICTP experience: the TRIL programme

Afolabi Akintunde Akindahunsi
Nigeria

TRIL helped my professional activity giving me access to current facilities and literature.

I am still in regular contact with my host laboratory and currently on a CAS-TWAS Visiting Fellowship to China.

In Italy I was able to pick up the language and had a wonderful time with my landlady.

The TRIL structure compares very well to other structures I have encountered - Israel, Germany and China.

Science is still interesting to the Nigerian youth.

There should be adequate support for repeat visits to previous host lab(s), that is, TRIL Associateship.
Carlos Alonso Hernandez  
* Cuba  

The main difficulties that TRIL helped me to overcome are:  

a) Little interaction and discussion on the radiotracer application to environmental studies;  
b) Limited access to environmental physical models and regional or global databases;  
c) Not being brought up to date and little access to the information scientists in the topic;  
d) Lack of know-how in the use of isotopes in oceanography.  

I still have regular contacts and collaborations with ENEA laboratories, particularly CRAM-ENEA, Santateresa and Casaccia ENEA, Roma.  

I evaluate my stay in Italy very positively. The main difficulty has been the visa process.  

I did not have experiences outside of the TRIL-structure. However, I think that the TRIL covers all the expectations.  

Unfortunately, I notice a great indifference in the youth in my country towards scientific specialities. Other sectors with better remuneration attract the attention of the youth---for example, the tourist industry.  

My final comment is very positive: thank you for using ICTP and TRIL for the scientific youth of the developing countries. In my case, it has been essential in my professional development.
My experience with ICTP was invaluable. It was an important part of my professional career.

An important contribution from the TRIL was the possibility to be in touch with new research areas in the field.

I have important collaborations with Professor F. Evangelisti, Dipartimento di Fisica, La Sapienza, Roma III, since 1990.

During my stay in Italy I had no problem. I found the country very nice, with a rich history, good food, nice language, and, in general, I was very well treated.

The TRIL structure is similar to several arrangements in France.

Science is an interesting subject for young people. Unfortunately, many young people are moving to “business” because the “market” says that money is the more important thing in life, which is obvious but not true.

In my opinion, the ICTP has had an important role helping poor countries in science and it should be interesting that you continue working in the same direction.
In the past, TRIL opened up for me the opportunity of initiating collaboration with the Department of Earth Sciences of Trieste University. It was as far back as 1996. This collaboration has continued, and TRIL contributed to it by financing two more visits.

On the other hand, two young collaborators that are doing their Ph.D. under my advice have also benefited from TRIL grants. It resulted in deepening the collaboration with DST and in establishing collaboration with the Osservatorio Geofisico Sperimentale of Trieste.

Our main difficulty is the access to updated scientific information and to computers with high processing capacity. The possibility of coming to Italy allows us to solve this problem.

I have regular contacts with the SAND group of ICTP. Moreover I am managing an international project that was accepted as an ICTP Network (NET-58): “Seismic microzoning of Latin America cities”.

For me the visit to Italy had a great cultural impact. Here is located one of the sources of our culture. The language is close to Spanish and not very difficult to learn for us. The TRIL, through insurance, covers our medical needs at very high level of quality, and police formalities are not very complicated.

I had experiences in other laboratories many years ago in the former Soviet Union. I was very pleased at that time about them, but it is not possible to establish some kind of comparison with the TRIL experience.

I would like to remark that TRIL has been very important for my centre. It was the base of collaboration between CENAIS and DST and SAND group, which covers the modeling of seismic waves for solving seismic hazard problems and structure inversion. But in the case of OGS, the collaboration was established not only for the problems related with my field of work (seismic hazard), but also for seismic instrumentation.
Javaid Anwar
Pakistan

TRIL has helped me in establishing the Quantum Optics Laboratory at my University. My exposure to the research facilities at the University of Naples was very useful. I have collaborated with Professor Solimeno on a research problem in Quantum Optics.

It has given me a first-time exposure to state-of-the-art and rare exposure to Quantum Homodyne Detection. It is a technique to measure quantum properties of the field. I still feel the need to visit some other laboratory having similar facilities.

During my stay in Italy, language was a difficulty but not a major one. The accommodation was arranged by my hosts. I had no medical difficulties.

Concerning young people and science, there is still active interest, provided we provide good facilities and laboratories.

I think TRIL is a useful programme and should be continued.
Cosmas Ngozichukwu Anyanwu  
Nigeria

Prior to my participation in the TRIL programme, I did not understand the current trends in Biomass research, especially the aspects of Gasification and Biodiesel production kinetics. The programme aided me greatly in achieving a clear understanding of these sub-themes and elucidated my research efforts centered on Biodiesel production from palm oil and product characterization. It also paved the way for me to appreciate current trends in Biomass gasification technology and to learn several related software packages, which I am presently finding very useful in my career.

I have regular contacts with colleagues at the host laboratory, especially with my supervisor.

The cultural impact of my stay in Italy was great. The programme offered me the rare opportunity of learning Italian and making new friends in Italy. I had visited many European countries in the past but never interacted with any nation as warm as Italy! However, the greatest difficulty I faced was with police formalities. Language was also a problem until I learnt it through self-effort. I believe that the TRIL programme can assist participating research fellows by advising them on where to obtain lessons in the Italian language, or even organizing some within the host laboratories after official hours.

Science is still attractive to young people in Nigeria. However, owing to our political past, the educational system has experienced a general decline. As such, it may be said that young people now find science more difficult because of lack of equipment to facilitate its teaching.

Police formalities are rather cumbersome. In view of the fact that it affects the general welfare of TRIL Fellows, I suggest that certain changes be made, which could ease the issuance of “Permesso di Soggiorno” to TRIL Fellows. This will also help them to have their own bank accounts and settle down early enough on their research tasks.

Supervision and general working conditions in the laboratories are very good. Administration is excellent in my opinion.
Kheradmand Arashtanab Reza

Iran

The group with which I am working is one of the best, and this helps very much. Also the computer cluster system, which we used in our group in Italy, is fast for heavy simulations. The best way is to keep connection with Professor Lugiato’s group through ICTP through short visiting programmes. It would be very useful and ideal for me. I have a second contract with ICTP-TRIL towards the end of July 2005. I wish to have more collaboration with them. I also collaborate with host laboratories (Professor Lugiato’s group in the University of Insubria), and we work on a similar project and exchange the results.

The first time (2002-2003), the police process for getting permission to stay was very difficult and took a long time but the second time (2005) it was very good and I got it in a day. I think ICTP can also support family visa better than it does now. I invited my wife to visit me and ICTP sent a formal invitation for her, but we had a problem for getting the visa: we could apply only for a tourism visa and they asked the bank for a guarantee from an Italian. In my opinion, if ICTP issues a formal invitation for the researcher’s family, it will be nice.

I notice a decreasing interest of young people for science in my country.
Adeseye Arogunjo
Nigeria

The TRIL programme helped me to open my research focus on new and current areas of research in Medical Physics. Three publications are at various stages of completion, two articles written from experiences gained during the programme have been accepted and published in international journals.

The main difficulties that TRIL helped me to overcome are: lack of equipments for research, lack of literature for research, lack of linkage needed to be current in the field.

I am still in regular touch with my host in Milan.
During my stay in Italy I had no difficulty at all because my host and colleagues were wonderful.
The interest of young people in science is decreasing because of lack of incentives.
The ICTP-TRIL programme is wonderful, and I do hope you will keep up the good work you are doing.
I had great opportunities as a TRIL Fellow in 1986 and 1988. At that time, I was a Ph.D student in Istanbul Technical University, working especially on modeling, data processing and measuring techniques. I had a great experience at the CNR-IFA. This experience has allowed me to progress in my academic life, in the classrooms, at the department, faculties, in training programmes and, especially, in my research activities. I have worked in disciplinary topics, so had a great experience in working with a group.

I formerly worked on behalf of three universities in Turkey. One of them was in the developing part of Turkey. Two of them were newly established at that time. I had opportunities of participating in some other activities at the ICTP and other TRIL coordinated programmes, and had the resulting opportunity to become an Associate of ICTP between 1994 and 2000. When I was working and acting for the Beykent University during its establishment stage between 1997 and 2004, I had a great experience in my administrative and academic life. And we tried to focus on research activities beyond the training programmes of our young university. Now I have worked on behalf of another young university, Istanbul Commerce University (ITICU) which is only 4 years old, and have taught fundamental mathematics in the computer and industrial engineering programmes for two semesters. I try to continue to share our experiences with our young colleagues by coordinating or participating in the new research activities.

My experience helped me with the following topics:
1- to work hard;
2- to be patient while working in a group;
3- to use sensitive measuring techniques, detailed data analysis, interpretation;
4- to focus on a given specific problem;
5- to gain experience on the preparation of an international research report;
6- to meet other colleagues who work in the same field, and enhance my ability to co-operate with others;
7- to improve abilities on sustainability, reliability and transparency in every field.

At least until 2004 I had continuing contacts with ICTP and other collaborative institutions. In particular:
1- we organized the periodic AGRO-ENVIRON symposium, beginning from 1998, together with Dr. Sajid Mahmood from Pakistan, whom I met at the Soil Physics
The Abdus Salam International Centre for Theoretical Physics

Course in 1994. The first symposium was held in Faisalabad, the second one in Turkey, the third one was in Egypt, the fourth one at Udine University, Italy, and the next will be held in Ghent University in 2006. We had also organized parallel workshops and the last workshop booklet has been published at the ITICU this week.

2- We had another co-operation with Professor Dr. Abul Hasan Siddiqi (Senior Associate of ICTP) from India, whom I met at ICTP in 1995. We had some co-operative conferences, journal papers and book sub-Chapters. In July, we organized the first International Wavelet Workshop in Istanbul, at Istanbul Commerce University, webpage: http://www.iticu.edu.tr/iww2005/index.htm. We also organized the next OSTIV Meteorological Panel in Istanbul with the co-operation of DLR from Germany, in September.

3- I had another opportunity to work together with Professor Enrico Feoli, from Trieste University, in the national research project on erosion in Turkey. We were supported with some half-gridded data by the Meteorological Group of ICTP.

4- We have a bi-lateral agreement with Udine University and our university. Our university had Erasmus University Charter in 2005. Hence I have worked here as ERASMUS coordinator and one of the vice-directors of the European Union Center of ITICU. All of these instances give some opportunities for student and staff mobility.

5- I try to continue my membership of TWOWS.

In the first period of my stay in Italy, I had some language difficulties. But later on, I overcame them and had no other difficulty. I have a nice memory of this period, in my academic and social life.

I worked as a researcher for one of the NATO projects carried out at the University of Washington in 1986. My experiences were also very essential for me and helped me very much during the orientation period in Italy. As I had first visited USA, and then, in the same year, had a chance to participate in the TRIL programme in Rome, where I had already some experience on measuring techniques, field research, etc. The programme at Seattle was very strict, but the programme in Rome was a little bit more flexible.

I visit ICTP pages a couple of times every month. I try to circulate the annual programme and other announcements to the young colleagues.

I believe that the facilities for young people in science have increased in recent years. For instance, yesterday we had another support for our co-operative project from the national organization. Interdisciplinary studies are particularly essential. But still, there is a great negotiation to participate in the international projects, like the sixth frame.

In my academic and personal life, the Abdus Salam International Centre for Theoretical Physics, the TRIL and Associateship programmes played a very important and
a great role. Indeed, I would like to share my feelings on this matter: words are not enough to explain these positive remarks. I am always very much obliged to all directors (especially to Professor Giuseppe Furlan, Head of TRIL) the academic and administrative staff and colleagues at ICTP. Please consider this an opportunity to share my feelings.

My thanks, best wishes and kindest regards.
My TRIL experience has influenced my career significantly. I have learned many techniques in superconductivity and published several research papers in international journals.

TRIL helped me in learning new techniques through contact with Italian scholars.

I was an associate member of ICTP from 1990 to 1997. Now I hope to apply for a senior research fellow.

My stay in Italy was excellent and I learned the rudiments of the Italian Language. People are very kind especially when you communicate with them in Italian.

I went to several laboratories in the world. I went to the University of Wales in Bangor, UK; to the Institute of Pure and Applied Physics at UCSD, California, USA; Centro Atomico in Bariloche, Argentina; and CNR in Naples. I found that the CNR lab in Naples is as good as these other international laboratories and better in some respects.

In my country, Jordan, Physics is becoming more and more popular among the new generations.

I hope TRIL will be further supported for the new generation of scientists.
My stays at ICTP have been very important for the development of my scientific career in several aspects. First, they gave me the opportunity to get in contact with scientists from the Aeronomy and Radio Propagation Laboratory (ARPL). The main focus of my Ph.D. thesis is ionospheric modeling and the ARPL is a reference on this subject. Furthermore, they gave me the opportunity to attend two international scientific meetings—IRI Task Force activities 2003 and 2004—that were held at ICTP during my stays there.

I have presented a contribution in the 35th COSPAR Scientific Assembly, July 2004, Paris. The contribution presented in the congress was the result of a joint work with the staff of ARPL.


The main difficulties in my academic activity that TRIL helped to overcome are:
- Get in personal contact with scientists that are working in the same subject as me;
- Access to computing facilities of last generation;
- Access to the up-to-dated ICTP library.

I have regular contacts with people from the staff of the ARPL at ICTP and many collaborations and projects are still going on.

Coming from Argentina, a country with very strong Italian influences, I did not find any cultural problem during my stay in Italy.

I think that science is still attractive for young people in my country but there exist several problems in finding positions as researchers in Argentine institutes and universities. The country is starting to recover from one the deepest economic crises of its history, and education and scientific research are among the most affected items.

I would like to thank Professor G. Furlan and Dr. S. Radicella, head of the ARPL, for the opportunities that they gave me. My stays at the ICTP were very interesting academic and personal experiences.
Jonathan Oyebamiji Babalola  
_Nigeria_

We are just writing up the results of my work done under TRIL for publication. TRIL has given me a good scientific exposure and the confidence that I can do science anywhere in the world.

Some of the knowledge gained during my visit is going to greatly influence my teachings to both undergraduate and postgraduate students. It was a good exposure to science for those of us who came from places where things hardly work. A follow-up programme to the initial visit will be of great assistance.

I still have a regular contact with ICTP and my host laboratory in Italy.

The scientific impact of my visit was good, the cultural impact came more in the form of a shock; it was difficult adapting to it initially.

The police formalities took a long time and hours of lining up in queues (in the cold, early in the morning) on each day of appointment. It was initially very difficult to communicate because of the language problems. Accommodation was difficult to find and very expensive but I learnt from other colleagues that it was a peculiar problem to certain cities.

Humboldt included some cultural activities in their programme and I think that this is of immense help to scientists. Some of the activities include:

1. An introductory meeting (once a year); scientists are given information about their environment (the country, laboratories etc.) and are able to interact with other fellows. During such meetings, scientists are able to make contacts for future collaboration with other fellows apart from their host.

2. A study tour is organized to visit other places in the country, important laboratories, important sites, etc.

Young people are still interested in science but most of them end up working in bank or in management positions. Not so many employment opportunities are available to them in the sciences (not many industries exist).

I greatly appreciate the effort of TRIL and think that it should be sustained. TRIL should try to maintain a life-long contact with the Fellows and provide follow-up assistance where necessary.
It has been thrilling to work at the Radioactivity Section of the Istituto Superiore di Sanità, Roma (ISS), under the fellowship jointly sponsored by the Italian Ministry of Foreign Affairs and the TRIL Programme of the ICTP. The one year of my stay at the ISS has been quite worthwhile as I have had a nice opportunity to work under the dynamic leadership of Dr. Serrena Risica, Dr. F. Bochicchio and Dr. C. Nuccetelli. The work, which I have carried out there, mainly under the guidance of Dr. Bochicchio, especially on the “Evaluation of LR 115-II residual thickness by a simple optical instrument”, has tremendously influenced and strengthened my research activities in the field of Environmental Radioactivity study. I have really never thought of this sort of work and its influence on the work being carried out especially in the field of Radon Monitoring. Although, these days, along with the indoor radon monitoring in dwellings, we are also working on the “Study of Geochemical Precursors for Earthquake Prediction”.

After my return here, I have also incorporated the additional activity of thickness determination of the SSNTDs (LR-115); ultimately its impact on the long term measurement of radon concentration will also be studied. Secondly, I am quite impressed by the dedication of the senior scientists and even my younger colleagues like Dr. Maria Quarto working at the ISS. This has certainly given me a jolt to carry out the research work more enthusiastically and with more dedication. The work that has been carried out during one year of stay at the ISS has already been sent for publication to the International Journal of “Radiation Measurement” and, hopefully, will be published after peer review. Although, unfortunately, my stay has been quite brief at the ISS, it certainly strengthened my research activities being carried out here and gave me a lot of impetus to carry out further research work in this field with more involvement like the dedicated scientists of the ISS Laboratory. If I could have stayed longer, I would also have worked on the initially planned work on “THORON Estimations in the Environment” and even on the “Gamma Spectroscopy”, which, unfortunately, due to unavoidable circumstances, could not be carried out. If given another opportunity to work at the ISS, I would like to work further along these lines to strengthen my research activities in the field of Environmental Radioactivity Study.

The TRIL programme has given me a great opportunity to work on the other related significant research activities carried out along with our work here, which we had never thought of. For example, even in the Radon study, the detector thickness plays a
significant role and its determination by any simple technique and its correlation with radon concentrations itself is quite important. For lack of time I could not complete this work. Secondly, as we do not have the sophisticated instruments available in our laboratory, the TRIL programme gave me a good chance to work on these advanced instruments available in the ISS. As mentioned already, due to my short stay I could not carry out the whole work which we had initially planned, such as the work on Gamma Spectrometry and Thorn estimation in Environment.

I didn't give importance to Dr. Serena’s sincere advice to study the Italian language, which certainly would have helped me in getting more cooperation from the technical staff of the laboratory. Anyhow, in the next opportunity, if provided, I would certainly overcome this hurdle as well, so that I can complete my mission to work better in this field.

I am regularly in touch with my research guides at the ISS lab and, at present, we are submitting the work that was carried out during my stay there, to an international journal of repute. In future, I will certainly be in touch with them and will be looking forward to having another opportunity to work at the same institute and accomplish the tasks that have been left behind. So I have been looking for this opportunity, either through another opportunity given by the ICTP or through some exchange programme given by our Department of Science and Technology (DST), both of which are being advertised from time to time.

I have visited many countries abroad for attending international conferences, but my stay at Rome was wonderful. I have really enjoyed the Italian way of living and have even made some Italian friends and enjoyed the Italian food in different Italian restaurants. Fortunately my stay at Rome has been quite comfortable as I had been staying with a Punjabi family from my country; so I did not have any food and language problem throughout my stay unlike some others now working in Italy. The only problem I faced was towards the police formalities for getting the work documents. So, I think, at least for this high level of international fellowships, there should not have been many hurdles from the administrative point of view as far as the police is concerned. In the same way, as every administrative part regarding the TRIL fellowship is being nicely dealt with by the ICTP, some way must be adopted by the ICTP to give the work permit, or at least to make it easier to get it from the police. On the medical side, Dr. Risica Serena sincerely helped me a lot in getting an appointment with a doctor whenever it was needed and, as written above, I have not faced any problem from the language and accommodation side.

I have never worked in any other laboratory abroad and this has been my first wonderful experience to work at the ISS. Although due to family circumstances I have not tried to extend my tenure, if given the opportunity next time, I would like to be there.
The ICTP experience: the TRIL programme

along with my family so that the stay can be more pleasurable and longer. I do not think that any other country in the world provides any programme like TRIL of the ICTP, which goes a long way to improve the research potential of the young scientists particularly from third world countries. So, I am really thankful to Professor Furlan who has given me the opportunity to work at the ISS.

Unfortunately, I am not aware of the existence of an Indian Chapter of the ICTP at IIT Delhi. Nor have I been a member of this Chapter. So I would appreciate it if you could kindly let me know about its activities.

In our country, although science is still attractive, unfortunately, in the last few years, the youngster, after passing the secondary school exams, prefer to join the professional courses due to better job prospects. So overall the trend is slightly decreasing and we are getting only those students in our graduate classes who could not get into the engineering, medical and pharmaceutical courses. This is the situation mainly in the major cities and towns; in the country side the students generally go to arts streams with only a few opting for science courses.
At the time of my first TRIL fellowship (1990-91) there were no trained personnel and laboratories in Argentina employing numerical circulation models. During my activities at “ENEA, Centro Ricerche Ambiente Marino”, in La Spezia, I learned from Dr. Giuseppe Manzella about these modern tools, which are very useful to simulate, describe and forecast ocean currents. As a result, I adapted and applied a barotropic model on an area of the Beagle Channel, in Tierra del Fuego, Patagonia, Argentina. The area covered by the model-domain included the bay of Ushuaia, which is surrounded by a town with diverse environmental problems created by a significant population increase during the last two decades. These results were published in 1998 (Balestrini, C. Manzella G. & Lovrich G: “Simulacion de Corrientes en el Canal Beagle y Bahia Ushuaia, mediante un Modelo Bidimensional”, Departamento Oceanografía, Servicio de Hidrografía Naval) and are useful for environmental studies related to pollutants and sewage outflows spreads, and for marine-biological research activities carried on at “Centro Austral de Investigaciones Científicas” of Ushuaia.

The purpose of my second one-year TRIL fellowship (1995-1996) was to participate in a modeling effort on the circulation of the Tyrrhenian Sea at “Istituto per lo Studio dell’Oceanografia Fisica” (CNR, La Spezia) under the direction of Dr. Gian Pietro Gasparini, with the aim of extending my knowledge and experience to large-scale circulation models. This study was also led by Dr. Vincenzo Artale, of “ENEA, Centro Ricerche Casaccia” of Rome, and Dr. Andrea Cappelletti, who joined the research group after the beginning of the project on “ENEA, Centro Ricerche Ambiente Marino”. During my stay I prepared climatological oceanographic data sets to be used in a three-dimensional circulation model. The model implemented was the Modular Ocean Model (MOM). When I completed this work, at the end of my stay, Dr. Cappelletti suggested that the application of MOM to the problem could be difficult and, unfortunately, the aim of the initiative was finally not reached.

I may define both experiences as very rich and useful for my background in Physical Oceanography, particularly in circulation models, and extremely good professional experiences. I feel that I have increased my capacity to work in scientific groups together with colleagues of foreign countries, something very useful to improve the pro-
fessional activities in my own country.

After my two one-year TRIL Programme fellowships (1990-91 and 1995-96), in October 1998, I participated in an oceanographic cruise in the Strait of Sicily onboard the research vessel “Urania”, invited by Dr. Mario Astraldi and Dr. Gian Pietro Gasparini of “Istituto per lo Studio dell’Oceanografia Fisica” (CNR, La Spezia). At the end of this cruise, in November 1998, I participated at ICTP in some lectures of the “Course on Mediterranean Sea circulation and Ecosystem Functioning”, supported by the TRIL programme. In 1999 I interrupted my collaborations with Italian host laboratories since I was directly involved in a 5-year joint research project in Antarctica between Argentina and France. However, in 2000, 2001 and 2002 I did pay courtesy visits to my colleagues of “ENEA, Centro Ricerche Ambiente Marino” and “Istituto per lo Studio dell’Oceanografia Fisica”; in 2001 I also visited ICTP and met Professor Giuseppe Furlan. I am collaborating with Italian colleagues of “Università di Napoli Parthenope” and “ENEA, Centro Ricerche Casaccia” in a project at the Western South-Atlantic and Antarctica, related with ocean circulation and CO2 fluxes in this region (project “Canopo”).

I consider that my life experience in Italy was very good from every point of view. I met only one difficulty at the beginning of my first stay when, because of a mistake of the Italian Consulate in Buenos Aires, I arrived to Italy with a visa that was shorter than the duration of my fellowship. This problem was later solved by the same Consulate. In 1998 I requested and obtained the Italian citizenship.

The main difference that I find with other personal experiences that I have had abroad (in Japan, USA and France) is that no one had combined academic and economic support with the possibility to choose one’s own research training plan, as ICTP-TRIL structure does.

In spite of the economic and social difficulties of my country, I find that there is always a consistent number of enthusiastic young people interested in science. Most of the students obtaining their undergraduate degree in Physical Oceanography in Argentina pursue their Ph.D. in foreign countries, such as USA, Canada, France, Germany or UK. I think that it could be a very good choice for them (and for people from other countries as well) if ICTP could organize and manage a postdoc program in Physical Oceanography in cooperation with an Italian university.
The training period in Italy permitted me to analyze Brazilian and Italian environmental samples of bays submitted to different stresses of heavy metal pollution. I have learnt new laboratory analytical techniques and practices of field work. The main papers produced were:

- An article in a scientific journal

- A Chapter in a book

- And part of the Ph.D. thesis:

The main difficulty in my activity is the lack of good laboratories for chemical analysis in Brazil.

I had continuous contact with CISE spa (Milan) since I left Italy. But recently the institution changed name, structure and mission. Since 2000 I have no contact with them.

My stay in Italy was great: I could learn Italian and it was easy to move around the country and learn about academic activities.

I also had an experience abroad in Holland. The conditions there are excellent but, as a Latin American, I felt more comfortable in Italy.

Finally, I think that in Brazil there is an increasing interest in science.
During my stay in Milan on an ICTP-TRIL research grant during 1995-96 I got impetus on sensor research from the State University of Milan and from the University of Brescia. I have done considerable work on sensors including development of an undergraduate course on sensor materials and technology which I have been teaching to 2nd and 3rd year undergraduate students of almost all the engineering disciplines of the Indian Institute of Technology, Kharagpur, a premier institution of India. Now I am on the editorial board of an international journal “Sensor Letters” being published by the renowned American Scientific Publishers (ASP). I have been invited by ASP to submit an article on oxide-based sensors for the forthcoming Encyclopedia of Sensors. I have published more than 40 papers (out of my total of 180 publications) on sensors and sensor related topics in international journals and I have delivered invited lectures on sensors in not less than 10 international conferences including the famous Materials Research Society (MRS) Spring Meeting held in Boston USA in 2004. I have been invited to deliver a lecture on sensors in the East Asia Conference on Chemical Sensors (EACCS 2005) to be held in China in December 2005.

After the year 2000 the contacts with my host laboratory have become irregular. I had very good social and cultural contacts during my stay in Italy and I enjoyed the Italian culture very much. I had no other difficulty than finding a relatively cheap accommodation in and around Milan. The ICTP Fellowship was not adequate to find a minimum suitable single accommodation in Milan. Since Milan is much more expensive than other cities like Rome, ICTP may provide an extra allowance for the more expensive cities. Although I did not know Italian, I did not have much problem with the language because I could interact with others in English. But I started learning Italian from the beginning and I was adept at it at the end of one year, when I had to leave Italy. It is a very sweet language. I didn’t have many problems with medical assistance and police formalities.

In the year 2000 I visited Japan with a JSPS senior fellowship. It was far superior to the ICTP fellowship in terms of arrangement of accommodations, travels, day-to-day research and other amenities. They take more care of the foreign fellows. Medical and other facilities are spontaneous and highly systematic.

I am very much aware of the ICTP India Chapter and in fact, became a life member.
of ICTP India Chapter in 1995 during an international meeting in Trieste itself. But I am sorry to inform that I did not get any further news bulletins and other information from ICTP India Chapter after 2000-2001. Perhaps I have been written off.

Surely science is attractive in India. In fact, the fascination for higher studies in science has returned amongst the younger people in India after a short spell of attraction to engineering studies.

I would request ICTP to attract both younger and older generations for the advancement of global science. While younger people must get more enthusiasm, the interested and dedicated older scientists should also be given some opportunity in the form of a fellowship, research assistance and short term emeritus positions. I do not know exactly if such positions already exist. If yes, it is very fine.
My association with ICTP has been of primordial importance in my research activities since 1980, when I had the fortune of being sponsored to attend a Spring college in Biophysics. Since then I have profited with a visit to the Department of Biophysics, Biochemistry and Chemistry of Macromolecules (BBCM) at the University of Trieste, with which I have a working collaboration of more than 20 years.

The main difficulty that TRIL can help to overcome is to give personal scientific contacts. The time spent at the Italian laboratory was very important from this point of view.

Eventually I became an ICTP Associate. I also profited from other ICTP and TWAS programmes, as did other younger members of my institution.

Thanks to ICTP sponsorships, my group has a long-standing and very fruitful scientific collaboration with ICTP and the University of Trieste group at BBCM.

During my stay in Italy I had no major difficulty. ICTP administration was always very helpful and efficient.

Although I have been at other laboratories of different countries, I have not had experiences with systems similar to TRIL.

My institution became an ICTP Affiliate, thanks to the contacts that I developed during my stays at ICTP in the early 80’s, so we are regularly informed about ICTP programmes.

As in other places, interest for physics in young people seems to have decreased in the last decades.

I hope that ICTP receives good financing to continue with the different programmes that have proven very useful for scientists working in isolated regions and countries.
The training period in TRIL has permitted me to have knowledge in computer science (it was the beginning in my country). This had a positive impact on my profession, both in teaching and in research. TRIL can still help me by permitting my students to develop research in Italy.

The impact of my stay in Italy was very positive. I have not encountered any difficulties. I have acquired a good experience and knowledge through relations with Italian people.

I think that in my country, when the graduate students have no possibilities of finding a job, they prefer to continue higher studies and research but they do not always find the possibilities.

ICTP has permitted several Moroccan teachers and students to have a good degree in the research domain.
The ICTP experience: the TRIL programme

Graciela Bertuccelli
Argentina

TRIL was a landmark in my scientific formation as an experimental researcher. I was awarded the fellowship twice with stays of eighteen and four months length. Both of them took place at the laboratory of Pisa University. In the meantime I had the chance to work on topics at the cutting edge of science using advanced equipment. On this matter, I got involved in researches about Atomic Laser Spectroscopy and problems related with High-Resolution techniques.

The lack of resources devoted to research, together with limited opportunities to buy new equipment are the major drawbacks to overcome in my country. On the other hand, considering our experience, the TRIL Programme will give the chance to our students to get a postgraduate experience of the highest academic level.

I have often been in contact with people from the Italian host laboratory. In fact, they have helped me on several occasions with my investigations.

My stay in Italy was very fruitful, mainly because I could mix with other cultures (besides the Italian culture) by meeting people from different countries. Moreover, I want to highlight my attendance at several lectures and congresses where I could listen to very important physicists from all over the world, which rarely happens in my country. I never had any difficulty with respect to language, accommodation, etc.

In Argentina the number of physics students decreased in recent years. I really do not know if this has been caused by either a lack of interest or economic reasons. Maybe both.

If the offer of grants to our students could remain available, the TRIL Programme will give them an excellent opportunity to get academic and scientific training. It will be very valuable for us.
Vu Thi Bich
Vietnam

My past as well as present research and professional activities have been influenced by the ICTP-TRIL programme. In 1990, I worked for one year in the Laboratory of Molecular Spectroscopy of Chemistry, University of Florence. I made acquaintance with methods of laser spectroscopy such as CARS and two-photon absorption to investigate aromatic molecules. In 2002 I spent six months at LENS in Florence to investigate dynamic processes of biological molecules by Transient Absorption Spectroscopy. It was very useful for developing my laboratory for Laser Spectroscopy at the Institute of Physics and Electronics, Hanoi.

The main difficulty in my academic research that TRIL helped to overcome is the exposure to the advanced techniques that are usually used in the domain of laser spectroscopy.

I have always kept contact and collaboration with ICTP and TWAS and with colleagues from the Italian host laboratory.

About the cultural impact of my stay in Italy I could say that it was an opportunity to make acquaintance with Italy and its culture and people. I love all its aspects.

I have been many times to other laboratories in France. With France, we have a programme of cooperation between CNRSF and VAST. Each year we have exchanges between scientists in the different domains. The regular programme lasts for three years and then one can request another project in the same scientific direction but at a higher level for three years more. This means that the opportunity to work in the advanced laboratory is more regular.

I think that science is attractive for young people in my country; but the life of a scientist in my country is not rich. We had a period when young people were not interested in science. But now the interest is increasing. I think that if they have occasions to do experiments in the laboratories that have good conditions like Italian laboratories, their interest in science will increase.

The TRIL programme is very good for scientists in the developing countries. But for more efficiency I think we need more regular fellowships. In this way, we could catch up to the progress of the rest of the world.
The ICTP experience: the TRIL programme

Muhittin Bilgili
Turkey

I attended the ‘Hydrogen and Fuel Cell Group’ in ENEA Casaccia Research Center. First of all, I gained some different experimental experience about my subject ‘Hydrogen energy and hydrogen storage in metal hydrides’. The TRIL programme helped me to continue my studies experimentally in Italy. It became a reference point for my future studies about related subjects. During the TRIL programme I attended two activities listed below:


I finished my masters education by using a Computational Fluid Dynamics programme for modeling hydrogen storage in metal hydrides. Through the TRIL programme I acquired experimental experience. Furthermore, some special equipment and devices in the laboratory, which I used, were very useful for my studies. I compared some of these experimental results with my theoretical results to confirm the previous study.

Concerning my stay in Italy, of course, language was the first difficulty for communication; finding a suitable accommodation was not easy. Lastly, it took 7 months in Rome (from Questura) to get a permit of stay.

I think science is attractive for young people in Turkey. The interest in science is increasing with respect to the past.
My experience in Italy opened several opportunities that I would never have had without taking part in the TRIL programme.

The main difficulty the TRIL helped me to overcome was the interaction with researchers of other countries.

During my stay I had no problem in dealing with persons of my host laboratory; however, police formalities and medical assistance were very difficult.

I also spent two years in England and now I am living in Belgium, in both cases the University itself solved the problems related to accommodation, medical assistance and police formalities. A language course for foreigners was offered during the first 6 months and was paid by the agency that gave the scholarship.

Concerning science, I think there is a strong decrease in the interest among young people in my country.

Taking part in the TRIL programme was the most important point in my career. It changed my future, opening opportunities that I had never imagined before arriving in Italy.
The impact of TRIL on my research was moderate since I was already a rather experienced scientist at the time of my stay in Italy (1990).

Nevertheless the TRIL Programme helped my integration (and of other East-European participants) into the mainstream of European science.

At the moment I have just sporadic contacts with my host laboratory.

I can say that during my stay in Italy I fell in love with Italian culture and life-style.

Finally I can say that in my country there is definitely a significant decrease of interest and trust in science.
The ICTP experience: the TRIL programme

Piotr Bogus
Poland

The ICTP-TRIL gave me the opportunity to enter into new areas and subjects of my scientific life. During the programme I cooperated with Professor F. Masulli in the area of multimodal medical images and after coming home I continued research in this area. During my stay in Italy I was taking part in the normal scientific activity of the university; this was the opportunity to know and study many new interesting subjects. Some of them gave me impetus to new researches after coming home. For example, I have just finished my “habilitation” thesis in the area of nonlinear methods of signal processing (based on chaos theory) and my first encounter with this subject was during the TRIL programme.

The programme gave me some scientific contacts with scientists not only from Italy but also from other European countries. I had the opportunity to meet them during the TRIL activity. The TRIL programme gave me an introduction to international scientific life. I could practice English during scientific meetings. I also had the opportunity to make some speeches in English during the scientific conferences and for students as well.

Yes, I am still in contact and cooperation with Professor F. Masulli. We are still publishing papers together.

The cultural impact of my stay in Italy was really great. I had the opportunity to visit many places in Italy. The meeting with Italian culture was impressive.

The main difficulty in Italy were problems with police formalities (e.g. standing in a huge queue in the Questura to have the Permesso, where, generally there was disorder and lack of competent people).

Yes, I think that the programme is still attractive - especially for young people.
The ICTP experience: the TRIL programme

R. Boopathy  
India/USA

ICTP-TRIL provided me an opportunity to work on cutting edge science in Italy. I worked with a group of scientists doing research on energy from biomass. It gave me a valuable experience for my future research career.

The TRIL helped me to overcome the problem of communication. With the experience I gained I can effectively communicate my research findings in peer-reviewed publications or scientific meetings.

I regularly contact my Italian host laboratory and discuss with my friends. They are friends forever in my life.

I had a very positive cultural impact during my stay in Italy. I developed a life-long friendship with my Italian friends and the social life was great. I did not have any difficulty at all during my stay.

I did several postdocs in UK and USA. They all provided me with different and unique experiences because of the different subject areas on which I did research. The work I did in Italy was applied, while it was basic in other laboratories. All of them helped in my career.

I was not aware of the Indian Chapter of ICTP.

Science is still very attractive to young people in my country.

Finally, I would like to thank ICTP for providing me the opportunity to work in Italy. It helped me significantly in my profession.
TRIL has helped me to enlarge my knowledge of Mediterranean Sea modeling and to better understand and use the relevant software.

TRIL also helped me to develop and better organize my working conditions in the institute, to find suitable computer equipment and software, and to enlarge my scientific contacts with European researchers.

During my business visits to Italy, I still call my Italian colleagues and we have also regular contacts by email.

During my stay I had the possibility of visiting interesting historical and cultural sites in Italy. Maybe the police formalities and time-consuming procedures for obtaining “permesso di soggiorno” were the main difficulties during my stay in Italy.

I have found rather similar working conditions in Holland as well.

Unfortunately there is a decreasing interest in science among young people in my country.

It would be nice to have an alumni meeting organized by ICTP and the possibility to see Trieste again.
The Abdus Salam International Centre for Theoretical Physics

Paul Kingsley Buah-Bassuah
Ghana

PAST I benefited from this programme during February 1986–July 1989. This is one of the success stories of this programme. I was given the opportunity to do one year’s training in Laser and Optical Physics at the Istituto Nazionale di Ottica (INOA) at Firenze as a young scientist with M.Sc. degree. However, it turned out that I was given an opportunity to follow a doctoral degree at the University of Firenze as a test case in this programme. Such an opportunity enabled me as a young scientist to work with an active and progressive laser group. Though it was time-consuming to train researchers of my nature, INOA benefited a lot in the course of my training as new ideas unfolded. I was able to interact, mix and exchange ideas with the experienced researchers as well as to learn instrumentation and computation in addition to my area of study. At the end of the studies, I was able to produce 5 publications in good international journals on drop instability, instrumentation and measurements. Such achievements enabled me to have a steady growth and promotion to Senior Lecturer in my academic work in 1991.

PRESENT I was not left alone to teach and research in Cape Coast as a young lecturer. Initially, I had a grant from TRIL to start research work at my Department and had continuous contact with INOA. INOA made some donations in terms of equipment to start initial work in laser research. Thanks to the programme of the Office of External Activities (OEA) under the headship of Professor G. Denardo, an affiliated Centre of ICTP was set up by me at the University of Cape Coast, Ghana. Experts in INOA provided me with the advice for such an important venture. OEA of ICTP provided the financial support. The establishment of the Centre helped in the promotion of laser research work in my country.

Such initiative from OEA and my regular contact with INOA through the TRIL programme enhanced my career in my university and assisted me in training young scientists in the field of laser and optical Physics. In addition, in order to forestall my knowledge in this dynamic area, I was given the opportunity through the TRIL Associate programme to visit my institute of training for three months once in every two years for six years. Such a system enabled me effectively to supervise my students’ research work at the centre as well as do my research abroad. I was able to publish 14 papers
in international journals with my collaborators from 1991–2005. In addition, with my team at the centre in Ghana I have been able to publish 6 articles in 1993, 1996, 1998, 1999, 2002 and 2004. My involvement in the TRIL programme has enabled me to do research and publish papers for effective teaching. With such experiences and openings at my disposal I was able to get up to the position of Associate Professor in 2000 in my university. It has enabled me to assume important and responsible positions in both my university and my community as Head of Department as well as Chairman of both High School and Commercial Bank Boards.

In the 1980’s, it was difficult as young scientists to join new frontiers of science such as Laser and Fibre Optics but the TRIL programme was accepted by the Italian Research Community to help scientists from developing countries to be involved in this area. The TRIL programmes made it possible for me to penetrate this new area and continue to assist to do my research work in Italy. The TRIL programme kept me in contact with my compatriots and eliminated the isolation that experimental scientists from developing countries experience. In addition, the host laboratories sometimes encouraged the scientists to propose an area worthy for investigation as well in their area of research. The TRIL programme has enabled scientists to publish in order to get promoted in their various institutions and also be involved in decision-making in their universities.

After my Italian training, I have benefited from three TWAS grants in 1989, 1995, and 1998 to purchase equipment for M.Phil. projects for students in the department of my university. The Italian host laboratory (INOA) has been of continued assistance to my centre in terms of research work and other literature materials as well as donation of optical components.

Initially, the TRIL programme acquired some fundamental Italian books for the researchers to learn the Italian language. Knowledge in Italian language enhanced our ability to move about and communicate effectively on our own to understand the Italian culture. The programme arranged in advance accommodation and medical assistance for the researcher and his family before his arrival. Such a facility does settle the researcher at his new post. However, it is a hell to go through in obtaining the police permit of stay from the Questura even though the TRIL gives you all the documents for presentation. There should be a way to simplify this situation for all researchers.

The TRIL programme is well organized as compared to other activities in France and Germany. Though the financial assistance may seem low in Italy, the coordination in research work is excellent. The promotion of the family of the researcher to be together at the place of research is a good psychological achievement for the TRIL structure. The TRIL structure believes in family reunion, which is a very beautiful concept.
The ICTP experience: the TRIL programme

We can access easily all ICTP programmes on the net. However it is difficult to access the electronic journals. If you are an associate of any nature, I think the ICTP library should be at the disposal of the researcher under strict surveillance at his place of work. Such dynamics could enable the researcher on the TRIL programme to make use of those facilities both in Italy or his home country. Maybe it should be started with Associates from Africa on a pilot basis.

Young people appreciate science. It is difficult to come face to face with the new frontiers in science research in Africa. It is difficult to get an assistantship to study abroad in these new areas as so many young people divert in most cases from Mathematics and Physics after the first degree into various business fields. TRIL should structure to assist in this direction. In order to retain these young people, bursary and scholarships should be devised to enable the students to follow graduate programmes abroad if possible.

TRIL should encourage training of young scientists after Ph.D. in their home countries by further exposure abroad and reducing isolation. In addition, TRIL should aim at involving young scientists in various European countries such as Italy, France and Germany, so that there can be continuity of research in their home countries. A TRIL research forum should be organized once every year or two years in various disciplines of operation in ICTP to tap new ideas through the TRIL programme.
Dunja Bulajic

Montenegro

I was a TRIL fellow for 18 months in laser physics, 22 months in medical physics and now I just started work in synchrotron radiation. The TRIL programme gave me opportunities to enlarge my knowledge, and the experience I acquired during these years is very important for me.

I always liked experimental work and research but in Serbia and Montenegro, especially in the years of war, it was very poor and we did not have lot of possibilities to do experiments. In Italy, as a TRIL Fellow, I always participated in experimental work and hope to be able to apply my knowledge in Montenegro.

I still keep in touch with both my previous host laboratories and ICTP.

I appreciate very much my stay and life in Italy. I lived also in Germany and France but feel much better in Italy. I had no problem with the language. For accommodation, it was sometimes more difficult to rent an apartment as a foreigner. Medical assistance was good. Waiting for the permesso di soggiorno for 3 or more months was very difficult and inconvenient.

I think that TRIL is very well organized.

In Montenegro, there are just a few physicists. In the past there was no faculty for physics, but even now, when it exists, there are around 10 students per year. And they usually prefer to do theoretical physics there.

I am grateful to the TRIL programme for giving me all these opportunities in Italian laboratories. I appreciate very much the experimental work and laboratory research that was not possible in Montenegro where laboratories are very poor.
Ana Ester Cabal Rodríguez
Cuba

Thanks to the ICTP-TRIL, I had the possibility to collaborate in research about the use of semiconductor detectors in nuclear medicine, more particularly in breast cancer diagnostic and angiography. Very interesting results were obtained during this collaboration. This programme also helped me to support my local institute CEADEN in continuing and establishing new collaborations.

During one of my stays at Turin University through the TRIL programme I had the opportunity to participate (together with my Italian colleagues of Turin University) in the establishment of an Alpha project of the European Commission: “Development of a silicon detector for photon counting to be used in dual energy digital radiography in the range 18-40 keV” (code II-0042 F), which started in November 2002. During these three years I have supervised the work of three Cuban projects on the use of silicon semiconductor detector in medical applications, such as mammography and angiography.

Thanks to the experience acquired I was able to build in my institute a laboratory that is specially dedicated to the testing and application of semiconductor detectors. Some Cuban coworkers of my institution in the framework of the projects have been involved in the use of Monte Carlo simulation codes for these medical applications and in software development for medical imaging processing.

The main difficulties that TRIL helped to overcome are:
- Access to advanced scientific instrumentation and methods;
- Good access to scientific literature;
- Ability to publish in the scientific literature and participation in conferences;
- Creating a network of scientific contacts.

It is expected that my contacts with the Italian laboratories will continue in the future, thanks to the collaborative projects that have been set up between CEADEN and Italian laboratories, in particular, the University of Turin and the Università del Piemonte Orientale. Also visits to other Italian universities, such as Università di Bologna and Università di Ferrara during the execution of the project, provided opportunities to initiate various interesting contacts.

During my stay I had the opportunity to learn more about the European history and culture, visiting many of the excellent Italian museums and archeological sites in some
Italian cities (Galleria degli Uffizi, Vatican museum, Colosseum and other interesting places in Roma, Firenze, Venezia, Pisa, Siena, Bergamo Alta, Bologna, Ferrara, Milano, Alessandria). The main difficulties I met were the police formalities during my first stay in Turin. Later we went to the Questura for the permesso di soggiorno with a person of the university responsible for such matters and we no longer had any problem. I still have some difficulties in getting the visa at the Italian embassy in Havana due to complicated administrative procedures.

I have been working in other laboratories abroad in ININ and CINVESTAV, Mexico City and the University of Antwerp in Belgium. In Turin University there is a very good international spirit with people from many countries and a very friendly atmosphere. The network structure involving different laboratories in Italy is highly appreciated. In comparison with Mexican and Cuban laboratories, there are good computer facilities and Internet access.

Science still remains attractive for young people but, at present, there are fewer students at the university in the Physical and Chemical departments. In the Biology, Biochemistry and Computer Sciences departments the numbers increased very much in comparison with 5 years ago.
The interaction with other researchers in Italy was very important in our activity. In particular, we developed an intense project in the area of permanent magnets. After that, we began to work in the area of thin ferroelectric films and structural properties, and continue to do so until now. Previous investigations were related to bulk properties only. We have developed some materials for practical applications.

In our country we have limited financial support in the field of electronic ceramics, for example in electron microscopy and chemical analysis using EDAX, XPS. Now we have the facilities to prepare bulk samples and thin films using the laser deposition, but to characterize it, the exchanges with the Italian Laboratories were very important. It means DRX using small angle, AFM and other fundamental techniques to study the physical and structural properties. The participation in congresses during some stays permitted us to begin the collaboration with other groups different from the principal host. Now we have many contacts in Pisa, Genoa and Roma.

We have regular contact with some groups in our research area (ceramics and thin films prepared by chemical methods and laser ablation). We organized in Cuba a workshop and some summer schools in 2002, 2004 and 2005 in collaboration with professors from France, Italy and Spain. The initial contact began in the main host laboratory, the MASPEC Institute. Our group developed in the period 2001-2005 some projects in the area of Magnetism and Ferroelectricity financed by the TWAS.

It is important to say that knowing the Italian people, food and local costumes were one of the characteristics of the programme. The advisor and scientific communities in Trieste and the host laboratories have influenced us in the development of new lines of research. It is very important to remain up-to-date and at a good level. The medical assistance and the insurance are well structured and they are routine mechanisms. The use of Italian in the daily work was assimilated easily (because my mother tongue is Spanish).

The TRIL structure enables one to develop the formation of scientific work for short periods of 6 to 12 months. The student or senior scientist have the possibility to learn the experimental works at a high and practical level. Other groups or systems have funds to develop Masters and Doctoral programmes with many courses, but have limited funds for personnel exchange.
The ICTP experience: the TRIL programme

The ICTP web-pages are accessible from the network system integrated in our university. We have additional information on the activities from the airmail received with several courses and workshops programmed every year.

The scientific activity of our young people is very intense. Undoubtedly there are some areas that are favoured because of funds, and they form a large programme in biotechnology and computer science.
Octavio Anacario Calzadilla Amaya  
Cuba

My visit to the MASPEC Institute in the year 1989 granted by ICTP-TRIL gave me the opportunity to know new experimental techniques and measurement instruments that I did not know about (or did not have in my country). I think that this visit contributed to my scientific development.

Our activity has had two fundamental difficulties: updating of the bibliography and obtaining spare parts and reagents. In these two items the TRIL programme has helped us.

I maintained contacts with the investigators of the MASPEC during much of the time. At this time, for lack of resources, the collaboration has not continued. I have, instead, obtained the support of TWAS for the preparation of the Workshops on Teaching of Physics that I organized in the years 1997, 1998, 1999, 2000 and 2003.

I found it interesting to know Italy for its cultural roots and its people. When I speak of this visit I have to recognize that the Italian cuisine pleases me very much. This visit also allowed me to increase my knowledge of the organization of the scientific work, before I had visited the IOFFE Institute of Leningrad. I do not remember if I had any difficulty; the attention on the part of the ICTP was excellent: it took charge of prolonging my visa and authorising the change of dates for my ticket.

Science continues to be attractive for young people in our country but in applied subjects such as engineering and computer science.

I think that although the TRIL programme has limited resources, it is important for the scientists of the Third World because it helps us in some way in our scientific and academic formation. As a suggestion, a good cooperation programme could be developed to facilitate on-line entry to the up-to-date databases of the ICTP.
The ICTP experience: the TRIL programme

Ljiljana R. Cander

Serbia

TRIL helped me in taking active part in international collaboration. My stay in Italy was a wonderful experience. There were no difficulty at all. I became fluent in Italian and my Italian colleagues improved their English.

I have been a visiting scientist at a few Laboratories after the Istituto Nazionale di Geofisica but it was never so good. Maybe we were all young at that time!

I still visit ICTP regularly and last May I chaired the 2nd MC meeting of the EU COST296 Action there.

Science is still attractive for young people as before, even more in some scientific fields.

Finally, it will be good to organize a meeting of those who have answered this questionnaire.
The ICTP experience: the TRIL programme

Chuanbao Cao
China

The ICTP provided me valuable experience and widened my viewpoint.
The main difficulties in my academic activity is understanding which field could get a break. It should be helpful if you could often communicate with high-level scientists.
The main difficulties of my stay in Italy were language and accommodation.
I think it is necessary to re-establish the Chinese Chapter of ICTP.
Finally, I think that science is still attractive for young people in our country.
I\nspent just a few weeks in Italy supported by the ICTP. In any case, I had and still have a collaboration with Italian laboratories.
There were no difficulties during my stay in Italy. The cultural impact of my stay was very positive. Italy is a country that I love to visit.
My experiences in other laboratories were of a much longer duration, i.e., very difficult to compare with those of the TRIL programme.
TRIL made a tremendous impact on my teaching and research career in the field of geothermics (geothermal energy). During this programme I had the chance to work with geothermal experts at CNR (Dr Angelo Minissale) and our relationship established during this programme has grown over the years. Our sustained contact culminated in a three-year collaborative project (1997-2001) on the geothermal waters and gases of India, funded by the Ministry of Foreign Affairs, Italy, and the Department of Science and Technology, India. This three-year project was so useful that a detailed and strong database on the geothermal provinces of India was created and several research papers were published.

During this period I introduced a new course entitled “Geothermics” with the aim of creating human resources to meet India’s future demand in the field of geothermal energy resources. I supervised several M.Tech. and Ph.D. theses during this period. I conducted a short course on “Geothermal energy resources for developing countries” in Argentina in 2002 and edited the book “Geothermal energy resources for developing countries,” published by A.A. Balkema Pub. Com. in the Netherlands. During this short course I could mobilize people from USA, Italy, UK, Mexico, Argentina and Germany to teach different aspects related to power generation and direct utilization of geothermal energy. This knowledge has given me the confidence to incubate an Independent Geothermal Power Company at IIT Bombay, which is planning to generate geothermal power in the near future in India. Further, I had the chance to introduce this subject to my students in Sana’a University where I was a visiting professor under the TWAS programme. I am happy to state that the TRIL programme helped me to become a Senior Associate of ICTP.

My association with the scientists in CNR during my TRIL programme was a turning point in my career. This contact is still continuing, has grown very strong and likely to last forever. This contact with CNR helped me to visit all the geothermal provinces of Italy and helped me to gain vast knowledge with respect to geothermal power generation. The contact that started during the TRIL programme has grown much stronger and, as described above, culminated in the creation of a strong database on geothermal energy resource potential of India.

I was appointed as a visiting professor to Sana’a University under the TWAS pro-
gramme. This helped Dr. Alkhatib Alkebsi from Sana’a University to complete his Ph.D. degree from IIT Bombay under my supervision. My relationship with Sana’a University has grown stronger ever since and I introduced the geothermal energy concept to this country and, with my CNR colleagues, helped the faculty in this university to publish a paper on the thermal springs of Yemen Republic (Fara, M., Chandrasekharam, D. and Minissale, A. 1999. Hydrogeochemistry of Damt thermal springs, Yemen Republic. Geothermics, 28, 241-252).

I never had any problem with regard to culture and language. Given a chance, I prefer to stay for longer periods in Italy since I am used to their culture, food and friendship. In fact, the TRIL programme between my Italian collaborators and me resulted in strong family bonds. When my family or I visit Italy, we stay with Dr. Angelo Minissale and when Dr. Angelo Minissale’s family visits India they stay with us. Pasta and pizza became a part of our food once a week!!

I visited and worked in other laboratories across the world such as the Florida International University, USA and the University of Karlsruhe, Germany. There is no comparison to the TRIL structure. However, there is a slight rigidity in the TRIL structure, in the sense that it should expand the list of its host institutes.

Let me be frank and fair. I was not aware of the Indian Chapter of ICTP until recently. I do not know whether this is because of my ignorance or the drawback in the system. I never knew that there was a chance for us to join. This initiative certainly should be strengthened with deference. The C/O should be on a rotation basis. I suspect that the Chapter is highly polarized at present.

Let me give you a brief assessment on the issue of science among young generations in my country. Certainly young people are interested and motivated. But the most disgusting fact, which is making these young minds turn away from science, is the way in which recognitions and awards are given by TWAS to scientists who never made any contribution to the Third World countries in the real sense. The young scientists are of the opinion that TWAS awards should be based on strict scrutiny and not through personal influence and contacts. A recent award given by TWAS to an Indian scientist has raised the eyebrows of many young scientists. Persons occupying the highest office in TWAS should have assessed the contestants properly without bringing personal acquaintance into the process of giving the awards. This is a serious lapse in the TWAS system. The present thinking in the minds of young scientists is that TWAS is no better than other institutions in least developed countries.
After the TRIL programme, the short stay (of three months) in Professor Stella’s group every two or three years helped us a lot. Up to now we still keep the cooperation in our research work, and we are doing very well. We do hope to continue this collaboration with ICTP. I think our experience is successful.

To get the “soggiorno” permit of stay in Italy by the questura was the greatest difficulty I met every time in Pavia.

Finally, I consider it fruitful to try and re-establish the Chinese Chapter of ICTP.
The experience of the ICTP-TRIL programme was essential for my research career. From August 1997 to August 1998, I worked in IROE/CNR, Florence, with Dr. Stefano Sottini. My research topic was about quasi-phase-matching (QPM) nonlinear optic and proton-exchange waveguide. After I finished this one-year research job, I came back to Shanghai Jiao Tong University and continued my academic activities in the field on QPM. Until now, my group members and I have been publishing papers on this topic.

I would say that the ICTP-TRIL experience is the starting point and milestone to my research. I am thankful for the kind help from ICTP and CNR, Italy. The main benefit from the ICTP-TRIL programme for me is how to choose a research topic and how to manage a research project. My experimental skill also improved.

I have kept in touch with Dr. Stefano Sottini for the past seven years but, until now, no collaboration has been established between my group and the host laboratory.

The one-year stay in Italy is unforgettable. I like the Italian people I have met. They love their life and they are kind to foreign people. The main difficulty I met in Italy was the language.

From September 2002 to August 2003, I was in Harvard University as a visiting scientist. I do not have comments on the TRIL structure because I did not feel evident flaws in either system.

I hope that the Chinese Chapter of ICTP will be re-established in the future.

I think that science is still a respectable career for young people, but many young people think that research is hard work and they like to work in a company because they can earn more.
Yong Chen
China

The TRIL fellowship was a very important period for my past and current research and professional activities. This period opened a wide view on science and career opportunity. Now I am a CNRS research director and a professor at the Ecole Normale Superieure of Paris, in two of the most prestigious French and world-class laboratories. I have published more than 240 scientific papers and am highly regarded by the scientific community in several fields. In addition, I have established a strong relationship with a number of important Chinese research laboratories. My experience in Italy should be an added value for their consideration.

I appreciate very much the help and opportunities that Professor F. Bassani provided during my stay in Italy. I still have a number of very good Italian colleagues and also some relations with the host laboratories.

The cultural impact of my stay is invaluable. I appreciated my stay in Italy very much. The only non-desirable souvenir is the visa application, which has not been necessary for several years. My suggestion is that the Italian Government, as well as all European countries (it is now the case in France), should provide the so-called visa for scientific stay which simplifies the application procedure.

Sciences are still attractive but with much more competition. The total number of people involved has increased but the relative number has decreased. It is normal.

I think it is useful to establish some kind of network for people having similar experiences of benefiting from their stay in Italy or, more generally, in Europe. This might be important for the Chinese Government and people to have a general idea on how Europe has helped them and contributed to their progress with respect to American and Japanese experiences.
The ICTP training programmes enlarged my view of research projects. I learned a lot about how to access a new field, and how to deal with troubles in different ways. After my return to China, I began to work on another project named photonic crystal. I carried out a series of experiments and have published nearly 100 papers with my colleagues since then.

The main difficulties of my activity are how to apply for new projects under the true experimental conditions and, in the meanwhile, catch up with the world-wide hot lines successfully.

During my stay in Italy, I made some tours around the country: the museums and sightseeing left me with great impression. People are friendly, but frankly, in many cities there are more thieves than in other places.

I used to visit USA laboratories in Chicago, and didn’t feel so different.

Science is still attractive for young people in my country. The most attractive fields are probably information, management, architecture, finance, etc. Physics is usually the second choice.

I hope to take part in a seminar on photonics and metamaterials to be held by the ICTP.
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

Theo Chidiezie Chineke
Nigeria

The main difficulty in my activity that TRIL helped to overcome is the lack of research infrastructure.

I still have regular contacts with ICTP, and, yes, with University of L’Aquila, Italy. I am an ICTP Regular Associate (2001-2006).

During my stay in Italy I found Italian not difficult to learn and had no problems with accommodation. Regarding medical assistance, the common system is so interesting, especially for people with a family.

The TRIL hosts should have group meetings of all the researchers working in the same area on a weekly or biweekly basis. Also, the TRIL fellow needs to be asked to present his or her research results every three months or so!

I notice a decreasing interest in science in my country, due to increasing unemployment of graduates.

The TRIL programme groomed me as a researcher during my tenure (May 1999-July 2000) at University of L’Aquila, Italy. I would love to have another opportunity to use the TRIL programme to spend my sabbatical fellowship. Finally, this webform is easy to complete and I suggest it be sustained in this paper-less era!
The ICTP experience: the TRIL programme

Xiangfeng Chu

China

TRIL helped me broaden my research field. I still have regular contacts and collaborations with the Italian host laboratory.

I got to know Italian culture and history during my stay in Italy. I have no difficulty because Italian friends are very good. I think that my experience in Italy improved my research ability and it was very good.

I think that it is fruitful to re-establish the Chinese Chapter of ICTP.

Science is still attractive for young people in China.

Finally, I suggest that ICTP promote the research collaboration between Italy and China further.
Several important specializations are still not well studied, especially in developing countries (e.g., Ecuador, South America). The main contribution of the ICTP-TRIL Programme is to the progress of these countries through the support for new technical and scientific tools and methodologies, which are introduced during the training of young foreign people in Italian laboratories.

As far as I am concerned, the apprenticeship acquired at the Department of Chemical and Environmental Sciences of the University of Insubria, Como, Italy, with the direct support of the ICTP-TRIL Programme, is satisfactory for my professional and scientific development.

The research advances carried out through my stay in Italy have developed new geological-environmental disciplines, little known in Ecuador. These disciplines are applied essentially to seismic hazard assessment in populated areas (e.g., in the Lombardy area of Northern Italy and in Guayaquil City, Ecuador). The current projects in study have also involved different educational and research institutions of Ecuador (ESPOL, CIGG, University of Guayaquil).

During my present stay in Italy, the ICTP-TRIL impact is positive in all aspects.

For one person that came from far, the main difficulties during the stay in Italy are: (1) the accommodation in the resident city, (2) the nourishment, (3) the transport from the host house to the university, (4) support for the family that remained in the country of origin of the fellow, (5) the payment for participation in scientific congresses and meetings to be held in Italy, and so on. Luckily, the ICTP-TRIL programme supports me in all the requirements previously cited.

I think that the programme should support one seminar or course (each year), in the university of origin of the fellowship. This seminar could be dictated by one supervisor teacher or by the same fellow, during the term of the scholarship. So, the relation among ICTP-TRIL, the host Italian University and the fellowship University could have a better inter-institutional linking.

I think that, hereafter, our relation and communication will be positive. My current research supervisors (Dr. Leonello Serva and Dr. Alessandro M. Michetti) and the staff ICTP-TRIL (direct communication: Director Professor Giuseppe Furlan, Mrs. Elena Dose and Mrs. Barbara Valassi) are people who have demonstrated an excellent collaboration with me. Furthermore, future fellowships from Ecuador will be able to
establish an entire Ecuador-ICTP investigative relationship.

For Spanish-speaking people, the adaptation to the Italian language is easier than other European languages. A few difficulties are present during the first 2-3 months. The accommodation in the host city and the main police formality procedures “Questura” do not represent a true trouble at the time of obtaining a “codice fiscale or permesso di soggiorno”. The most significant problem arises from the medical assistance. For a foreign student, it is more complicated to obtain medical care (for a foreign worker, it is easier to do this procedure) because of the annual rate of about 200 Euro, and of the several procedures to follow for obtaining a medical code. I have lived through this in the past year when I wanted a medical check-up, in particular, on account of the possibility of a urinary calculus. Luckily, the annoyances disappeared in the following month. This is the chief difficulty which happened in my stay in Como, Italy.

I have not experienced other scholarship programmes. But, based on the comments of my friends who have applied to several scholarship systems (e.g. Spain-Portugal Alban Programme, IRD-Frances’s Programme), I can briefly say that I am very happy at having applied to the ICTP-TRIL Programme.

In my country, many students that attend diverse Universities in Ecuador have selected several disciplines concerning Natural Hazard Assessment and Environmental Pollution and Contamination Evaluation. In fact, the main problems in developing countries are the high degrees of contamination in different areas (i.e., water, air, soil and ground bodies) and the high impact caused by the natural disasters (i.e., earthquakes, tsunamis, flooding and landslides). These issues are newly introduced in several of Ecuador’s universities and the necessity to train young professionals is urgent. The cooperation with European investigative institutions, particularly Italians, will be essential for resolving the environmental effects in populated areas. The ICTP-TRIL Programme and several Italian universities could implement new scientific investigation methodologies, through the training of young graduates in the areas previously cited. The ICTP-TRIL programme is not widely known in Ecuador and a major diffusion through several of Ecuador’s educational institutions could be essential for encouraging new recruits to the TRIL Programme.

The ICTP-TRIL programme is very good. I am happy to belong to it. Thank you very much for the opportunity offered.
The TRIL allowed me to achieve my Ph.D. degree. This achievement was quite helpful to access to a higher position in my academic career. At present I am Associate Professor. Also, I was able to act as Director of my own research project, entitled “Molecular ecology - Management of plant genetic resource of ecological and economic importance”. I still have contacts with the APAT (Agenzia Nazionale per la Protezione dell’ Ambiente e Servizi Tecnici).

The main difficulty I found during my stay in Italy was to find accommodation, particularly due to high prices of lodging.

In spite of the low payment and financial resources, I think that science is still attractive for young people.

I would like to remark that all members of the ICTP staff were very kind and helpful.
I consider that the TRIL programme is a very useful tool to complement the professional background and professional activities. Since last year I am in the Agenzia per la protezione dell’Ambiente e per i servizi tecnici (APAT), working in the climate change and agriculture sector. In this period I have been involved in different activities, all of them related to the estimation of air emissions in the agriculture sector. I have participated in the following publications and reports:


Analysis of data needs and availability for implementation of Agro-environmental indicators according to DPSIR logical framework. TAPAS Action 2003. EC Decision 2003/304/CE. Final Report. Bellini Giampaola. Rome, December 2004. The different paragraphs were authored as follows: §§ 1, 2, 2.1, 2.3 3, 3.1, 3.1.3, 4, 5, 5.1, 5.2, 5.4, 5.7 by Giampaola Bellini; § 2.2 by Rocio Cóndor G., Giampaola Bellini, Riccardo De Lauretis, and Marina Vitullo; § 3.1.1 by Rocio Cóndor G., Riccardo De Lauretis, and Marina Vitullo; § 3.1.2 by Mara Cammarotta; § 5.3 by G. Bellini and A. Pallotti, §§ 5.3.1, 5.3.2 and 5.5 by Annalisa Pallotti and§ 5.6 by Rocio Cóndor G., Riccardo De Lauretis, Marina Vitullo.

I think that I have received from the TRIL programme all the basics that someone from a foreign country needs. Moreover, the special convention signed between APAT and TRIL allows me to have exactly the same rights as a person working in that institution. Therefore, I did not find difficulties during the programme. Actually, I am still working in the framework of TRIL programme, till December of 2005.

I think I have a positive cultural impact from staying in Italy, because of the people, the place and the food. Probably police formalities are the worst thing, particularly when getting the “permesso di soggiorno”.

I had the opportunity some years ago to get a fellowship for a master’s course in the Netherlands. Since it was a university course, accommodation was provided by the university and there was no need to look for it. But I think that the most relevant issue is medical assistance. The TRIL programme has a more efficient system of medical care than the one I got in the Netherlands. In the Netherlands, medical care was public, therefore timing was long, mainly for getting appointments or going to the hospital. The second relevant thing is police formalities for getting the permit of stay: in the Netherlands you need to go with an appointment on a certain day of the week, therefore you do not need to wait for long hours as in Italy.

I receive at the beginning of each year the information on ICTP programmes for the whole year.

I think science will always be attractive. I am sure qualified people can complement and exchange knowledge when participating in programmes such as TRIL.

It will probably be nice to meet other participants once or twice a year. It will be nice, during the year, to know who are the other participants, through a mailing list.
Flavio Caldas Cruz

Brazil

My experience with the TRIL Programme had a considerable impact: I attended a Winter college on “High resolution spectroscopy” for one month in 1990. At that time I was a 21-year old student finishing his Masters thesis. Today I am active in this research field. Some of the speakers in the course later became my collaborators. At that time I also spent one month in Pisa within the TRIL programme. That collaboration with the group of Professor Franco Strumia and Nicolo Beverini continues until today, and has also expanded to include Professor Ennio Arimondo.

Being outside and far from the “USA-Europe axis”, the level of interaction with researchers in the same field is much smaller. In this way the TRIL helped me by strengthening and consolidating collaboration with other groups.

I still have regular contacts with Italian groups in Pisa.

The course that I attended at the ICTP was my first international trip and had a profound impact at that young age. The culture in Italy is very similar to the culture in Brazil (or perhaps the opposite!), and I did not feel any problem. In addition I have learned quite a lot of Italian on that first trip. Today I am fluent.

In my opinion the other experiences I had abroad are similar. It depends very much on the host infrastructure and the level of personal interaction with the group members.

I think science is still attractive. There are always young people with a lot of curiosity and willingness to discover our world. Physics, however, is a very structured and mature science today, which makes the importance of education even higher. Bad education can harm this natural interest. Unfortunately, I see that some young people are frustrated in different stages of their career, and are leaving physics to do other things. Of course, economical reasons always play a major role.

I have not been contacted much since my last visit to ICTP. Perhaps a strong action in keeping contact with students or “alumni” would be desirable.
The TRIL Programme gave me the opportunity to work in laboratories that are more advanced and much better equipped than those in my own country. It was also extremely beneficial from a human and learning point of view. In fact, it brought me into contact with very high level scientists, not only from Italy but also from other countries, and I was able to attend very interesting lectures. This is reflected in my own scientific production and that of the group in my charge at my university. My scientific career can be divided easily into the period before my experience in the TRIL programme and the period after.

The main benefit is that thanks to the TRIL Programme my group and I have been able to open up to other countries and come into contact with other laboratories around the world. I think it would be good for the TRIL to give more support to the programme by donating surplus and second-hand equipment that at one time functioned in the ICTP.

We continue the collaboration with the Italian host laboratory. Moreover, after I received the TRIL associate nomination, this collaboration has been reinforced.

During my stay in Italy I felt at home, and still feel that way whenever I visit the country. One thing I found extremely useful was that I took an Italian language course before starting the TRIL, and this was of crucial importance in enabling me to come rapidly into closer contact with people not only in the laboratory but also in day-to-day situations. I found the official procedures involving the police really quite tedious, tiring and time-consuming.

I have had the good fortune to visit and to stay for periods of time working in laboratories in other European countries and in the Americas, and found that TRIL really stands out when it comes to general organization, the order and rapidity of procedures, and the most cordial attitude on the part of the Director and staff.

The person who comes to do the programme finds that everything has been thought out and programmed beforehand, and that nothing is left to chance.

I consider that science is still attractive for young people! I think that the question is to motivate the young people in a right way, in order to attract them.
I have used the TRIL fellowship (12+6 months) starting October 1992 to work at the Centro di Elettronica Quantistica e Strumentazione Elettronica del CNR, Dipartimento di Fisica del Politecnico, Milano. This was an extremely fruitful period for me. I gained important experience in the work with advanced equipment (e.g. one of the first femtosecond Ti:Sapphire laser oscillators), and the opportunity to work on very interesting scientific projects. Last but not least, I really learned a lot from most of the members of the team, many of them well known in the field of laser physics and quantum electronics. We succeeded in obtaining some very nice results reported in 5 publications.

At the time of my TRIL fellowship, the common problem of all scientists from my country (Bulgaria) who had to do with experimental physics was the complete lack of funds for new equipment; even keeping the old one working was a problem. The stay in Milan helped me to test and put into practice some ideas I had before (e.g. the so called ‘nonlinear mirror technique’ in mode locking of CW lasers) but which were impossible to explore in my home laboratory. In addition, I stress again the occasion to gain experience with the work on advanced equipment in my field of interest.

Now I work in very close collaboration with ICTP. I also keep strong contacts with the Milan group and collaborate with them in the field of ultrafast laser physics.

During my TRIL fellowship everything was very well arranged so I practically did not feel any difficulty. Everybody in the host laboratory spoke English, but at the end I also learned Italian.

Before coming to Italy I stayed in Brazil with a 6-month CNPQ postdoc fellowship. The latter has also been a very useful period. However I can state that the visit was not so well organized as in the case of the TRIL-supported visit.

In my country, the interest of young people in science still remains high, however it is now mostly focused on disciplines like economics or informatics. The number and level of applicants for the physics department (and other natural sciences) have strongly decreased in the past 10 years.
The ICTP experience: the TRIL programme

Prasanta Kumar Datta
India

The impact of TRIL on my research career was enormous. I got an opportunity to develop confidence in independent research, which eventually helped me to start my own laboratory from scratch at the Indian Institute of Technology, Kharagpur. Access to a laboratory-assembled high power laser (oscillator and two amplifiers) and experience in setting up optical parametric oscillators at the Pavia University gave me a lot of confidence. Relying on this confidence, I took the challenge to develop a diode array pumped and mode-locked laser with a meager funding at the Indian Institute of Technology. After the success in picosecond regime, I am now venturing into building a femtosecond laser with a collaboration from Pavia University. During my stay under TRIL fellowship, I published the following:


(c) Optics Communications (Elsevier), 149, 331-334 (1998) “Measurement and prediction of phase-matching conditions in the nonlinear optical crystal N-(4-nitrophenyl)-L-prolinol” P K Datta, D Fortusini, G Donelli, G P Banfi, V Degiorgio, J N Sherwood and G C Bhar


I remained in touch with my collaborators in Italy and produced the following joint publications with them after joining the Indian Institute of Technology, Kharagpur

mode-locking” P.K. Datta, S. Mukhopadhyay, G.K. Samanta, S.K. Das and A. Agnesi

My Ph.D. training was limited to a narrow area of second order nonlinear optics. Moreover, I used only brand lasers for my work before availing of the TRIL programme. I did not have any experience in aligning laser or setting it up. But in the TRIL programme, I used a laboratory made mode-locked laser that used to get misaligned very often. As such I got an opportunity for hands-on experience to align a mode-locked laser. I also used to set up optical parametric oscillators for tunable sources. I also got opportunities to work in other areas of nonlinear optics such as cascaded second-order processes in periodically poled materials.

I have regular contacts and joint publications with my collaborators. Three visits by the scientists from Pavia University have been made during the period 2001-2004 under ICTP visiting scholar programme. Another three visits have been approved by the ICTP for the femtosecond laser development programme at my laboratory. I am also a regular associate member of ICTP for the period 2004-2009. My students and myself have attended some winter college on optics and other programmes of ICTP in the last 4 years.

During my stay in Italy I had difficulty with the language. But I am myself responsible for this difficulty. I should have learnt Italian. There was some cultural impact on me. I have become fond of Italian food and become conscious about hygiene. I used to get inspired when I saw old Italian ladies busy in keeping their house exceedingly clean. Fortunately I always had good accommodation and good people around me. Other parameters are just secondary.

I spent some time in the UK but my TRIL time was more fruitful and memorable.
The ICTP experience: the TRIL programme

I knew that there was an ICTP chapter at IISc, Bangalore. I am not aware of the one at IIT Delhi.

There was some declining trend in the interest of young people in science a few years ago. But recently a career in scientific research is very attractive for the young people of India.

The duration of TRIL programme should be increased. It takes some time for a young student from a third world country to achieve success in a foreign country. A compulsory Italian course may be helpful for staying in Italy.
The impact of my stay in Italy was very significant. In particular, the main difficulty that TRIL helped me to overcome is working in an international system.

The main difficulties of my stay in Italy were related to accommodation, due to the very expensive rents.

I think that science is still attractive for young people in my country, independently of the problems for getting a job.

To conclude, the TRIL experience was positive and made a very good contribution to my professional career.
The impact of the ICTP-TRIL on my research has been, and is up to the present, very strong; my participation in the TRIL Programme has represented a valuable contribution to my professional career and also to one of the groups of the scientific community in Argentina.

One of the main difficulties in my professional activities up to the present that TRIL has helped me to overcome has been the access to information, bibliography, ICTP programmes and ICTP events. From 1990 up to now I have participated in activities carried out in the Aeronomy and Radiopropagation Laboratory (ARPL), such as the IRI Task Force Activities and IRI Workshops (1993), activities that helped me to work in collaboration with groups from different countries and to publish in different Journals related to ionospheric research.

I still have continual and regular contacts and collaborations with the Aeronomy and Radiopropagation Laboratory.

I evaluate the cultural impact of my stay in Italy as excellent. I always feel in Italy like in my own country, that is, I feel at home there.

I have had experiences in other laboratories abroad and have to point out that the ICTP-TRIL structure has been the best!

I think that young people in my country still consider science as important although our salaries and working conditions are not always the best.

Finally, I want to point out that ICTP has played an important role in my professional career. I am sure that ICTP has also played an important role in the education of many Argentinean professionals and students. Taking into account the critical situation in my country on many occasions, our scientific community gains good opportunities thanks to ICTP programmes. I hope that young scientists from my country and from all the Third World countries can receive in the future the same benefits that I received from ICTP and come back home thinking, as I always do, that the experience in ICTP laboratories allows us to be better scientists and better persons. Thank you! Muchas gracias!
The ICTP experience: the TRIL programme

Osvaldo de Melo Pereira  
Cuba

With the TRIL grant I received in 1988-1989 I practically began my research activity. It was very useful and fruitful. In that period in Italy I contributed to the development of a technique to grow thin films semiconductors. This technique inspired a large part of my present research work.

The main problem for me is the financial support for scientific work. I had access, at that time, to a lot of techniques such as electron microscopy, x-rays diffraction, among others. Also I was able to use computer facilities for calculation. I could participate in several European scientific meetings in that period. The financial support is still the main problem I find in my research work.

I have been recipient of a TWAS grant in 1998 (Crecimiento de monocristales de CdTe y CdZnTe por la técnica de Bridgman) and of two visiting consultingships (Helmut Sitter and José Manuel Martínez Duart). I have organized two scientific meetings (Workshop on Optoelectronics Materials in 1993 and XVII Latin American Symposium on Solid State Physics in 2004) with support from ICTP.

The cultural impact of my stay in Italy was very high. I do not remember any big difficulties I met in that period.

TRIL structure was very nice. It included, at least at that time, support for participation in meetings. The programme was flexible. For example, I got an extension of half a year. It is difficult making comparisons, because in other laboratories I have been under contracts with very different settings, but TRIL was anyhow an excellent programme. Not at that time, but probably now, the remuneration for TRIL Fellows was lower than for postdoctoral positions in other programmes, for example.

There is a decrease of interest in science among young people, especially in physics.
Wen Deng
China

I was at the Department of Physics, University of Trento from April 1998 to March 2002. Our research work was mainly focused on the study of open volume defects in intermetallic compounds, semiconductors and thin films. The studies have been based on the analysis of the spectra obtained from positron annihilation techniques: slow positron annihilation spectroscopy, Doppler broadening of positron annihilation radiation with a coincidence technique, and positron lifetime spectroscopy. We have worked with the following projects:

1. Cu films used as transmission remoderators for slow positron beams;
2. Open volume defect profiles in Si implanted with helium and hydrogen;
3. Defects in a-SixC1-x and C60 films produced by ion beam deposition method;
4. Ti and deuterated Ti films deposited on Si;
5. Studies on the surfaces of SiO2-Bi2O3 glasses;
6. The formation of precipitates in layer of Si-rich SiO2 implanted with Ar;
7. Open volume defects in low dielectric constant materials;
8. Set up a two-detector Doppler-broadening system with low background;
9. Identification of vacancy-like defects related to oxygen precipitates in p-type Si;
10. Measurements of positron annihilation with core electrons in pure elements;
11. Influence of alloying elements on defects in intermetallic compounds.

28 papers have been published in important international scientific journals.

During the period April 1998 to March 2002, when I worked at the Laboratory of Positron and Electron, Department of Physics, University of Trento, Italy, we had enough experimental instruments and foundation to carry out scientific research. Then I went back to my university in China and found it very difficult to build an experimental instrument. It is also very difficult to find suitable components to fix the imported apparatus.

I still have regular contacts and collaborations with the Italian host laboratories, or the Laboratory of Positron and Electron, Department of Physics, University of Trento, Italy.

The accommodation was the main difficulty I met with when I stayed in Italy.

I think it would be fruitful to re-establish the Chinese Chapter of ICTP.

Science is still attractive for young people in China.

I am very grateful to the TRIL programme for providing me an opportunity to work in Italy: it was a very important experience in my whole life.
The TRIL fellowship has indeed had a substantial impact on my profession. Though I had a long-standing experience as an experimentalist in India, my association with Professor Batani, University of Milano-Bicocca, Milano, has broadened my exposure to the latest experimental diagnostics and simulation, which are vital to the present day research.

During that period, I also had the opportunity to associate with the European large-scale facility in Prague, Czech Republic. This widened my interaction with the European researchers and their facilities. It further provided me the ground for discussion on the newer approaches and ideas for future work.

My professional association with Professor Batani started in 2000. I am pleased to mention that we still have a very fruitful cooperation. We have jointly (with Batani and his team) published 25 papers in international journals and presented our joint research as invited speakers in many international conferences.

Fortunately, during my stay in Italy I did not encounter any difficulty.

I still have a regular and active collaboration with the Italian host Professor Batani. I also have close interaction and joint work with Professor Poletti, Istituto di Fisiologia Generale e Chimica Biologica, Università di Milano and Professor Lontano, CNR, Milano.

I sincerely thank the Head of TRIL for providing me a grant which has opened me to many collaborations in Italy and some European countries like Spain and Czech Republic. My association has been very productive and the collaboration has been strengthened due to our common research interests.

Europe’s deep-rooted culture will definitely imprint on the minds of Asian researchers. Although social values and traditions are different, cultural values are respected and appreciated by both communities. I indeed learnt the positive values of the Italian culture. Initially language was a problem. However, one can learn to converse for day-to-day requirements in a few months. With regard to accommodation, Milan is a very expensive place and I spent almost 50% of my grant on it.

I was an invited Guest Professor at the Institute of Laser Engineering, Osaka, Japan, which is one of the most advanced laboratories on Lasers. Therefore, I compare the structure of ILE, Osaka, with the TRIL structure. In this regard, I would like to emphasize that the TRIL programme has a well-oriented structure and effective imple-
The ICTP experience: the TRIL programme

The programme is remarkably encouraging and provides opportunities to the needy researchers from developing countries. The TRIL structure provides all the support to researchers like visa and health insurance and also to their family members. This is really appreciated.

I am aware of the Indian Chapter of ICTP and have not joined the activity. In fact I learnt about the activities of ICTP after I received the TRIL grant in 2000. Since I am aware of the benefit to the researchers from developing countries, I very strongly suggest strengthening of the activity in India. I sincerely request the Head of TRIL to encourage such activity in all developing countries.

The interest in science, particularly in research, is drastically fading among the youngsters in India.

Coming from a developing country and being involved in research for several years, I appreciate the goal of ICTP to help the researchers from developing countries. By this means, my personal experience is that many researchers have been motivated to adhere to their research profession after their return from well-established European laboratories and interaction with the renowned scientists.
The Abdus Salam International Centre for Theoretical Physics

Cristina Di Pasquale
Argentina

TRIL has certainly been very important in my professional activities and my life. It helped me a lot in my research and teaching activities. My experience in the framework of the TRIL is also helping me now. Besides the other activities, I am now working in academic administration and directive positions in education in Patagonia, Argentina.

I have worked in isolated places almost all my life, so TRIL helped me to contact scientists working in related fields.

The cultural impact of my stay in Italy was positive for my family and myself. We found friendly people and, in general, had no problem. Probably some people at the “Questura” were not nice with foreign people.

In the place where I stayed the structure was enough to work.

In spite of the usual problems in our countries, I believe in science and education as an important step for a better future and think young people are still interested in science.

Thanks a lot for the great opportunity you gave me! I hope we can get in touch in the future.
I took advantage of the TRIL Programme in the year 1988 in an Applied Physics group; possibly it was not the best choice. However, I was able to publish several papers. I was also an Associate Member of the ICTP during 1996-2000, a period of high scientific productivity, where the high quality of the ICTP library influenced that trend positively. In general, the impact of ICTP-TRIL on my activity was big, because I reached the highest position in our university (Full Professor), also the highest position in a Programme of the Secretary of University Politics and the second in the National Council for Scientific Research (4/5).

Several years ago, the purchase of journals was discontinuous (one year, yes, two years, no, etc.). In this sense, the presence in an Italian laboratory was very important. Now (I don’t know if it will last for ever), our universities have access to many journals through a system implemented by the Secretaría de Ciencia y Técnica of Argentina. However, because the access to good experimental equipment is hard, the TRIL programme would be of great importance in the training of advanced students of poor countries.

My contacts with the host laboratory and ICTP are not too many, because I changed my research interests from these stays. However, one of my students (Dra. Daniela Iriarte) benefited from the TRIL programme in the year 2002. Moreover, TWAS gave our group a grant for the purchase of a 16-bit camera, used in our actual measurements.

My stays in Italy were very easy, due to my Italian origins. Knowing also the experiences of several of my colleagues, I think that the TRIL structure is a good experience for young researchers.

I think that science in general is not very attractive to young people because they do not like, in general, hard work. Moreover, access to those responsible in the university system is very difficult, experimental research is difficult, etc. Young people prefer Economics, Law, Medicine, and so forth. A few years ago, only 43 people intended to study Chemistry at the University of Buenos Aires, for example. Physics students in the first year are of the order of 10 (except at the University of Buenos Aires, a very big human conglomerate).

To conclude:
1. I think that the TRIL Programme must offer (possibly with the Trieste system),
The ICTP experience: the TRIL programme

the opportunity of short stays for people who, although not very young, could work very well; I am thinking of people about 50 years old. This can be of interest for making regular contacts with the heads of Italian laboratories.

2. Offer the opportunity of making regular contacts with Italian laboratories when the partners have a good standard of research, documented by publications, patents, etc.

3. Study the possibility of the donation of certain equipment when the stays of the partners in Italian laboratories are successful.

4. Strongly stimulate the organization of inter-disciplinary research, for example Biophysics, Medical Physics, Material Science and Environmental Science. The connection of Basic Science laboratories with the needs of the society (medicine, for example) can be the only means (or the best one) to attain the help of the same society or the Education Ministry.
The impact of the TRIL Programme on my scientific formation has been enormous. I carried out 3 stays in Italian laboratories with the support of the TRIL programme (1993, 1996, 1998) and as Associate Researcher in 2003.

The main difficulties that TRIL can help to overcome are:
1- The access to high level techniques such as Transmission Electron Microscopy, Atomic Force Microscopy, Molecular Beam Epitaxy, Pulsed Laser Deposition, etc;
2- The access to scientific literature;
3- The relation and the interchange of many people with high scientific level.

Our collaboration with the Italian colleagues of the host institutions is permanent, the development of scientific projects and papers together is a good example of this collaboration. Our group maintained regular contacts also with the ICTP and TWAS. I was the principal researcher in two TWAS Projects (RG/PHYS/LA 96-192 and RG/PHYS/LA 99-232).

The impact of my stay was very important. In my opinion the interchange between cultures is always necessary; the life and history of a different culture infuses good influence on all persons. The main difficulties were the police formalities (Permesso di soggiorno!!)

I carried out stays in other countries (Brazil and Mexico) and, in my opinion, the TRIL programme has an excellent structure. I would like to remark on the professionalism of the TRIL people (Luisa, Elena, Barbara and Nicoletta in the past), all of them very efficient and very human in the interchange with people of different countries.

Nowadays the Internet permits access to ICTP activities.

In my opinion, science is still attractive to young people. In particular, my research field (nanotechnology) has many enthusiasts in my country.

Finally, I want to remark on the importance of the TRIL programme for research in the Third World. Thanks for your permanent support.
With the TRIL programme, I had the possibility to complete my research work at Trento for my Ph.D. thesis and obtain very interesting results that were published in good journals. That was the starting point of a research objective consisting in creating a research group in my country. Things have become better and I am at the point of definitely installing the X-ray laboratory of the Physics Department of my university. My professional activities as a lecturer in my university have gained much progress. From assistant lecturer, I become Associate Professor thanks to the results obtained under the TRIL programme.

At the beginning of my doctoral thesis, I specialized in X-ray techniques of matter investigation, a new area in my university and in my country. I suffered isolation and was forced to go to Italy to interact with colleagues and get integrated in a group to go ahead with my research programme. TRIL helped me to overcome that situation. I twice visited the X-ray laboratory of Trento under TRIL.

Now that I am building a laboratory in Dakar, I still need help from the TRIL to maintain contact with my Italian collaborators. I also need support from TRIL to help my students to visit laboratories that are ready to invite them and let them use their facilities.

I have regular contacts with the X-ray laboratory of Trento and the SuperEsca group of Elettra with whom I am sharing research programmes. They are ready to invite members of my group to their laboratory.

I never had problems of integration in Italy. I learned the language very quickly and became fluent. I also lived in the university area and they used to arrange all administrative and police formalities.

I also had a research grant from the Italian Government to stay at the University of Trento but the rule was very similar to TRIL. The office of international relations was managing the grants and the stay of scientists.

Here things are still under control at the university but science is not really attractive for young students at the secondary school. There is a lack of teachers in mathematics because they convert to informatics or some other activity that pays better.

I suggest that the scientists who already stayed in a laboratory under the TRIL be helped to maintain contact with the host laboratory by granting further visits.
The framework of the TRIL Programme has represented a valuable contribution to my professional career and to my research facilities in our institute. My experience in the TRIL Programme has influenced my own research, career and my institution’s life in Turkey. I collaborated with the research group in the CNR Air Pollution Institute. I worked in a FP5 Project (MIMIC) during the TRIL period and we prepared an article published in an SCI Journal and also about 10 proceedings for international congresses.

The TRIL programme helped start international collaboration with a valuable research group.

Sometimes, I visit ICTP for attending the scientific workshops and colleges. This year, I also applied for ICTP Associate Membership programme.

I lived in Rome between May 2000-November 2001 (about 17 months). In the beginning there were some difficulties with police formalities and also with language. But I never met any problem regarding accommodation or medical assistance. When I was in Rome, I attended an evening course for learning Italian. Now I can speak and write in Italian. During that period I had plenty of friends all over the world and also in different parts of Italy. It was a valuable experience for me.

The experience via the TRIL programme was also very fruitful in other respects. After that period, I visited the air pollution institute. I am still in contact with them. I would like to work on a joint research project with them in near future.

I can access the ICTP programmes via the ICTP website. But if I have a chance to receive information on these programmes on a regular basis via email, it will be nice.

Science is still attractive for young people in my country.

Finally, I appreciate the head of the TRIL programme and its secretariat. I would like to keep in touch with them more often.

Tuncay Dogeroglu

Turkey
Yu-Hui Dong  
*China*

The impact of my experience with TRIL was to greatly improve the experimental and theoretical aspects in X-ray diffraction. Many of my researches are based on the structure determination via X-ray diffraction and the state-of-the-art techniques and theories of X-ray diffraction. The training that I obtained during TRIL has been very helpful in my research activities.

It is difficult to evaluate the cultural impact of my stay, mainly due to the fact that I took more time in working rather than in social interactions. But the countless amazing artworks of Italy produced in me a very deep impression. The main difficulty was language but that is not serious.

TRIL is almost the same as EMBL (Germany) and Daresbury (UK).

I think that the interest in science is decreasing, maybe due to a larger number of choices available to the young people.
Atanu Dutta
India

After getting my Ph.D. degree in 1994, I spent five years in a non-academic job. I applied for an ICTP fellowship in December 1997. Although the scholarship was awarded late, in 2000, the opportunity provided by the ICTP-TRIL fellowship influenced my academic career immensely. Working at the University of Rome, Tor Vergata, with Professor Enrico Traversa, my experience was enriched on environmental sensors.

With this experience, I got further opportunity to work on chemical sensors in Japan where I spent the last three years working on various kind of sensors. Recently I have returned to my country, India, and I will join a national research laboratory as a scientist. I will work on solid oxide fuel cell development in our country. Hence, for me, the ICTP-TRIL opportunity was a big opening for my academic aptitude and present professional career.

The TRIL fellowship allowed me to reestablish myself in research activities in my field of interest. Working successfully in the University of Rome, I had quite a good number of publications which helped me to proceed further and practically to reach where I am today inside the research community.

I still have regular contact with Professor Traversa and, quite often, we meet in international conferences to discuss the research of mutual interest. I hope that after joining the research institute in India, I can collaborate with him further.

The cultural impact of my stay in Italy was enormous. I was with my wife in Rome and we learned the language from the university. The landlady Anna was a very good friend to us. We still call her often and exchange our affection. In the university, friends never let us feel that we were away from home. We were really amazed by their friendly behaviour. For us staying in Rome was one of the sweetest memories.

At the beginning one thing was quite annoying i.e., police formalities. Coming from a foreign country not knowing Italian it was really unreasonably hard to understand what documents the officer in the window needed. Anyway that is a one-day affair.

As I said before, I had also been also in Japan for three years. As far as administrative procedures are concerned, they are almost the same. But I found that the research activity and its progress in relation to a researcher are strictly monitored in Japan, in the university, through the Professor in charge, whether it is from the JSPS fund or from a national project fund.
I am not aware of the Indian Chapter of ICTP and will be interested to know more. In our country, there are plenty of talented students who are always interested to do research. With the availability of various research institutes and upcoming industrial collaborations, science and its exploration is definitely attracting students a lot. Exposure to a good research laboratory puts them in the frontline of their career and TRIL is one of the most useful opportunities for them.

One year of research training through the TRIL programme appeared short and it would be more beneficial if the duration could be lengthened with useful research output. I do not know whose responsibility it is to monitor the activity of the participant and to have a successful training done.

Police formalities could be decentralized in a big city like Rome, where the crowded Questura could be avoided.

Finally, a few successful participants could be awarded a scholarship in future to come back to Italy, to enhance knowledge and for collaborative research with an Italian laboratory.
Viresh Dutta  
India

The TRIL programme allowed me to work in the Italian national photovoltaic laboratory ENEA-CRIF. The work done during my tenure at ENEA had been on amorphous Si and was in line with my research work that was going on at that time. I have used the experience gained there to establish a spray deposition facility in my laboratory. The facility is mainly used for CdTe thin film solar cells, but, nowadays, we are working on nanocrystalline thin films using the same technique.

The research work done at ENEA related to capacitance studies of amorphous Si solar cells. This involved a lot of software development and interfacing to different equipments. I am doing something similar in our laboratory. This work will now be extended to do impedance analysis of organic solar cells. One of the facilities used in ENEA was cross-sectional SEM. Such experiments will allow me to improve our solar cell design. In fact, experiments like ellipsometry and photoluminescence measurement can greatly benefit my research.

I had been in constant contact with both ICTP and ENEA-CRIF through my visit as a Regular Associate of ICTP. Unfortunately, there has been a shift in the focus at CRIF and I am unable to contribute to their current activities. I have been to ICTP for four years (2001, 2002, 2003 and 2005) and went to ENEA in 1978 and 2001. Given the opportunity, I would like to continue my association with both the institutes.

It was a pleasure to stay in a small town Portici and also visit places of importance (Pompeii, Vesuvius, etc). The accommodation was nice for our family. The language was a difficulty, but our knowledge was enough to communicate with shopkeepers in particular. Medical assistance was also available for my daughter who had several asthmatic attacks. Police formalities were somewhat difficult, but fortunately for us, with the assistance of my colleagues at ENEA, things worked out fine for my family. My family also enjoyed their stay and, in fact, my daughter went to a nursery school where interacting with other Italian children was a good experience for her.

TRIL is better organized to help the scientists and their families travel to Italy and work in important laboratories. It also gives better recognition, since a prestigious institute like ICTP administers it and it is highly competitive.

I have been a member of the ICTP-India Chapter. Professor Garg has now retired from IIT Delhi and it may be appropriate if the task of organizing activities under this
Chapter is taken over by someone else. The activities involving Indian and Italian scientists were good and more such activities should be organized. Apart from the scientific meetings, the Italian embassy can invite the scientists associated with the Chapter for their cultural and other functions.

There has been a general decline in the students coming to science streams starting from school. This is particularly true for urban areas. But we still find some good students from small towns or other states. Much of the decline has to do with the lack of job opportunities, even though scientific challenges still excite young students.

On a selfish note, TRIL can have a programme for the alumni to do a second stint in the same or different laboratories. This may allow us to catch up with current problems in our area. If this concept can be expanded to other European laboratories (limited numbers now), then it will be another dimension to the international cooperation. There can also be a reverse programme where a scientist from Italy can work in another country to share his or her experience. I do not know if the financial support has been keeping up with the increase in the cost of living in Italy.
Walter Estrada
Peru

I worked at the Meteorology Institute “G. Colonetti” at Turin in the High Temperature Measurements Section, under the direction of Dr. Rodolfo Ricolfi. It was an interesting experience and helped me a lot in my consolidation as a researcher as well as in professional activities. I am currently working at the Peruvian Institute of Nuclear Energy as Director of Research & Development; the organization here is rather similar to that of the G. Colonetti Institute and the experience gained in Turin is really useful for me. I also teach Thermodynamics at the university and my Italian experiences also help me a lot for transmitting my experience to the students. Most of my activity is currently related to materials science and my interest in metrology is marginal.

The stay in Italian laboratories was also very useful to get experience; I do technical consulting (Peruvian Research Council, Interamerican Development Bank, etc) and my experience at G. Colonetti helped me in this respect.

I maintain my contacts, particularly with TWAS.

The cultural impact of the stay in Italy was very positive; I learned the language easily and, in general, Italian habits. I did not have any problem in Italy.

I also worked many years at Swedish Universities (Chalmers and Uppsala University) and these experiences were different. Both of them were very positive; perhaps the difference is that in Sweden my goal was to get my degree, while in Italy it was basically to gain experience in research.
The TRIL scholarship helped me start my research in experimental condensed matter physics. I worked in the University of Rome twice under this fellowship. That work was published later:


Due to the lack of experimental facilities in my home country, Pakistan, it is hard to start research in experimental physics. TRIL gave me this opportunity to work in advanced laboratories.

I am still in contact with Professor Fazio at the Department of Energy, University of Rome.

Language was a little problem at the beginning of my stay in Italy. Later I tried to learn Italian and, due to the friendly atmosphere in the institute, I felt comfortable with it. People I worked with were very nice and friendly.

I think the number of young people interested in doing science has increased and people are looking for opportunities such as TRIL to work abroad and broaden their experience.
The training and research periods I carried out in the framework of the TRIL programme are: one month at MASPEC/CNR Institute, Parma (13 September 1998-14 October 1998) and 2-23 July, 2005 at IMEM/CNR, Parma. The role of the TRIL programme on my professional activity has been fundamental. In the framework of the TRIL programme I have had access to an excellent scientific infrastructure in Italy. It does not exist in my home institution.

The main difficulties that TRIL helped me to overcome are:

- Access to some experimental techniques (samples preparation techniques and also characterization techniques: X-rays diffraction, Mössbauer spectrometry, SEM, TEM);
- Possibility of discussing with established scientists;
- Access to periodicals and other publications.

I still have a regular contact with the IMEM/CNR in Parma and Dr. F. Leccabue. Furthermore, I have participated in two TWAS projects.

The cultural impact of my stays in Italy was enormous from the professional and personal points of view. I did not meet with any difficulty.

I have access to the information that appears on the ICTP website. But on this site the information concerning TRIL is particularly scarce and is not updated.

Whether science is still attractive or not for young people is a relative question. In my country, taking into account the difficulties that we confront everyday, I think that the number of young people who intend doing science, or to become a scientist, is great. However, especially in Physics, there is a decreasing number in relation to nine or ten years ago.

The TRIL programme has been fundamental during years for scientists in my country. I can affirm that without doubt.
The ICTP experience: the TRIL programme

Xianping Feng

China

To have joined the ICTP programme for Training and Research in Italian Laboratories (TRIL) was very important in my life. I appreciated that all Italian professors were nice and provided great support for us in both daily life and research.

I returned to China in 1992. In 1993, I successfully set up a new plasma physics laboratory in the Shanghai Institute of Optics and Fine Mechanics based on my experience in Padova University. Because of the great achievement we had in 1994, I got a promotion to Associate Professor, one of the youngest in China at that time. Currently, I have been working on plasma physics research. I have published more than 100 research papers on plasma fundamental physics and plasma processing of materials.

I am sure that the activity (plasma physics research) I carried out in the framework of the TRIL programme has represented a valuable contribution to my professional career and to my country’s development. I do hope that ICTP continues its wonderful programme to help young scientists from the third world. Thank you, ICTP.

The main difficulties in my academic/research/professional activity in China at that time (1990) were that we had very limited information about the outside world. The research we conducted was at very low level. One of the examples was detection of the plasma EUV spectral emission: in our laboratory we used filters to detect EUV signals but in Padova University Italian professors already used grazing grating spectral techniques for EUV detection. TRIL helped me to completely understand this technique. This technique (grazing grating spectrometer) later made a great contribution to our X-ray laser research in our institute during 1994-2000.

For several years after I returned to China, we had good contacts with the Italian host laboratory (Padova University) but now I have completely lost contact. I wish I could have a chance for a revisit to ICTP and Padova.

I had no problems during my stay at Padova but most Italian policemen are not so nice. They always checked people who come from Asia. During the last 10 years, I have worked in Germany, Singapore, Australia, Canada and USA. I feel most Italian policemen were not kind. It was just my feeling. Maybe I was wrong.

Generally, the size of Italian research laboratories is small and few students work in science. I also feel that very few foreign (science) students work in Italian research laboratories. Looking at scientific research laboratories in Australia, Canada, USA and
Singapore, you will find lots of Ph.D. (science) students, and half of them are from India and China. I suppose the situation of a few students in Italian laboratories is due to the visa problem and scholarships.

I think the Chinese Chapter of ICTP should be re-established. I would like to play a role if ICTP needs it. I also wish that ICTP would reset the Asia-ICTP network that was led previously by Professor Sing Lee.

I am noticing a decreasing interest in science with respect to the past. Most students choose medical science and law because of the job-market tendency. However, there are still lots of Chinese young men studying science.

I know that lots of young Chinese Ph.D. students and scientists would like to attend or join the wonderful ICTP activities. The problem is that most of them feel it is so difficult to get a visa. My wife handed her application for a visa more than 10 years ago but she has still not received any reply from the Italian Embassy whether it is a Yes or a No. I feel such a situation seriously affects ICTP.
I participated in the TRIL Programme many years ago in the field of renewable energy and atmospheric pollution. I remember that when I returned to my country, I had the opportunity to satisfactorily apply the training acquired during my stay in Italy, particularly during the following few years. In fact, during a short meeting held in Buenos Aires in 1993, I presented a description of the experience acquired in the Italian Laboratory, with the aim of promoting techniques and methodologies used and learned abroad. A few years after, projects carried out in my institution, and hence my activities, shifted towards other research areas. Fortunately, I had the opportunity of participating in other ICTP workshops related to these “new” activities (regional weather and climate modeling).

I think, even if I did not have to overcome major difficulties in my home institution, during my experience with TRIL I learned about the way in which projects should be presented and executed: from the earliest conception up to the conclusions and final reports.

I still have regular contacts with both host laboratory and ICTP but not active collaborations.

During my stay in Italy, I did not experience a “strong” cultural gap nor any main difficulties (I come from an Italian family). Perhaps accommodation was a bit complex.

I am regularly informed about ICTP activities: I am used to visit the relevant webpages. I also participate in a user list and am on the list of ICTP courier automatic email delivery system.

I think science is still attractive for young people in my country. For instance, in our Centre, 25 new fellows were admitted this year, most of them belonging to the biological track.

In my case, it was very difficult to merge experience acquired abroad with research lines carried out at the local institution because I did not have the “status” for developing bilateral projects or other types of collaboration. In addition, I did not find enough interest in my local colleagues to increase the links that I established during my visit to the Italian Laboratory.
In Professor Zerbi’s Laboratory I was exposed to the research-working environment. Before my arrival in Italy I was working on IR and Raman spectra of straight chain molecules and their force field studies. There were certain intricate problems connected with these studies. My stay with Professor Zerbi helped me to solve them. Thereafter the quality of my work changed by leaps and bounds. This is evident from the international publications that were prepared by me after returning from Italy. My stay of 14 months in Italy was an unforgettable experience especially from the point of view of my research and professional career. As soon as I returned from Italy in 1984 I was made Associate Professor (i.e. Reader). Needless to say my stay in Italy played a key role in this selection. Furthermore in September 2003 I was chosen for the Meritorious Teacher Award by the Government of Andhra Pradesh from the University Category. Again my training in Italy was given due weight for this. I look forward to such happy events in the lives of other Indian university teachers who are working in remote and backward areas.

For doing good research three essential components are required. These are:

i. Good library
ii. Good computational facilities and
iii. Knowledgeable people with whom to discuss science.

TRIL provided these three components. The third one is still available to me. I am in regular contact with Professor G. Zerbi, Polytechnic Institute of Milan, who was my host in Italy.

During my stay in Italy, language was a real problem. Once I was outside of the campus I used to feel like a dumb and deaf person. Police formalities were difficult. I did not get police clearance till the day of my departure from Italy, following frequent visits to the police station.

I never tried to go abroad after visiting ICTP because I was more than satisfied by the impart of my knowledge on the underprivileged Indian students. This was the reason I moved from the main campus of my university to a remote constituent college, where I headed the college for nine years from August 1994 to October 2003. For this same reason I moved to Eritrea, one of the ten poorest countries, in order to become a part of their efforts to build an Institute of Science and Technology.

I have been a life member of the Indian Chapter of ICTP since inception. It needs
Science has always been the second choice coming next to Engineering. During the past fifteen years science has been pushed to the third place with the advent of computer science due to the enormous job opportunities it provides.

I have two points to make:

1. The ICTP was giving priority to under-developed and developing countries. Within a developing country the priority was given to the institutions that are situated in remote and backward areas. This was the reason for my selection to TRIL in 1983. In the recent years there appears to be a shift in the policy of ICTP. Following the induction of Professor H.P. Garg (from IIT Delhi) into the ICTP programmes, there have been a large number of students from IIT and the like who have participated in the ICTP programmes to the disadvantage of their brothers and sisters who have been toiling in various disadvantaged institutions. IITs, IISc and central universities are considered to be world-class institutions. They have better facilities and greater access to foreign institutions when compared to other educational institutions in India.

2. I am told that persons above 45 years of age are not being considered for ICTP programmes. I may mention here that age measures the human body and not the human mind. There should be a balance between the people below 45 years of age and above that age for the ICTP programmes to be successful because people who are mature in age and are experienced can contribute more meaningfully to the purpose and goals of ICTP.

I wish the TRIL programme all the best.
Since 1993, my professional experience in the National Centre for Seismological Research has been related to the study of seismicity and seismic hazard and risk (regional or local scale). After a short visit to ICTP under the Federation Scheme Programme, in 1997 I obtained a TRIL long-term grant. The host institution was the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (formerly Osservatorio Geofisico Sperimentale di Trieste, OGS).

The goal of this first grant was to improve my knowledge on new algorithms and techniques for seismic hazard estimations. It was the beginning of a long-term scientific collaboration between CENAIS and the Seismic Risk group (RISK) of OGS, in which the TRIL Programme has been continuing to play an active and very important role.

The participation of TRIL Programme in these activities was permanent. Most significant was the financing of my doctorate (part of the time in Italy and part in Cuba) as part of the OGS-TRIL agreement. As a result of our joint work, we achieved important results in probabilistic seismic hazard maps (national scale) and risk for the Santiago de Cuba and Bayamo cities, presented in several seminars and congresses, and published in refereed journals:


As is well known, after 1990, the resources and funds to realize high level scientific activities (researches) in our study fields became scarce, in spite of the efforts of our government to maintain this theme at a good level. The lack of contacts with high level scientists, publications, international congresses and workshops and the insufficient technological capacity to carry out our work constituted a great “limitation” to my professional development.
The TRIL programme has contributed notably to my formation as a researcher, giving me the possibility (through the grants), of working with Dr. Dario Slejko (tutor of my Ph.D. thesis), a specialist of the highest level to world scale and at the OGS, an institute that counts on technical and human resources sufficient to realize a high-level scientific work, obtaining important results.

In my opinion, given the present conditions, the TRIL constitutes a necessary and important link to guarantee the continuity of the collaboration between CENAIS and OGS. We have in mind many projects of future work, but it will not be possible to realize them without the aid of this programme.

When I am in Cuba we do everything possible in order to maintain a constant communication with the OGS, because it is not possible “to stop” our work. Some times we have lost contact due to technical difficulties in Cuba (e.g., the mail server going out of order for a long period of time).

Although I did not speak Italian before visiting Italy, I knew about the history and the culture of this country and its customs. I have adapted very well. Two years ago I married an Italian and we have a daughter of 4 months. At present I am resident in Havana and Trieste.

The technical difficulties of using the Internet in our centre makes it very difficult for me to access the ICTP website regularly. A possible solution to this problem (not only mine) could be to send by email information about the programme and its changes or updating.

In spite of the difficulties under which we live, science is an attractive field for the youth that study in our universities, particularly physics and subjects such as seismology, geophysics and geology.
The main impact of ICTP-TRIL on my career was the exposure to how quality research work is done in other countries. My host laboratory greatly helped my integration. I think that the training period of one year is sufficiently intensive for young scientists to learn how science is done. In my country we have a significant increase in the enrollment of students to our BS, MS and Ph.D. Physics programme. The TRIL programme greatly helped my scientific career. I would most probably be engaged in a different photonics research field without the opportunity given by TRIL.
Krishna B. Garg  
India

I will try to give the salient points of the impact of ICTP-TRIL on my career:
- I got exposure to research in the industrialized world that transformed my attitude to methodology, importance of time and timing, and academic competition;
- It helped me to appreciate our attributes as well as limitations (problems) better and gave me the confidence to look for solutions of those problems;
- It opened up the vista of collaborations and joint works with research groups in the Western world from which I and my research group here have been benefiting;
- It helped me to appreciate the problems and attributes of other third world countries and scientists and helped me to develop some cooperation with them;
- It helped me to provide a better environment for my students here, more conducive to their growth, the success achieved by them being a testimony to this.

The administration system, even in field of science, still continues to be too bureaucratic and discriminatory in my country. It is very seldom that someone goes by what one is doing and accomplishing. One’s age and list of one’s godfathers are more important to derive even legitimate support to keep the work going. Those scientists who are able to occupy high-power positions also tend to adopt the ways of the very same bureaucracy that they used to complain against. Although India is growing fast economically, the money in science is still very meager, resulting in the R&D falling behind other sectors, thus adversely affecting the very economic growth.

I have had nearly continuous and very fruitful cooperation with my host laboratory (Dipartimento di Fisica, Università di Roma “La Sapienza”, Rome) ever since I went there in 1986-87. The collaboration is still continuing. My colleagues and I have also been getting support from TWAS research grants and ICTP through participation in advanced courses and short visits.

Italy is a wonderful country and Italians are wonderful and very helpful. Of course, language was a big problem, as it was difficult to interact socially with Italian colleagues except a few who became very good friends. Medical assistance was very good. The staff at ICTP has always been fabulous and friendly. Police formalities were very tortuous, painful and time-consuming.
TRIL has a wonderful environment and spirit that make scientists from the Third World feel at home. One does not feel like an outsider as one feels in most other countries in Europe and elsewhere. Also, the follow-up programmes of TRIL make one feel a desirable visitor and are a great help to one’s programmes at home as well.

I used to be member of the Executive Board of the Indian Chapter of ICTP. I am not sure if it should or should not be strengthened. All I can say is I feel happier having a direct rapport with the ICTP and TRIL.

Interest in pure sciences has been on the decline in the sense that, although the numbers coming to science have not declined, the quality most certainly has. The best students get more attracted to administrative jobs (business or civil services), IT and other applied sciences than to basic sciences.

Keep the spirit of the ICTP alive. That is one of the most important factors that distinguishes it from other international agencies.
The ICTP experience: the TRIL programme

Mauricio Gende
Argentina

TRIL has played a very important role in my professional life. Thanks to ICTP-TRIL I could:

a) Get in contact with the Aeronomy and Propagation Laboratory (ARPL) staff members. I would like to express my gratitude to Professor Sandro Radicella and his collaborators for the support received during these years;

b) Meet Marta Mosert, an Argentinean researcher with whom I am collaborating now;

c) Meet Elsa Mohino, a young researcher from Madrid, who is now my Ph.D. student;

d) Attend three international conferences of my specialty;

e) Present results of my work in international congresses and scientific magazines.

TRIL has helped me to get in contact with researchers from all around the world. After my TRIL scholarship I started to interact with people from Italy, Spain and Argentina. I am still in contact with ARPL.

The cultural impact of my stay in Italy was very positive. I have made very good friends in ICTP, some of them now live in Pakistan, France, Italy and UK. Since my grandparents were Italian I find myself very comfortable in Italy. I had no problems with accommodation but other colleagues have had some. Renting an apartment for only some months is not easy in Trieste.

Science is still attractive for young people in my country, but, since researchers are not well paid, many people tend to go into industry.
The ICTP experience: the TRIL programme

Fabiana Gennari
Argentina

The impact of TRIL on my professional activities is twofold: first, TRIL allowed me to work and interact with researchers of high scientific level, using equipment, techniques and libraries at the top in the field of my theme. Second, TRIL has made it possible to start a connection with the host laboratory, through both the development of common projects and the hosting of other people from my laboratory.

The main difficulties in my activity are associated with the scarcity of resources: the access to novel equipment and techniques, the availability of a good and wide bibliography source, the possibility to interact with researchers out of our country (via congresses, short stays, etc.). I think that TRIL can help in the sense of providing economic support (different programmes or grants) to facilitate the acquisition of equipment and books, short visits after the TRIL programme, assistance to conferences specific in the field, etc.

I still have regular contacts with the Italian host laboratory, as mentioned before. This interaction will be improved mainly through short stays of different researchers in both laboratories as well as through the acquisition of equipment and scientific literature.

I did not suffer a cultural difficulties in Italy, maybe because the Argentinean roots are mainly European. The difficulties are mainly associated with police formalities and the installation of the family group.

I did not have experiences in other laboratories abroad. The TRIL programme provided me with the economic support to work in a first class laboratory and start a nexus between laboratories.

I think that science is still attractive for young people, even when the difficulties are big and difficult to overcome. The international programmes tend to help, but there are many difficulties to overcome. In particular, I think that scientific activities are more difficult for women—in particular those with children—who must postpone their professional career in the face of both family obligations and job obstacles.
The main impact of my TRIL experience was to be familiar with basic methods for Quality Control in Diagnostic Radiology, but unfortunately there weren’t any publications.

Involving QC and Dose Assessment in Diagnostic Radiology was a completely new field for medical physicists in MKD, so TRIL was a good opportunity to receive training.

I do not have any contacts with TRIL and the host laboratory, with regret.

All candidates should start learning Italian immediately after arriving. I arrived on 6 May, but started to learn Italian in the middle of October, the start of the ICTP course. Other language schools in Trieste were expensive and I could not afford them. Accommodation was a nightmare for me! While I was staying in the guesthouses, my roommates were praying 2-3 times during the night! The apartments offered by the Housing Office in Trieste were expensive and obsolete. I did not know Italian, nor Trieste, nor other candidates; I simply could not do anything to overcome this problem. Medical assistance and police formalities were instead well organized.

Now I like Italy more than before.

My personal opinion is that all IAEA activities (training courses, fellowships) are better organized, the candidates are more involved in the activities in the host-laboratories, institutions, etc. The programme and timing of activities, duties, are strictly respected by both sides.

It seems to me that there is among young people a decreasing interest in science, but, of course, there are still some people interested in science (physics).

The TRIL programme represents a good theoretical project, but with certain practical problems:

- Such a long time (e.g. 12 months) is not necessary for any kind of activities. There is no point without efficiency in the training; instead, one short consistent training would be more appropriate for the candidates.

- Finally, may I be honest? There was absolutely no practical activity in my training though it was mentioned in the programme. I wasn’t involved in any host laboratory-activities. Usually I was reading books, articles and so forth during the whole working day. When I realized that I could learn more efficiently in the ICTP Library, I started to spend more time there. Nevertheless, I am very happy because I had a TRIL fellowship. GRAZIE!
The TRIL programme has been very useful for shaping my professional and academic career in teaching and research. A number of research papers was published from the work performed under the TRIL programme. The exposure and access to sophisticated facilities in the research laboratory in active collaboration with an industry (SGS Thompson) was very fruitful.

In India, due to limited resources, the research facilities available at a particular place is poor compared to those available in developed countries. The TRIL programme has given me the opportunity to handle and work with many sophisticated research facilities, which is of great help in developing facilities in India.

I no longer have many contacts with my host laboratory, which has not been cooperative in this regard.

The cultural impact of my stay was good. The main difficulties were language and police formalities.

I have access to ICTP information, but am not in regular touch. You could send updated information to TRIL Fellows by email.

I think that the Indian Chapter should be strengthened.

There is not much interest in science among young people, as is the case globally. The decreasing interest in science studies is due to the limited job opportunities. The government has to do something about it.

A final suggestion: if the TRIL fellowship grant is increased, better talent could be attracted.
The ICTP experience: the TRIL programme

Mohan Gollapally
India

The ICTP-TRIL programme has had a profound effect on my research interests and career. The TRIL programme enabled me to complete my Ph.D. and has shaped my career as a seismologist. The programme has kindled in me an interest to study the deep structure of the earth using seismological tools. The ICTP visit was an unforgettable experience wherein the benefits and importance of collaboration were realized. The present research programmes undertaken by me are on the understanding of the interior of the earth through waveform modeling techniques. Currently I am exploring the possibilities of diversifying into new research areas in seismic hazard, a field in which ICTP has specialized over the last decade.

Interaction with leading seismologists is lacking and consequently scientific advancement and know-how of latest technology and cutting edge research are not easily accessible in my country.

I am still in contact with ICTP through the TRIL Associateship programme.

Italy is a wonderful place to live. The main problem is getting suitable housing for a short-term stay.

It is always useful to strengthen an initiative like the Indian Chapter of ICTP.

Science is an attractive option if it is job-oriented. Thus, attracting students to the Master’s programme is possible but difficult for Ph.D.
I visited the ICTP on a short-term visit in 1998 coinciding with the IV Workshop on Seismic Waves Generation, Propagation and Inversion. During this stay I was in contact with the SAND group of the ICTP and the Department of Earth Sciences from the University of Trieste, and I knew about the TRIL Programme facilities to develop scientific researches. In 2001, I was awarded a TRIL grant for 3 months with the the University of Trieste as the host institution. During this stay I was working on training and research on seismic waves propagation and tomographic studies in the Caribbean region. As a result of this stay, knowledge about the mantle and upper crust structure of the earth in the region was improved and the results were published, presented in several seminars and congresses, and introduced in the database of the Cuban National Seismological Service. The results of this visit were published in:


As is well known, after 1990 the resources and funds to realize high level scientific activities (researches) in our study fields became scarce, in spite of the efforts carried out by our government to maintain this theme at a good level. The lack of contacts with high level scientists, publications, international congresses and workshops and the insufficient technological capacity to carry out our work constituted a great “limitation” to my professional development.

The TRIL contributed to my formation as a researcher, giving me the possibility of working with Dr. Giuliano F. Panza (tutor of my Ph.D. thesis), a specialist of the highest level on the world scale. The University of Trieste, his institution, and the SAND group have all the technical and human resources necessary to realize a high level scientific work, obtaining important results.

Some other results can be obtained and others could be improved in order to prevent and mitigate disasters in our region, and in this sense the TRIL Programme could play an important role in the future.

I am Junior Associate of the ICTP Associate Programme and under the TRIL Pro-
The ICTP experience: the TRIL programme

I have developed the research work of my Ph.D. thesis in contact with the SAND group and the University of Trieste.

Thanks to my visits to the ICTP, I increased my knowledge about European and especially Italian culture, its history, traditions and customs. I had no great difficulty during my stay at the ICTP, but some small details in order to improve the access to our information and computer facilities at the ICTP from our home institutions could be considered.

Because of the technical difficulties in using the Internet in our centre, it is at times very difficult for me to have regular access to the ICTP website. A possible solution to this problem (not only mine) could be to send by email the information about the programme and its updates.

Yes, in spite of the difficulties with which we live, science is still an attractive field for the youth that study in our universities, particularly physics and related themes such as seismology, geophysics and geology.
The TRIL experience allowed me to get in contact with the OGS of Trieste, where I worked in a friendly and highly professional environment. In particular I enjoyed the possibility of using the same instrument I was working with (the OSCR) in a different part of the world to the Mediterranean. The TRIL fellowship helped me to pass through a transition in jobs.

I was having contacts with the scientists I was working with at the OGS but not for collaboration.

During my stay in Italy I had no difficulty.

I was also working at the NPS of Monterey, CA. No comparison can be made since in the above-mentioned place I was mostly learning, and in the OGS I was mostly transferring experience.

I think that science is still attractive for young people in my country.

Thanks for contacting me: this questionnaire shows your concern about improving the programme.
The main result of the ICTP-TRIL impact on my activity is given by many publications written with my Italian colleagues.

The TRIL Programme allowed me to contact recognized scientists of other countries (mainly Italians) working on similar problems. The contacts helped to begin joint efforts, which enhanced mutual research capacity.

For people who speak Spanish, Italian is not a problem. Even Italian culture is very similar to what we have in Argentina. Therefore we feel better in Italy than at home. A real problem is to rent an apartment in Italy, if you want to go there with your family.

I had a two-year experience in USA. I found that to live in Italy is better from the human point of view. Perhaps, in USA, it is simpler to have financial resources.

Unfortunately, I have no information about ICTP programmes, but would like to have it. Also I would like to know if there is any programme for short stays in Italian laboratories or universities for people over 55 years of age.

In general, young people are not very motivated because the ratio of effort to economic reward is too high. Therefore some bright students tend to choose medicine or economics where the ratio is lower. I also think that motivation depends on whether the teachers find the way to present sciences as attractive, interesting and fun.

Finally, I would like to thank the TRIL programme and, in particular, Professor Giuseppe Furlan.
During my ICTP-TRIL research in Genoa, oriented methods and models of atmospheric dynamics were developed, which are widely used in both home and host institutions. The research results and the experience gained provided the basis for a 3-year research project on Atmospheric Boundary Layer parameterizations, financed by the MIUR (Italian Ministry for Education) in the “Rientro dei cervelli” initiative. This made it possible for me to have the position of Associate Professor at the Department of Physics, University of Genoa, between 2003 and 2006.

TRIL has helped me to do research in a period when this was very difficult, due to financial problems, in my home institution. TRIL helped me to stay in contact with leading European scientists. I hope that TRIL can still help in providing access to peer review publications and supporting participations in international workshops and conferences.

I was an ICTP Associate Member but had to suspend this Membership when I became an Associate Professor at the Department of Physics, University of Genoa, within the MIUR “Rientro dei cervelli” initiative (2003). This Department was my host institution for the TRIL research.

For a new TRIL researcher (in general for any non-EU scientists) the main difficulties are police formalities and finding proper accommodation, especially if the host institution is not in Trieste. I would propose to have agreements with the offices at the universities, responsible for foreign students for example, so that there will be one person who takes care of the formalities.

More than 13 years ago I lived for almost one year in Germany with a DAAD Fellowship. I think that TRIL is more flexible as far as financial support for missions, books etc. are concerned, but DAAD was very well organized in terms of all other formalities. As a whole, I could say that I prefer TRIL.

After the ‘large’ depression some 10 years ago, when a lot of young people ‘escaped’ from the country and natural sciences had only a few students, in the last 2-3 years there is again an interest in doing research. But students try to get the basics in Bulgaria and then proceed with their career in laboratories abroad.

I am very thankful to TRIL since this gave me the occasion to have a long year of fruitful collaboration with the Department of Physics at the Genoa University. Besides the research possibilities, the stay in Italy has broadened my historical and cultural knowledge.
Ratnesh Gupta  
India

TRIL gave me an opportunity to work with Professor G. Principi and with his close collaborators and to get experience on Ion Beam Accelerators and lasers. In particular, I got complete knowledge of Mössbauer with high field. I used the knowledge to use the Indian accelerator facilities, namely the Nuclear Science Center, New Delhi, for my research work. Later on, I also worked as a visiting scientist in the University of Goettingen, Germany, in the same field.

During my short stay, I also used the synchrotron radiation facility (Elettra) with my Italian collaborators. I used to interact with different scientists and exchange ideas to acquire a better understanding of science. TRIL helped me to get the experimental skill on beamlines as well as on different analytical techniques.

We are still working in close collaboration with the Italian host laboratories. We have also submitted an Indo-Italian joint project to work together.

My stay in Italy really gave me the pleasure of understanding another European language and enjoying delicious Italian food as well.

I also worked at the University of Göttingen, Germany, and there is no comparison as far as structure is concerned. Nevertheless, I can say that the TRIL structure is extremely good.

Students and young people are still interested in science, but their number is definitely declining.
The ICTP-TRIL had a significant impact on my past and present research capability; that impact stemmed as a start from an active interaction with a wide spectrum of researchers that I had met at the ICTP. This interaction, exchange of ideas, and informal discussions brought me closer to the reality of how research ought to be conducted and that gave me a strong boost towards formulating my initial articles in my discipline. The guidance and reviews of my articles from the staff of the ICTP did establish and enhance my confidence in moving forward in sending these articles for publication, as I did; and those articles were accepted and published afterwards. In addition, the library at the ICTP was a very valuable resource that I did utilize and benefit from fully. For that I can say I am grateful indeed.

As my activities and visits to the ICTP came rather early in my career, a little after earning my Ph.D., they helped overcome the hesitant and sluggish impulse that I felt I had then, which constrained my initiation of new research ideas or expanding on my standing background and experience to push for a more productive phase of my career. The confidence and experience that I obtained through these ICTP visits gradually helped bring that barrier down.

Unfortunately, I have had no contacts with the host laboratory and ICTP since 1986. I will be more than happy to renew such contacts if conditions and chances would allow it.

The cultural impact of my stay in Italy was rather smooth and pleasant. I never encountered any measurable difficulty. With the little Italian that I had learned through my stay, I was able to manage. The accommodation was facilitated by the ICTP staff and it went fine. With regards to medical assistance and police formalities, I had no problem at all. From my frequent short visits and one rather long stay, I honestly can say that the Italian people are warm and very friendly.

I had several experiences abroad, one in another European country other than Italy and others in the United States. The experience with TRIL in Italy was definitely superior to that in Europe outside Italy, and the TRIL was pleasantly comparable to my other experiences in laboratories in the United States.

I do notice an unfortunate decreasing interest among new young people in sciences, possibly due to several social factors, inadequate work environment, and economic
aspects, that leave less time and more burden on young scientists’ motivations.

Finally, thank you for initiating this contact. The mission of the ICTP is definitely above any measurable value. The positive impact and influence of such an institution in my view does extend beyond careers of the directly benefited participants to include and embrace their mentality and values in ways that could lead willing scientists to a genuine indoctrination, bringing science to the top list of their aspirations. In this way, the gap between peoples and countries could be narrowed and possibly bridged for their good.
The ICTP experience: the TRIL programme

Tigistu Haile
Ethiopia

I used the TRIL fellowship, which lasted three months, as part of my research visit to Italy during my sabbatical year. I was able to work on geophysical problems I had already started, and completed four papers, all of which have been published since.

The availability of research materials---up-to-date journal articles, fast and reliable Internet access, the excellent ICTP Library and moreover the best possible working environment at ICTP and the laboratory to which I was attached during my fellowship---are all things that I could not imagine to get at my home institution.

I do have regular contact with the ICTP. Currently I have applied for a Senior Associateship. As current President of the Ethiopian Physical Society (EPS), I am in the process of making a permanent contact with TWAS.

In addition to my ICTP Regular Associateship and TRIL Fellowship visit to Trieste, I have a long-standing research collaboration with the Geophysics Department of the University of Cagliari in Sardinia. Many of my research works and publications, and the academic promotions that followed, came through these visits and collaborations. In fact, I now consider Trieste and Italy as my second home.

I have experience with research visits to many institutions in Europe. Although my interaction with TRIL was limited to three months, as I mentioned above, I was given the liberty to choose the laboratory where I wished to work and this has given me much freedom and the environment to carry on with my work.

I can testify that the TRIL structure is sound and productive as it associates researchers with the proper first class laboratories in their respective fields.

I regularly visit the ICTP web-page and go through materials and information posted there. I have been trying to introduce SINET, the Ethiopian Journal of Science, to the ICTP Library. I regularly send a few copies of the new volumes with the hope of making the Library a regular subscriber to the Journal. In doing so, I am in regular contact with the ICTP Offices.

Honestly, in my country there is a decreasing trend in science. Employment opportunities are largely limited to teaching and there is no motivation for carrying out research; the reasons are the lack of research laboratories and modern facilities, adequate library and print material, conducive environment, etc. As a teacher, I am finding it difficult to attract new graduate students to join work on my research problems and a
future in science. The social science streams are more in demand and pay more.

I find the tasks and objectives of the whole ICTP programme even more topical and attractive today. The TRIL and Associateship schemes provide scientists from the developing world with materials, space and, most importantly, the environment to carry out research on problems of their choice.

The problem is that the number of scientists who could participate in the programmes is very limited. I hope for a better future in this regard with more available funds so that more able scientists could benefit from these schemes.
The impact of the ICTP-TRIL programme on my research was very positive. It allowed me to train in an Italian Laboratory in 2000 and 2003. Furthermore, it allowed me to carry out research work and realize two publications.

The main difficulty, faced by researchers of a country in the process of development, is that we do not have laboratories equipped to advance our research, but can realize them only with this type of collaboration.

The training which I had in the “Dipartimento di Scienze del Suolo della Pianta e dell’Ambiente”, Università di Napoli Federico II, allowed me to continue to work with Professor Piccolo in soil chemistry.

My stay in Italy allowed me to know another culture of the Mediterranean. The main difficulty for a TRIL researcher is the accommodation and meals outside Trieste.

I obtained my Ph.D. at the National Center for Scientific Research Laboratory, France. If I can make a comparison with the structure of TRIL, there are really no differences, neither from the reception point of view nor from the structural point of view. On the other hand, the French laboratory arranged restaurants and reserved apartments for researchers; we find this rarely in Italy.

I notice, according to my experience, that the young people in my country are less interested in science than previously.

To encourage the researchers of the countries in the process of development, it is necessary to increase the number of fellowships, their amount and to facilitate the procedure for getting a visa.
The TRIL Programme allowed me to continue my scientific activity during a period when this was almost impossible in my country. I also enriched significantly my research experience.

The difficulties that TRIL helped me to overcome are mainly financial.

I have regular contacts with the people of my host laboratory: IFAC Istituto di Fisica Applicata ‘Nello Carrara’ Sede EQ sezione: Laser & Applicazioni.

It was very exciting for me to familiarize myself with the Italian culture. I did not have any difficulty with the language. Initially I was using English, but learned Italian very soon.

There is no significant difference between my host laboratory and other laboratories (AIST, Tsukuba, Japan) which I visited.

In my opinion, the interest of the young people in my country in the field of science is dramatically decreasing.

Finally, I can say that the TRIL Programme is an excellent opportunity to improve the scientific experience of the people.
The training that I have received during my stay in Italy, thanks to ICTP-TRIL, was decisive to reach the academic success that I am enjoying now as a full professor of the faculty of Physics and IA at the University of Veracruz. The experience and working in simulation of Silicon Drift Detectors carried out in the Department of Experimental Physics gave me the knowledge and skills to become an expert in Computational Physics, allowing me to develop my current scientific research. ICTP-TRIL gave me the opportunity to learn intensive computing skills. This knowledge has become critically important for my research.

I am afraid I have not kept my contact with ICTP, a mistake that I would gladly correct in the near future. About my host laboratory, I keep in contact with my former boss and consider him one of my best friends currently.

During my stay in Italy, I did not experience any difficulty or problem due to my status as a foreigner. Everybody treated me very well. Learning Italian for me was very easy because my native language is Spanish.

About the cultural impact that I have experienced, I should say that it was delightful to live in Italy, where art and beauty are present everywhere. Currently I read plenty of Italian writers in their original language and enjoy Italian opera very much!

I have spent some years also in USA, at the Fermi National Accelerator Laboratory, near Chicago; and I spent some months also at CERN. They were awesome experiences and gave me a lot of support, but I think the TRIL structure is superior because I always had the feeling that they cared personally about me. Besides I never received any questionnaire like this from the others!

In my university I have urged talented young physicists to go out and do graduate studies. We now have students with a high academic level that are achieving great success at national and international level (something which did not happen 5 years ago).

I would like to add that I appreciate a lot your important support and that I would like to keep in touch with you again.
The TRIL programme has provided me an opportunity to conduct research at the TASC Laboratory and ELETTRA synchrotron facilities in Trieste. TASC is a world-class advanced surface science lab and the training I received there has provided me a valuable research experience. My research at that time concerned catalytic reaction of oxygen and carbon-monoxide on a rhodium surface. I have set-up and used a VT-STM system at Professors Renzo Rosei and Giovanni Comelli’s Laboratory. The results of this research have been published in Physical Review B and Physical Review Letters:


I do have contact with both ICTP and TASC/ELETTRA even though I have not visited ICTP since 2000. I also use my connection with ICTP to help the ICTP diploma course students to continue their Ph.D. study at Ohio University. Currently, seven ICTP students are attending our Ph.D. programme at Ohio University.

I arrived at ICTP as a diploma course student in 1992. I needed some adjustment at the beginning, especially to communicate with people and to understand the police and medical formalities, etc. But a few months after I arrived there, I was able to adjust myself and had no difficulties to communicate with people or to get medical assistance. Italians are very warm and nice people. The entire Trieste community, including the police department, respect the ICTP visitors.

I do have an extensive experience in top-level laboratories, including Freie University in Berlin, Germany, and now at Ohio University in USA. I would say that the TASC laboratory is one of the top laboratories in the world.

I think science is still attractive for young people in my country.

Finally, I want to add that I have only positive views on the TRIL programme.
The ICTP experience: the TRIL programme

Semra Ide
Turkey

The ICTP-TRIL programme opened up a new page in my scientific life. With the help of this programme, I learned a modern experimental method and its applications. Now, I am teaching this method as part of a course on industrial and modern x-ray applications at our university. On the other hand, after I went back to my country, I was invited by international and national congresses to speak about my experience at ELETTRA-SAXS beamline (as a host laboratory). I built up scientific collaborations with three different groups working with schizophren polymers (Associate Professor Vural Bütün, Osmangazi University), rahamnolipids-lipids (Professor Sümer Peker, Ege University and A. Erdem, Senatalar Istanbul Technical University), and Co and Ni powders (Sebahattin Gürmen, Istanbul Technical University). We began to write proposals to send to ELETTRA-SAXS beamline. During these scientific activities, I gave some information about the ICTP-TRIL programme and the financial-official support. The scientific subject and experimental method (SAXS) were new for me. I learned this method and constructed a connection between x-ray diffraction (my main subject) and SAXS methods. It took me three months. After the first three months, I gave a report to the ICTP-TRIL office. These reports are very important for our studies in our country. With the help of these reports, we may develop our scientific missions and visions. So we also have similar applications. But, when I began to attend the host laboratory, I could not see any programme prepared for a TRIL Fellow. After I said so, my supervisor wrote a study programme. It should be a rule before coming to the host laboratory.

Certainly, my contacts and collaborations with the host laboratory are going on. I will apply for beamtime at ELETTRA-SAXS beamline with new samples and projects. Our first projects had been prepared clumsily, because of the lack of experience. We are more conscious now about writing proposals to use this new method. I always encourage my Ph.D. students to use SR in their studies. Most probably we will apply to ICTP-TRIL office to have financial support.

The cultural impact of my stay in Italy was excellent. I had social neighborhoods and contacts. Language was not a problem due to kind and helpful Italians. We learned Italian in part. I rented an apartment in the first four days. It was cheap and in the centre of the city and transportation (by bus) was easy to ELETTRA and ICTP. Sometime, bus drivers’ strikes were a problem for me. On the other hand, official times were very
limited and different for us. Police formalities took a long time but were not difficult.

TRIL structure has a powerful organization and dedicated personnel. Formal procedures are clear and applicable. I had visited two international laboratories in Spain and China. I don’t want to compare them with the ICTP-TRIL structure. The success of the TRIL structure is clear and beyond discussion. I always encourage young scientists to follow and attend the programmes of ICTP.

Science is always attractive for Turkish youth but they do not prefer physics due to difficult and tiring education periods. Young research assistants’ salary is also low at universities. Instead, a lot of our graduate students want to attend Masters or Ph.D. programmes but, after these programmes, they work in industrial companies. The number of idealist students is very limited.
The ICTP experience: the TRIL programme

Ebru Ince Yilmaz  
Turkey

I did some parts of my Ph.D. thesis at the University of Trieste, Department of Genetics, and the International Centre for Genetic Engineering and Biotechnology (ICGEB). So, the ICTP-TRIL programme was very helpful for getting my Ph.D. I have three international articles (two published and another in preparation) from my Ph.D. and I acknowledged my gratefulness to the ICTP-TRIL programme in these articles:


I had applied to the TRIL programme to improve my Ph.D. thesis. I not only did my work but also worked on an international project during my fellowship. With this chance, I learned new techniques that I have been using now. After completing my Ph.D., I found a good postdoctoral position at one of the best Universities of Turkey, the Middle East Technical University (METU). Briefly, TRIL gave me the opportunity to learn what I wanted to learn.

After finishing the TRIL fellowship, I visited Trieste and attended some ICGEB courses. But, I do not have any regular collaboration with Italian Laboratories. I would like to prepare an international project by doing a collaboration with CNR laboratories in a few years.

I have thoroughly enjoyed living in Italy. I had language problems during shopping. However, this encouraged me to learn Italian. After returning to my country, I took an Italian course from the Istituto Italiano di Cultura di Ankara and I completed the “livello intermedio” successfully. I hope in the future to come practice Italian in Italy.

I deeply appreciate the opportunity to work in well-organized scientific programmes and am pleased to recognize the Italian culture.
The ICTP experience: the TRIL programme

Florin Ionica
Romania

ICTP-TRIL had a very big impact on my professional activities. Due to the research done in the framework of TRIL, I started my Ph.D. work on seismic data transmission over high and low voltage electrical line-power line carriers, and finished it in 2005.

The main difficulties were to have access to documentation and practical tests in Italy, which ICTP-TRIL helped me very much to overcome.

I have regular contacts with ICTP and also with other Italian laboratories such as Selta-Piacenza, University of Trieste, Department of Seismology and ING-Roma.

It was a wonderful experience to live in Italy. I didn't have any problems regarding language, accommodation, medical assistance, police formalities, etc.

I believe that science is still attractive for young people.

Congratulations to Professor Furlan for his prestigious activity in ICTP-TRIL!
Participation in the TRIL programme (1993-1999) in the framework of the research group of Professor Pier Paolo Delsanto (Politecnico di Torino) helped me to know about and participate in some scientific research activities from the “main stream” (works published in ISI reviews). I studied some important topics even from the period of Romania’s complete isolation, e.g. some matters referring to: a) specific features of complex systems (i.e. power laws, limit laws, etc), b) some problems of numerical simulations, since the 1960’s, but our research was practically disconnected relative to the “main stream”, both due to the lack of any international cooperation and too many didactic tasks, that do not allow us to go frequently to the unique good physics library in Bucharest (located approximately 20 km from our University). Participation in the scientific works studied in the framework of the Computational Physics Laboratory, coordinated by Professor Delsanto, allowed me to make some contributions in the fields of: a) non-destructive examinations, using ultrasound inspections, b) numerical physics (relative to the mechanisms of the numerical phenomena, mainly), c) biophysics (reactions ligands---proteins, dynamics of Ca2+ ions through cell membranes, d) studies of certain features (fractal scaling, etc) of complex systems, etc.

I can affirm that all my scientific activity in the years after participation in the TRIL programme was determined practically by the knowledge and methods learned in the framework of the Computational Physics Laboratory coordinated by Professor Delsanto. These consequences could be tested by the list of my published works during the recent years. My most important works from those years, involving the monographs “Contributions to the Study of Numerical Phenomena intervening in the Computer Simulations of some Physical Processes”, “Selected Works of Numerical Physics”, “Selected Works of Computer Aided Applied Sciences”, the Chapters “On the Quantitative Description of the Ultrasonic Attenuation and Dispersion”, “Complexity, Similitude and Fractals in Applied Mechanics and in Electrical Engineering, resp.” (published in the framework of scientific monographs published by the Romanian Sciences Academy), the papers published recently by the Journal of Optoelectronics and Advanced Materials, etc., represent a natural continuation of the previous papers elaborated within the TRIL programme, in strong collaboration with the research group directed by Professor Pier Paolo Delsanto, at the Dipartimento di Fisica, Politecnico di
Torino. Of course, many of these published works express my best thanks to the TRIL Programme, and especially to Professors Giuseppe Furlan and Pier Paolo Delsanto.

Around 1960, there appeared in Romania a book of Professor Gh. Bedreag, entitled “The main physicists of Romania” (in Romanian). According to the biographical elements from this book: a) practically all important Romanian physicists (up to 1960) had at least 1-2 years of scientific research activities in Western European laboratories (mainly in UK, Germany, Italy, France), b) after their return to Romania, they continued to work in the scientific research field studied in the Western European laboratories.

During the “communist” regime, this possibility disappeared almost completely. I was one of the youngest professors of our Physics Department (in 1982, at only 43), but my entire scientific collaboration with other scientific research institutions was reduced (up to 1990) to only a visit of 2 weeks at the Technical University in Budapest!

The cooperation with TRIL allowed me a very fruitful cooperation (of 6 to 8 months, between 1993 and 1999) with the Computational Physics research group of Professor Pier Paolo Delsanto. My direct cooperation with this group lasted from 1992 to the beginning of 2002, also involving some international scientific (or didactic) research projects financed by the Copernicus programme, the NATO cooperative links programme, some INFM projects, a Tempus programme, etc. I kept the connection with this Italian group, mainly with Professor Delsanto and Dr. Marco Scalerandi, and we have published (or communicated) some common scientific works in the years 2002-2005. Additionally, I consult Professor Delsanto in many topics including some didactic matters.

Even though I tried to use the duration of my stay in Italy only for scientific activities, I can appreciate that the cultural impact of my stay in Italy on my knowledge has been huge. Italy is an extremely interesting country, from the point of view of monuments and arts operas as well as from nature attractions (very nice mountains, lakes, beautiful seas, etc). My Italian hosts were absolutely outstanding in taking me on trips and cultural visits, and I am very much indebted to them for this! I keep forever in my memory the beautiful images not only from Torino, but also from Bardonecchia, Chiesa di San Michele, Pian del Re, Stresa and Lago Maggiore, Sanremo and Ventimiglia, and---in another direction---from Milano, Trieste, Venezia, Padova, and many other beautiful sites!

The most unpleasant difficulties I encountered were those from the Italian Consulate from Bucharest, where obtaining a visa was very difficult and sometimes even unpleasant! I believe that this was due mainly to some of our (Romanian) citizen “business men”, but there was no discrimination between the men of “affairs” and scientific researchers! Now, this problem has disappeared, because these visas are generally not
necessary. In Italy, the most difficult thing was to obtain the “Permesso di soggiorno”, because it was awarded only after 1 month from the request formulation (usually a few days after my arrival), and often the duration of my stays in Italy was of the order of 1 month!

After my scientific research activities within the Dipartimento di Fisica di Politecnico di Torino (1992-2002), I had another rather long cooperation with the research groups from the Physics Departments of the Portland State University (PSU). Doing a comparison, I believe that both these scientific research laboratories have very efficient structure as well. I can remark on the extremely efficient structure of the TRIL Programme, that---despite the fact that ICTP corresponds to a Scientific Research Center of Theoretical Physics---involves several topics of Applied Physics, with a real impact on technique, biology and medical research! You can find some additional details in my last work “Physics teaching in Technical Universities and the physics evolution in the last century”, where I underlined the outstanding role of TRIL in the training of many physics specialists from many countries.

I had all possible accesses to information in the Dipartimento di Fisica of the Politecnico di Torino, including their agreement to cooperate with some research groups from Notre Dame University, Portland State University, etc. I learned to use Internet, even the email, the electronic search of scientific books in libraries, etc. at the Politecnico di Torino!

I reported on TRIL including my present mission as the European Physical Society President Representative for Physics education in Romanian Universities, mentioned also in the web-page: http://www.nikhef.nl/~ed/EDUCATION/natrep.html,

I am extremely interested to know the evolution of Physics and Physics teaching in the technical universities. I found that there was a very good convergence between Physics evolution and the main technical goals only in the period 1935-1965. After 1965, after the “failures” (or delays) of some technical tasks, related to the technical use of nuclear fission, of the superconductivity technical use, etc. (these failures are due not only to physicists!), it seems that a “divergence” of the technical goals and interests appeared in many Technical Universities, that reduce now only to some basic notions of Mechanics, Thermodynamics and Electromagnetism, with very few and qualitative notions concerning the basic Quantum Physics principles, and nothing more! See, for example, the requirements of the main European specialty organizations (SEFI and CESAER) for the necessary Physics knowledge in the Bachelor cycle: Günter Heitmann, Aris Avdelas and Oddvin Arne “Innovative Curricula in Engineering Education” (in the framework of E4 Thematic Engineering Education in Europe), a work published by the Firenze University Press, 2003 and the Physics evolution! If we add here the very old [see, for example, the speech of Henry Augustus Rowland, first
president of the American Physical Society, at the APS meeting at Columbia University (1899), who underlined the very weak resonance of the majority people to most results of the “pure sciences”] priority given by majority of young people to the financial goals, we can easily understand the real and rather general (at least, in the democratic countries) decline of the interest in science.

Approximately 3 years ago, there was an initiative of the Istituto Italiano di Cultura from Bucharest to organize a group of friends of Italy between the former Romanian participants to the ICTP (and mainly TRIL) programmes. I was there once or twice, but they seem to have renounced this initiative lately. I regret this “stop”, because I believe that after 1990, Italy was really one of the European Union countries that helped our country (Romania) to find again the way towards Europe (left after the military occupation of our country in 1944)!
I am from a developing country and we do not have enough resources to let everyone do what he or she likes to experience. Being a diploma student I came to know about the MBE (Molecular Beam Epitaxy) facility in TASC that was very attractive for me, as I had read the literature about it during my studies in Pakistan.

I contacted the group working in TASC. I did my diploma work with that group, but, as it happened with experimental work, I couldn’t finish it on time because of dependence on machines and sample characterization so my goal was not achieved completely at the end of the dissertation. My diploma work was preliminary and we needed to carry the task for a longer time. Here the TRIL helped me to prolong my stay and it is because of TRIL that I was able to get some results from the incomplete diploma work.

I think in the same way TRIL can help me afterwards as I have very good contacts with my group at this time. In the near future I will be seeking TRIL assistance again to do some work.

I am still in my host laboratory now by courtesy of my Professor here in the laboratory. I am also in contact with ICTP for visa extension and other things related to the Questura.

Being a diploma student I was lucky not to have any kind of problem at all. The cultural impact is one thing which really influences me and also the mode of research which really motivates me to do something.

What I observed when I was back in Pakistan is that the percentage of the people who want to do research is still very low. The reasons are our education system, society values, where M.Sc. degree is considered a high achievement, and also the social trends. So I think that in the wake of the current global scenario, students now have more interest in science as compared to the past.
Kamlesh K. Jain
India

I got introduced to the field of fusion research by TRIL. This helped me a lot in contributing to the field of fusion in general, and fusion research in India in particular. TRIL exposed me for the first time to scientific experiments in a developed country.

Now I have only occasional contacts with the Italian host laboratory.

Language and accommodation were the main difficulties during my stay in Italy. Hosts should be told to treat their guests well even if he or she is from a developing country. There should be more definite commitment from both the host and guest.

There is a decreasing interest in science among young people in my country.

Keep up the TRIL programme. As a suggestion, there should be some follow up programme for TRIL fellows.
Virander Kumar Jain
India

I was to work in Rome, where it was really difficult to get a suitable family accommodation, as the stipend paid by TRIL was meager. After the visit, I tried to be in continuous touch with the host laboratory. But there was not a good response from the other side. Later I was given to understand that there was a lot of structural change and reorganization in that laboratory.

During my stay there were a lot of problems in the completion of police formalities. It took more than four months for the completion and till that time I couldn’t open my bank account and get the stipendium from TRIL. It was really a hard time for me.

TRIL structure is all right but the stipendium given by TRIL may be sufficient for a small city and not for a big city.

I joined the Indian Chapter of ICTP but there is not much activity and it is almost dead.

There has been a decrease in interest in science during the last couple of years. In my opinion, the main reason for this is the lack of opportunity in this area as compared to others.

Some final remarks: ICTP-TRIL should help in accommodation search. For researchers in the metropolitan cities, the stipendium should me increased. Furthermore, help should be provided in the completion of police formalities as is done in Trieste.
During the period that I spent in SISSA on a 3-month fellowship from ICTP, I was involved in a project aimed at characterizing the biophysical properties of somatostatin-containing, EGFP positive, GABAergic interneurons in organotypic hippocampal cultures, using whole cell patch clamp recording. I found that these interneurons display at least two different firing behaviours in response to steady depolarizing current pulses: regular and cluster. Moreover, the results showed that interneurons discharging by cluster exhibited a prominent sag in response to hyperpolarizing current pulses probably due to the activation of a voltage dependent cationic current named Ih. I also succeeded in recording pairs of interconnected interneurons, which revealed the presence of both chemical and electrical synapses, crucial for synchronizing the entire hippocampal network. The results of this work will be published in a leading international journal. Parts of these results have also been presented in abstract form in meetings in Slovenia and France.

The main difficulties in my research and professional activity are technical, particularly advanced and new methods for recording. I think TRIL creates an opportunity and helps scientists in developing countries to be updated.

Analysis of obtained data during the fellowship is going to be completed, and a paper will be published. I am looking forward to a long and pleasant collaboration and association with Professor Cherubini.

During my stay in Trieste, I never felt that I was in a foreign country. Everyone at ICTP and SISSA was very kind and helpful. I had an unforgettable and pleasant time in Italy. Everything was well organized by ICTP.

I spent several years in UK. I did my Ph.D. and a few months as a postdoc. My delightful and pleasing experience in Italy is not comparable with all the years that I spent in the UK. Everyone in the laboratory and at ICTP was very helpful and friendly.

Unfortunately I have no information about the TRIL programme. I am eager to have access to the TRIL information and also, if possible, to library facilities.

Especially young people in Iran are eager to be involved in scientific research and to become more visible.
The TRIL fellowship enabled my first stay at an institute abroad. After this initial fellowship, I was invited to return to the same ENEA laboratory a couple of times more, financed by ENEA. I had a chance to meet there scientists from other European countries. These contacts helped me to widen my horizons and establish the path for my future career. With good recommendations that I got from my host laboratory, experience and contacts that I developed there, I won another fellowship in Germany.

TRIL helped me in acquiring international experience, new skills and knowledge and contacts with scientists from other European countries besides Italy.

I keep contact with my host laboratory, although at the moment we don’t have any collaboration.

The main difficulty I met in Italy was the language. However, my hosts did their best to help me find an appropriate language course or assist me if I had any problems. Police formalities were done smoothly. I didn’t need medical assistance. My hosts found me nice accommodation prior to my arrival.

I didn’t check if I could access the information about ICTP programmes. However, I’m not getting ICTP programmes automatically (electronic or paper).

Unfortunately, science is not attractive in my country. Fortunately, making a comparison to the situation 7 years ago, at least there are more possibilities for young people to visit foreign institutes, attend international conferences, or work on international projects at home or abroad.
The training I received from June 1995 to April 1996 changed the course of my life forever. That training gave me the opportunity to learn seismology from people who were already at the top in the field, such as Professor Panza. I got Ph.D. training offers from two places: one in Austria, and the other in the United States of America because of the training I had under TRIL. I left Ethiopia for Saint Louis University, USA, to undertake a Ph.D. Scholarship in Seismology. I worked on the attenuation of seismic waves in China and surrounding regions for my dissertation under the supervision of Professor Brian J. Mitchell. Currently I have a postdoctoral research position working with Professor Charles A. Langston at the Center for Earthquake Research and Information, the University of Memphis.

I did not have access to such an excellent research facility before I went to the University of Trieste, under the TRIL programme. I did not have access to important Journals, such as BSSA and JGR, books, and computer workstations, before I went to the University of Trieste. The TRIL programme gave me the opportunity to use all of those facilities at the University of Trieste. The work I did at the University gave me the foundation for my future career in seismology. The knowledge that was imparted to me by Professor Panza and his staff (especially Alexandro Vuan) was something that I could not get without the training opportunity given to me by the TRIL programme.

Unfortunately I do not have any contact with my host laboratory and ICTP anymore. However, I would like to have such a contact if I am given the opportunity to do collaborative work.

I do not remember facing any difficulties during my stay in Italy. Italians are beautiful people. They smile and accept people very warmly. I really miss Italy, especially Trieste. Trieste is like my first love that I will never forget for the rest of my life.

The facilities and working environment that I experienced at the University of Trieste are much better than those I am experiencing here in the USA. The working environment here in the USA is very stressful and makes me uncomfortable.

Science is active and much better than before.

Please start a Diploma programme at ICTP in Seismology.
Zuimin Jiang  
China

TRIL helped very much to expand my background and establish international cooperation in later years.
I still sometimes contact Professor Fontana of the Physics Department, Parma University.

During my stay in Italy I came in contact with the Western culture, especially European culture, for the first time. The main difficulty was accommodation.

I have no special opinion about the Chinese Chapter of ICTP.
The TRIL programme helped me to start work and approach research in an organized manner. During my stay in the host laboratory (Dipartimento di Fisica, Politecnico di Milano), I carried out very good research, which resulted in many publications. The experience I gathered during my stay is instrumental in my current research activities. I am still working in collaboration with the host laboratory. I developed research facilities in the department where I am working now, which is very much the result of the experience and guidance received at the host laboratory. The TRIL experience largely helped me to get my present job.

Being an experimentalist, knowing the current topics of interest in my research area is very important. Also it is very important to have hands-on experience in a good laboratory. My association with the host laboratory helped me in these two respects. The continuing interaction is helping me to take up research in frontier areas.

I still have regular contacts with the host laboratory and TWAS has given me a project.

In the centre where I worked, everybody was very interactive and friendly. That gave me immense confidence. There was some difficulty in understanding Italian when I went out of the laboratory. In the campus there was no problem since people spoke to me in English. In the later part of my stay I was able to pick up Italian. Police formalities were somewhat difficult. I spent long hours and days on those matters. I was given accommodation in the institute hostel, so there was no problem.

I have no experience in other laboratories abroad.

I usually visit ICTP website for information. I would be glad if you could include me in the mailing list.

I was not aware of the existence of an Indian Chapter of ICTP. I will try to join it immediately.

In my country there has been some decrease in interest in science because of the attractive salary and job opportunity in IT and other related areas. Still there are some youngsters interested in science and I hope there will be a positive attitude towards science among youngsters in the coming year.

I was satisfied with the stay and experience I received under TRIL. I would be glad if ICTP could take on some follow-up programme to keep up interaction with the host laboratory. This could be like short-term visits during breaks in the academic year.
The ICTP experience: the TRIL programme

Hypolito José Kalinowski
Brazil

The ICTP-TRIL had a great impact on my professional activities, as it offered me the opportunity to change my area of research. I obtained the M.Sc. and D.Sc. degrees working with electron spin and double (spin-nuclear) resonance applied to condensed matter physics. The period at CSELT gave me insight and experience to work with fiber optics, optical communications and fiber devices, subjects in which I still work, 20 years later.

It should be noted that TRIL served to make the contact with CSELT, but I obtained a Brazilian postdoc fellowship for my first year of research. ICTP offered a small amount to complement the monthly payments to bring it up to the TRIL standard. I received a subsequent six-month full fellowship from ICTP (after my Brazilian one ended).

The main difficulties that TRIL can help to overcome are basically the access to an updated and well-equipped laboratory and research institute, where we can have a good research work in the front line of science and technology.

I maintained regular contacts with Professor Gallieno Denardo and his group until the Laser laboratory moved to Elettra. After that I only visited Trieste once, in October 2000. After the training college on Optical Communications held in 1991, I collaborated with the group in the development of a research project sponsored by ETH-Zurich. I still receive information (and contact the website) of ICTP to gather news. For several years I maintained contact with the CSELT group, until it was split as a consequence of the new structure of the Italian telecommunications companies. I still have personal contact with a few persons from that group.

The cultural impact of my stay in Italy was very interesting, although my country can also be classified as Latin (which means that we have similar habits and feelings). Language was naturally absorbed; in fact I can read and speak Italian far better than I can write it. Accommodation was solved through an advertisement in one of those magazines dealing only with classified ads (although CSELT had also offered help on that) and the only problem was the question of residence (the owner required a formal proof of residence in Brazil, something that doesn’t exist here). Medical assistance was provided by an agreement between Brazilian and Italian Social Security Services, and I have no complaints against it (I came to Italy with two small children, 0.5 and 3 years old). Police formalities took a long time to solve, particularly the question of...
‘permesso di soggiorno’.

The other places I visited, both before and after my stay in Italy (and including other places in Italy), all have the structure to cope with visitors on their own premises, so that it was something straightforward to solve minor problems. But the ICTP-TRIL staff was always at hand to help and provide a solution.

There is a decline in the interest in science from young people seeking a university degree. This aspect is not exclusive to Brazil, but is also observed in other countries.
ICTP-TRIL showed the right path and drive for research. I like to have regular contacts with ICTP, and hope that it will be possible in future.

We may not give any comment directly about the culture of a particular country. I feel that every country has its own culture, which for them is quite normal and casual, but it is entirely different in the eyes of the person who does not belong to that particular culture. But I hope that I have little bit of right to speak about common language, accommodation, etc. Regarding common language in Italy, I think it is somehow difficult for Italians to manage foreigners so it is not easy for foreigners to socialise with Italians. My humble request is that it could be better for foreign people if ICTP would provide a small language training in Italy. Regarding accommodation, getting accommodation in Italy is not an easy task. So I request ICTP to have some agency to assist in finding accommodation for scientists and students. Regarding Police formalities and Medical Care: I am really happy with the staffs of both departments, and I can tell that they are doing their job properly and in a friendly manner.

I may say that science is attractive for young people in my country, but it will be really difficult to get research support.

Positive remarks: I am very happy with the ICTP people and research activities. As a young scientist, I believe that ICTP has given an identity to me since I had not been recognized by my people before ICTP came into my life. ICTP provides all facilities to the foreigner who attends ICTP programmes in Italy. In addition, ICTP’s staffs cooperate well with researchers in its programmes. I give my wishes to all the ICTP staff.

Negative remarks: I think ICTP is giving equal respect to all young scientists participating in ICTP research and training programmes. My request to ICTP is that it should give some prize or some medal to some young scientists based on their performance in research, sincerity in duty, and all such things.
Alireza Karimian  

Iran

TRIL gave me this opportunity to improve my research field knowledge theoretically and practically. Also I knew face to face and worked with scientists in my field of research and study. My publications during the one-year fellowship are the following:


The main difficulties that TRIL can help to overcome are:

1. Lack of opportunity to examine the knowledge practically.
2. Lack of a good connection to Internet and electronic access to some of the jour-
The Abdus Salam International Centre for Theoretical Physics

3. I knew a few scientists in my research field. TRIL gave me this opportunity to know more scientists in my field because TRIL selects famous Italian laboratories with a strong background of research. In addition, the researchers in these laboratories know the famous scientists from all over the world and I could meet face to face some of them and also know them.

I was in Rome. If I knew Italian, I would have been able to solve my problems better and also I could have had better relationships with people in the city. Really I had difficulty for police permission, which was because the police office in Rome did not know ICTP. Therefore my police permission was issued after about 9 months; also my wife could not come to Italy because of this matter. As you know, it is very difficult to be far from the family for about one year.

I have been in some workshops abroad with short duration from one week to two months. In these workshops the institute follows the police permission, medical assistance, accommodation. So the trainees are more comfortable and can use their time to stay more comfortably.

I have access to some information from the ICTP website. But, if it is possible to give me the news by email, it would be appreciated more.

I am sure that science is still attractive for young people in my country because I give some lectures in the university and see that the young students in M.Sc. and also Ph.D. degrees are interested to work in my field (medical physics).

I should thank for their kindness Professor Furlan, Mrs. Durrani, Professor Pani and his team in the laboratory, Ms. Dose and Ms. Opecca who helped me a lot before and during my TRIL fellowship (Jan. 2004 - Jan. 2005).
My experience with TRIL gave me very good training in the University of Rome under Professor A. Scacco, Department of Physics. I am continuing my research activity in the same field of luminescence. Four students got their Ph.D. under my supervision. As a senior member, I have been taking an active part in several scientific societies such as the Luminescence Society of India and the Indian Science Congress. I have organized several conferences, seminars and workshops at my university and at the national level. I have been active in several activities at college level and university level. This year I have been conferred the award of “Fellow” by the A.P. Academy of sciences (a body supported by the State Government) for my contribution towards the science in Andhra Pradesh, India. I have published and presented about 100 papers in various national and international journals and conferences, seminars and workshops. I am grateful to ICTP for awarding me the Research Fellowship under the TRIL programme during 1996. I am keen to associate myself with ICTP further. I am continuing my contacts with ENEA, Fractal, and Rome about my research.

I have worked also at Dupont Laboratories, Wilmington, USA, at Kanazawa University, Kanazawa, Japan and at ENEA, Frascati, Rome. My TRIL award at the University of Rome is comparable to all the places I worked.

I am aware of the Indian Chapter of ICTP and am a member of it. I participated in one meeting held at IIT, New Delhi, and presented a paper too.

Science is ever attractive. It should be given a due place so that young talents get attracted. In fact, among the youngest, interest towards science is decreasing.

As final remarks, I would suggest you kindly provide a few more opportunities to the senior professors and TRIL fellows to associate with ICTP. Why not introduce a new programme like “A professor or scientist joins a programme with ICTP” where a professor and student together will pursue a research problem in such a way that the professor or the scientist spends smaller time (10 to 30 days) while the student spends 30 to 90 days in an identified laboratory. Eventually, the student submits his thesis leading to a Ph.D. on the topic identified during the visit. This kind of programme will expose both the professor and the student to the new activity and will renew their interest in science.
Collaboration and discussion with excellent Italian scientists helped me understand physical problems in an intuitive way. Unfortunately, during my stay, the research team that hosted me was busy with other projects which had no relation with my research. So they could spare little time to have discussion about the research that I had done there.

During my stay at the Italian institute (CISE in Milan), I was completely relieved from the burden of academic and administrative work and could concentrate all my attention to research. Such concentration helped me a lot to extend my research experience.

My stay in Italy was satisfactory except for two problems. The first was the medical insurance problem, which was resolved after some difficulties. The second was the housing problem, which was especially difficult as I stayed in Milan, a very big city. However, I understand that the housing problem is one of the basic and universal problems.

I notice a serious decline of interest in science among the younger generation in Korea because they see that scientific research is not a very financially rewarding activity. The majority of the talented students choose to become lawyers and medical doctors because such occupations seem to guarantee wealth and fame.
I hope that the impact of ICTP-TRIL on my activity is strongly positive. My activities in my institute are mainly operational, but I hope to be able in the near future to broaden them to research also. As the topic of my work within the TRIL programme was connected to severe weather, it improved my abilities to recognize and analyze such events. The experience in radar meteorology is also very important in my everyday operational forecasting. The possibility to participate in the ICCP 2004 in Bologna was very useful for me. The opportunity to work in a group of people was important for getting used to exchanging opinion and ideas.

The cultural impact of my stay in Italy was extremely beneficial. During the first two months I had some difficulties with the language and the accommodation. Dealing with the police formalities was perfectly well organized by the TRIL administration. I had no serious problems with the medical assistance.

I think that the interest in science is decreasing, as it is very poorly paid in my country.

Thank you for the possibility to work within the TRIL programme. It was a very good experience.
The ICTP experience: the TRIL programme

Thomas A. Kodenkandath
India

The ICTP-TRIL programme helped me to gain confidence to tackle any scientific R&D challenges. It gave me an opportunity to work on my own ideas to their completion: this included writing proposals, doing R&D, using new analytical tools, analyzing data, reaching conclusions as well as writing papers and reports for publication. The main difficulties that TRIL helped me to overcome are the definition of interesting scientific problems and possible plan of action.

Though I have tried over and over again to (re-)establish my ties with ICTP and TWAS, I have not been successful. However, I continue to have excellent contacts with my host laboratory during TRIL, which was CNR-Parma.

I would rate our stay in Italy (Trieste and Parma) as one of the best in our life. We were fortunate to get into friendship (both inside and outside of my work place) with a lot of Italians, which we continue to keep. Our daughter was born in Parma and we cannot forget the help of these friends. Unlike Trieste, it was a little harder to find accommodation in Parma. Shifting from ICTP to the TRIL programme also gave us some difficulties with medical assistance.

TRIL is one of the best programmes that I have attended. In other places, we had to work on ideas of others on projects of their interest. With TRIL, you have the freedom to choose and work on ideas of your own.

I was not aware of the existence of an Indian Chapter of ICTP. It is a good idea to have a network of TRIL alumni of India and it should be strengthened.

I suspect that engineering and medicine are (still) the preferred professions in India. The opportunities to study these disciplines have increased a lot in the last few years, so I would say that young people are getting less and less attracted to pure science as a profession. Mentoring at early college years could be beneficial.

One thing that the TRIL programme lacks is the follow-up help to the Fellows to get back to their own countries (with the help of TRIL and ICTP). For example, all my own efforts to find a job after TRIL were not successful. ICTP-TRIL-TWAS together can help to improve the situation. The influential members of this group should track the fellows, encourage and offer job opportunities. One of the regrets I have in my case is that the TRIL programme did not benefit my home country India (as I and TRIL would have anticipated) because I could not find a job in India. This forced me to move to the UK, and then to the US.
Thanks to ICTP-TRIL new fruitful collaborations were achieved, valuable publications in leading journals were produced and new projects in response to different international calls were made. A new set-up for the investigation of one of the most important properties of lithium niobate crystals, namely photorefractive properties, was created.

Our collaboration with Professor Vittorio Degiorgio from the University of Pavia is still ongoing.

I remember the days I spent in Italy with great pleasure. Italy is one the most interesting and beautiful countries of the world and I am very glad for the chance to visit it. The opportunity was kindly provided to me by ICTP. I would like to mention that medical assistance and police formalities were very complicated.

Unfortunately the interest in science is decreasing in my country.

I will be glad to visit Italy again. I would like to wish that my colleagues could visit Italy too.
At present, I continue the work I carried out during my stay in Italy thanks to the TRIL Programme, i.e., X-ray holography with atomic resolution. The main achievements are:


The main help that TRIL provided me was the access to an intense X-ray source (we used synchrotron Elettra in Trieste), which is not available in the Czech Republic.

My collaboration with Dr. Busetto and Dr. Lausi from Sincrotrone Trieste is still continuing: we carry out experiments at Elettra usually once every six months. My stays in Italy are mostly positive. The main difficulty is bureaucracy.

Science is less attractive: young people prefer branches with higher income like business.
My research experience at IROE, Florence, under the TRIL programme was an eye-opener for me to do experiments with radiometers on the emission characteristics of moist soils. This experience helped me to continue similar work after going to IIT, Bombay. We processed satellite data and developed models to estimate soil moisture from the data on satellite measured brightness temperature. I have several publications in this field of research and am still continuing in the same field. Doing research in collaboration with scientists from advanced countries like Italy is a dream for many Indians and the TRIL programme has given me a unique opportunity to work at IROE. I still wish to work in Italian laboratories if a chance is given.

I maintained regular contacts with ICTP and TWAS up to 1997 or so. Afterwards, I did not get an opportunity to visit ICTP and Italian laboratories. This summer, I hope, I will have a chance to visit ICTP.

Our stay in Italy was very nice. My family also stayed with me and they very much appreciated the company of Italian colleagues. My hosts Professor Pampaloni and Dr. Paloscia were very kind towards us and helped us not only in scientific development, but also in family matters. We went to their house on many occasions and enjoyed our visits. Regarding accommodation, I must say that Florence is a bit expensive.

I also worked at GSFC-NASA in the US during 1991-92. I also worked at CNES, Toulouse, France, during 1978-79. I found IROE-CNR is equally developed with many facilities for conducting experiments.

I am aware of the Indian Chapter of ICTP and am a life member. Of course, it should be strengthened. I have had no correspondence with this Chapter for the last several years and do not know the reason.

The young generation is more enthusiastic towards science and technology development. The fast growth of science and technology for the last two decades or so is an example.

I do not have many suggestions to make. I am happy with the TRIL programme and particularly with Professor G. Furlan who is always kind and eager to help the scientists from developing countries. His secretaries are equally concerned about the welfare of the TRIL scientists. Many times, they go out of their way to look into the needs of the scientists.

I wish the TRIL programme all the best.
The work I did in the framework of the ICTP-TRIL programme at the University of Parma became a part of my thesis to obtain the Doctor of Science degree at the Hungarian Academy of Sciences.

During my stay in Italy, Hungary was not a member of the European Union and the academic institutes had a very low budget for research and for buying new equipments. TRIL gave me the chance to work with an up-to-date high-resolution infrared spectrometer, which was not available in Hungary.

We still have collaboration with the Italian host laboratory in the framework of the agreement between the Hungarian Academy of Sciences and CNR, and Italian-Hungarian Intergovernmental S & T Cooperation Programmes.

Our stay in Italy was very useful for my whole family. My older son is now fluent in Italian. We had only minor difficulties at the beginning of the stay finding kindergarten and elementary school for the children and an affordable accommodation for the whole family.

I have experiences abroad also with DAAD and DFG in Germany, with the Royal Society in England, and with the Spanish Ministry of Science and Education. In my opinion, all of them were equally good.

In principle, I have access to the web-page of ICTP but, to tell the truth, I do not follow it regularly.

There is a decreasing interest in physics, but not in science in general. However, it is still possible to find students for Ph.D. work who are interested in research work. It is more difficult in Hungary to find postdoc positions for them.
I am currently a member of the SLS-Controls staff. I am working in the field of IT, building and maintaining the SLS control system, establishing rules and standards for software development, testing, releasing and installation procedures in SLS. My articles are in the form of annual reports or contributions at conferences, such as NOBUGS, ICALEPS, etc.

During my stay in Italy I learnt the Italian language relatively fast from books and by speaking with colleagues and other people. It was a very nice experience. The quality of accommodation with respect to the price was very poor. Medical assistance was very good when I had a contract with the ICTP. Police formalities organized by ICTP were fast and easy. The problem occurred when the contract with the ICTP ended and I continued my work for Sincrotrone Trieste. I had to organize it myself; the procedures were complicated, long, expensive and the people were unfriendly.

I don’t know the structure of the ICTP very well, so I can’t compare it with the institute (PSI) where I’m currently working.

Unfortunately I notice a decreasing interest in science. Young people are more interested in careers where they can find a position more easily, like business, IT, etc.

I would like to thank the ICTP. It helped me to start to work on a Synchrotron Trieste project where I’ve gained experience in the field of control and data acquisition systems. Currently I’m working on a Swiss Synchrotron project (Swiss Light Source).
Juraj Krempasky  
Slovakia  

I am pleased to say that the ICTP programme helped me a great deal in my professional career. I had the unique opportunity to work at ELETTRA during the initial phase of its construction. I am also happy to say that the ICTP programme covered my stay under a rather engineering-oriented programme instead of a purely scientific one. I was working inside the computer controls group.

The engineering work I carried out at ELETTRA provided a very good background for my present work. I am still working in a controls group near another synchrotron facility (SLS). Honestly, I can hardly imagine better conditions than the ICTP opportunity for my present work.

I have no contacts with ICTP anymore, just with ELETTRA.

Regarding my stay in Italy, it was fantastic. What should I say? I arrived in Trieste on 30 September 2002 and immediately regretted that I could only live for a maximum of a few weeks in such a place. But, to tell the truth, after many reflections (though, after ICTP, I obtained a fixed position at ELETTRA), I decided to leave Trieste with my family after 8 years.

One of the reasons for which I stayed at ELETTRA all the time (despite the fact I was involved in engineering) was the close contact with science (I’m a physicist). My country (Slovakia), especially in the ‘last decade’, is an example for demonstrating how the importance of science and education may become (almost) completely neglected. It definitely needs some incentives from other academic institutions.

In view of my last remark I would suggest to promote a science “sans frontières” in a closer contact with foreign universities, perhaps also within an engineering oriented framework (as I did). In my case, I had no other choice than to leave the Technical University of Bratislava (Slovakia). Another remark: I’m sure an engineering oriented framework will attract many more young people. I’m taking the opportunity here to express my deepest gratitude to the ICTP research programme.
The collaboration with my host laboratory was good and the work done under the TRIL Programme was published in a reputed journal. I was in touch with my collaborator by email, so the visit helped us to clear our ideas and led to a good piece of research.

I am an ICTP senior associate and an active lecturer in the Autumn school on Plasma Physics as well in the workshop on Theoretical Plasma Physics.

In Italy I had no difficulties whatsoever! I had a very pleasant stay with an Italian family that gave me the opportunity to exchange information on cultural diversity and similarity.

The only difference from other laboratories I have visited abroad is the abysmally low financial award.

I am aware of the existence of an Indian Chapter of ICTP. But I don’t think it is fully serving its purpose. The information about various meetings always comes at the last minute. I strongly recommend a change of officials.

There is a decline in the number of people coming to sciences, as it is all over the world. But we do get a few really dedicated and interested young researchers.

As a final remark, the fellowship amount should be commensurate with the position of the awardees. It should not be calculated on the basis of sheer survival. It should be arranged according to international standards.
The ICTP experience: the TRIL programme

S.V. Kukhlevsky

Hungary

The results obtained by using my ICTP-TRIL grant provided the possibility, in the framework of an Italian-Hungarian project, to build a soft X-ray laser with capillary Z-pinch excitation at the L’Aquila University, Italy. The laser (the first in Europe) was built with financial support of INFN. The TRIL programme was acknowledged in our articles. Due to the above-mentioned collaborative result achieved at the L’Aquila University, the Hungarian Academy of Sciences provided me with financial support for the construction of such a laser at the University of Pecs, Hungary.

So I can say that the TRIL helped to solve the problem of financial support for the construction, research and experimental and theoretical development of a soft X-ray laser with capillary Z-pinch excitation in Hungary.

I still do have very good scientific contacts with Dr. Francesco Flora, at the ENEA Frascati Excimer Laboratory, Frascati, Rome.

My stay in Italy was very useful and important for scientific research, as well as for knowledge of Italian science and culture.

The TRIL is extremely competitive in comparison to the other programs abroad.

I think that science is still attractive for young people in Hungary, but I am really noticing a considerable decreasing interest with respect to the past.
The exposures I have enjoyed during my participation in the TRIL and ICTP programmes have had a tremendous impact on my academic career through the work carried out in the host laboratories. We have put together joint publications that have enhanced my CV, and hence the prospect of advancement in my career. Today I am a Senior Lecturer in the field of Biochemistry as a result of this exposure. Also my students here at Ife and colleagues in the Department and in the University have equally benefited from the knowledge I acquired as well as materials I have been able to secure for them during my visits in the programmes.

As a protein chemistry scientist, it has been possible for me to purify and characterize many lectins (agglutinating proteins) from leguminous plants in tropical regions of interest to my evolutionary studies of this class of proteins here in Nigeria with the limited facilities available in my laboratory. However, we lack analytical tools for the full characterization of the properties of these proteins. Such facilities have mostly been made available when I visit laboratories of the TRIL programme. In addition, there are limited libraries and computing facilities available to us in my university. Such deficiencies are remedied during my participation in the TRIL programme. The additional problem of getting to know the frontiers of the academic pursuit in our subject areas are also remedied when I participate in ICTP-TRIL programmes when there is the opportunity of meeting with or discussing with frontline researchers in these different areas of my academic pursuit.

I am just starting a collaborative work with the host of the laboratory I visited in 2005. This will involve exploring the tropical plants in West Africa for our studies.

I have mostly had a nice time during my visits. Apart from the fact that the staff of the TRIL and ICTP do their best to make one comfortable, many times the host laboratories also go an extra mile to ensure that one is settled in comfortably. I now have a number of friends within Italy based on these interactions. The major problem people face is that of the language, but this is mostly outside the Centre or the laboratories, since communication is mostly in English in these places.

I have not really had any other exposures outside Italian laboratories but I’m sure it can’t be better than what I have experienced in Italian laboratories.

To a good extent, science is still quite attractive to young students in my country.
We find that about 50\% of applications for places in the university are still into science-based departments.

I would like to suggest that the TRIL programmes liaise with TWAS so that the participants in TRIL will almost have an automatic grant from TWAS for research programmes, so as to enable many of them to follow up on the experience(s) they acquired while on TRIL.
The exposures I have enjoyed during my participation in the TRIL and ICTP programmes have had a tremendous impact on my academic career. With the work carried out with the people in the laboratories I visited, it has been possible for us to have joint publications that have enhanced my CV, and hence the prospect of advancement in my career. Today I am a full professor of electronic engineering materials as a result of this exposure. Also my students here at Ife and colleagues in the Department and in the University have equally benefited from the knowledge I acquired as well as materials I have been able to secure for them during my visits in the programmes.

As an electronic materials scientist, it has been quite possible for me and my colleagues and students to produce the thin film/bulk materials of interest to our studies here in Nigeria with the available limited facilities in our laboratory. However, we lack analytical tools for the full elucidation of the properties of these materials. Such facilities have mostly been made available when we visit laboratories in the TRIL programme.

Also there are limited libraries and computing facilities available to us in my university. Such deficiencies are remedied during my/our participation in the ICTP-TRIL programmes. The additional problem of getting to know the frontiers of the academic pursuit in our subject areas are also remedied when I/we participate in ICTP-TRIL programmes when there is the opportunity of meeting with or discussing with frontline researchers in these different areas of our academic pursuit.

I have been fortunate to be able to have continued contact with ICTP and the host laboratories through my participation in the Associateship programme, and additional grant awards from the TRIL programme.

I have mostly had a nice time during my visits. Apart from the fact that the staff of the TRIL and ICTP do their best to make you comfortable, many times the host laboratories also go an extra mile to ensure you are well settled in and comfortable. I now have a number of friends within Italy based on these interactions. The major problem people face is that of the language, but this is mostly outside the Centre or the laboratories, since communication is mostly in English in these places, while it is in Italian outside.

I have also had exposures to laboratories in Britain and France. The structure of
TRIL is very good, and very beneficial to participants.

To a good extent, science is still quite attractive to young students in my country. We find that about 50% of applications for places in the university are still into science-based departments.

I will like to suggest that the TRIL programmes liaise with TWAS so that the participants in TRIL will almost have an automatic grant from TWAS for research programmes, so as to enable many of them to follow up on the experience(s) they acquired while on TRIL.
TRIL has been great in enhancing my academic career. In fact, Professor Franciosi and his group at TASC have been very supportive through the TRIL programme. I have published many papers through the help received from TRIL. I am keeping myself aware and active in experimental research only through help from TRIL. In fact, the follow-up programme of TRIL can be very helpful in getting access to experimental facilities available at TASC and Elettra.

I normally have regular contacts with my host laboratory, but this time there has been a gap of nearly 3 years and I would like to visit TASC again to keep my collaborations active.

Italy is a very fine country. People are very nice and I do not have any language problem as such. I have learnt Italian to some extent and this helps me in interacting with local persons. ICTP is doing a very nice job of solving all the problems.

I have also been in Cambridge, UK. Perhaps facilities are better at Cambridge but the TRIL structure is quite good. Professor Furlan and his team are doing a very nice job.

I was not aware of the existence of an Indian Chapter of ICTP.

I think the interest in science is decreasing and needs a constant boost.

Professor Furlan and his team should continue keeping this programme as it is now and, if possible, should keep motivating TRIL fellows by allowing further visits in a follow-up programme. I think TRIL fellows can gain much from short visits.
I write this report with a sense of pride and gratitude for those at the helm of affairs and support the programmes of TRIL at ICTP. In the early stages of my research career, I was awarded the Government of India scholarship during 1987-89 and, to supplement the support, I applied to ICTP-TRIL, which approved my request. With the support from ICTP-TRIL, I was able to successfully complete my research work at MASPEC, Parma (now IMEM) and also get the title of Specialista in Scienza e Tecnologia dei Materiali after undergoing a course work and successfully defending my thesis from the University of Parma, Italy.

With the immense experience I acquired in Italy, I grew GaAs and InP single crystals, which earned a very high reputation for our Crystal Growth Centre, Anna University. Subsequently, I initiated a programme of collaborative research with Dr. Bocelli Gabriele, IMEM (ex CSSD)-CNR, Parma, and this enabled several of our researchers to visit and work at Parma. We also had exchange visits from the Italian counterparts.

I also initiated and helped the visit of several of my colleagues and active researchers to ICTP and MASPEC informing them of the excellent atmosphere that prevailed in MASPEC and the efficient system at ICTP-TRIL.

I always remember my personal association with the office of TRIL and with Professor Furlan, who always respected sincere researchers, understood the simple problems of researchers from not-so-affluent countries with their easy and simple way of operation and help. It was Professor Furlan who shaped my career with his very simple positive approach to problems related to research, though he was not directly involved in my research activity. He introduced me to Nobel Laureate Professor Dr. Abdus Salam one evening at ICTP and the fondness which he showed to help people is inexplicable. The rendezvous I had with Professor Furlan on several occasions taught me to help colleagues and researchers with an open mind on their research problems. There was hardly any bureaucracy at TRIL. Anyone who made a simple and sincere request to the TRIL office was always given support irrespective of their nationality and affiliation.

In 1994 I attended a conference at Parma and followed it up by research work at MASPEC, which was possible only with TRIL support: the highlight of my visit was that I fabricated a space-quality solar cell with our crystals at CISE (Dr. Carlo Flores), Torino, and this really boosted the strength of our Centre. I personally gained a lot of satisfaction for the good research output that I made at that point of time.
Similarly in 1996, I made a visit to ICTP and, this time also, the TRIL programme supported a short stay to coordinate my research interests. With support from TRIL, I not only benefited in personal ways by shaping my career but also the overall research activities of our Centre got substantial support from ICTP for several of the conferences organized by us. This support made it possible for us to interact with other international research communities and make reputable contributions.

TRIL is one of the best programmes which promotes research, and understands the needs of people who are motivated and dedicated. I only request all those who are associated with the TRIL programme to keep the activity more vibrant and make it beneficial to all those who are seeking support from ICTP. There was no difficulty in my academic/research activity with the support of TRIL and I only wish that more people gained strength with that support.

I did interact with ICTP on several occasions and was instrumental in reporting to Professor Anandakrishnan the facts and figures on how ICTP strengthened and supported the research programmes of several researchers all over the world while Professor Anandakrishnan was asked to evaluate the potentials of ICTP and make suggestions for its programmes about 8 years ago.

With the support of TWAS, we got 3 research grants and several researchers from China, Bangladesh and other countries carried out research activities in our centre. We initiated a programme of supporting third world countries with support from the Committee on Science and Technology in Developing Countries and ICTP, which also created a lot of interactions and benefits to us.

Our association with the Chinese researchers enabled us to grow several technologically important crystals and brought us great reputation worldwide: this was possible only because of the TWAS support. I was also at the University of Lecce, Italy, during 2000-2002 with a European Union programme. I thus established more contact and arranged for more collaborative research activities.

My stay in Italy also enabled us to establish newer research collaborations with ENEA, Portici, and with other Italian laboratories. Several Italian researchers, particularly from Parma, have visited our centre and also collaborated with several other research institutions in India, thanks fully to ICTP. We also got lot of printed materials and books from the Donation Programme.

My stay in Italy not only gave me immense boost in my career but also provided me one of the greatest opportunities in my personal life to know another great civilization. The Italians are really marvellous people. Thanks to the Jesuit organization at Parma, Italy, and especially to my Italian teacher Ms. Flavia Ghirardi, I learnt to communicate well in Italian. My host, Dr. R. Fornari, and friends at MASPEC, Parma, provided me all the comfort I needed. Parmigianis are an excellent race and I think I learnt a tremen-
dous amount of manners and kindness in respecting people, work culture and attitude of simplicity and the strength of being humble.

Thanks to the Italian food and hospitality, I was never hospitalized and even on rare occasions when I visited the hospitals for helping some of my friends, I found the entire system to be wonderfully well organized and efficient. Of late, perhaps the police are forced to be strict with too many immigrants, as was evident during my stay at Lecce, but my stay at Parma during 1987-1989 was wonderful and excellent in real expressions of happiness at its best.

I also worked in laboratories in Germany, Singapore and Japan. However, I feel the personal rapport that is part of the Italian way of life is very useful. The stay in other laboratories was certainly rewarding for my professional achievements, but my stay in Italy with TRIL support was complete and satisfying at the personal level and more with the career aspects.

The simple fact that I took time and involvement to complete and send this questionnaire is testimony to my happiness and personal pride in associating with TRIL and the sense of gratitude that comes spontaneously due to the excellent support of TRIL.

I have also formulated more research proposals and collaborative programmes with several other laboratories and I always seek the best with my Italian collaborators. A point of relevance in the present context is that TRIL fellowships should be raised to attract young researchers who at present are moving to Japan, Korea and US.

It will be better if the Indian Chapter of ICTP is strengthened and I would be very much willing to initiate anything that may be asked by TRIL.

Science is certainly attractive for young minds in our country and for obvious reasons, interest in science can never decline in a country like India where we have varying climatic conditions and a culture of diverse nature. Yet there is a strong bonding of unity which seeks to innovate and solve issues.

I am really appreciative of the contributions made by TRIL, ICTP and TWAS. I think that a more active role needs to be played by these organizations in furthering the cause of scientific research.
Ravi Kumar  
India

I joined this programme from 1st June 1996 to 11th August 1996, just after the completion of my fellowship at Scuola Normale Superiore, Pisa. During my stay I worked at SNS, Pisa, and the Area di Ricerca, Trieste. I worked on quasi particle transport in semiconductor/superconductor heterojunctions. I learned the techniques to grow the heterostructures using MBE and e-beam evaporation, I measured these devices at low temperature down to 300 mK and magnetic field up to 8T. We analyzed our results using BTK model. From this visit to SNS, Pisa and TRIL programme, I learned a lot, and gained experience in low temperature physics and transport phenomena, which I am presently using in my Institute. I was not aware of fabrications of heterostructure, which I learned during this programme. I learned to work at low temperature using LHe3 system. Finally I learned to analyze the data of transport phenomenon at such a low temperature.

After coming back from ICTP, I no longer have these collaborations. At present I am working in the area of spintronics in oxide materials, which is an important subject nowadays. I wish to have association with ICTP and TWAS. If there is any programme regarding this, I would like to be provided with the opportunity to participate.

In general there was no difficulty during my stay in Italy---only some language problem at the beginning. After some time I acquired a working level of Italian.

I have experience in many laboratories and found that the work culture of the TRIL programme is comparable. Here I can say that the TRIL coordinators are taking more care than others.

As I have been out of touch with ICTP it would be nice if you put my name in your mailing list and provide me information from time to time on subjects of my interest, which are Magnetism and Spintronics.

I am not aware about the Indian Chapter of ICTP but would be happy to join this Chapter. It is our duty to strengthen this programme.

Science is always attractive in India. For example, I have 6 young students working for their Ph.D. programme. They are always excited about the new findings.

I believe that there should be regular meetings of the Indian Chapter in India, which will provide new information about the ICTP and TWAS programmes.
I found every book, paper, etc. that I was looking for in ICTP’s rich library. I also had the opportunity to listen to lectures by the academicians who are best in their areas and easily accessed every experimental data that I needed for my studies.

At the moment I have no scientific collaboration with the host laboratory or ICTP, only friendly relationships. This is because, unfortunately, I am not in the university anymore.

During my stay in Italy, language was the main difficulty, not in the scientific atmosphere, but in the daily life in the city. In addition, I could not get the necessary papers from the police for my residency in Italy until my return. On the other hand, I got marvelous cultural value from Italy.

From time to time I still visit the ICTP website, but prefer receiving regular emails about the upcoming activities.

I think there is an increasing interest in science among young people in Turkey.
The ICTP experience: the TRIL programme

Alberto Lamagna
Argentina

I am the founder of the MEMS Group in my Physics Department and, from 1998 until 2003, there was a bilateral project collaboration between IMM-CNR in Bologna and us. I am the co-director of the Centre of Nanoscience and Nanotechnology, at the CNEA, nanotechnology advisor to the Argentinean Secretariat of Science and Technology, and was the guest speaker on five different occasions in the last four years.

The TRIL programme has allowed me to continue to be in contact with the top research and development lines in my area.

I have kept regular collaboration with the IMM-CNR.

The main difficulties in Italy were those regarding the accommodation, with high rent and very few choices. Italian Laboratories probably need more “foresteria” housing facilities in Italy.

Unfortunately I have no other experience in other laboratories abroad on a regular basis. I have some modest experience in Brazil and USA.

I think that science, unfortunately, is not attractive to young people in our country. It is very positive to be connected with Italian laboratories thanks to the TRIL associate programme. A negative thing is the reduction in the number of fellowships that the programme has experienced during the last years, probably due to a different vision of the Italian Government.
The ICTP scholarship was a postdoc position that started my successful career. I am now a professor at the Polish Academy and vice-president of a high-tech small company. I am author of about 150 papers cited about 1000 times.

TRIL gave me an opportunity to see a modern semiconductor Laboratory.

I love Italy and spend every holiday there. My son speaks fluent Italian and we all support AC Milan!

In Poland science is improving now, but 10-15 years ago no young people wished to become scientists.

Mike Leszczynski
Poland
Since my TRIL experience (Research work with a Scanning Probe FET at ISM-CNR, Bologna, Italia with Professor F. Biscarini (1-2/2001)), I have been growing from a professional point of view. In fact, last year a PRL paper was written, based on that experience.

I am still in contact with Professor Fabio Biscarini.

Most of the issues of my stay in Italy were OK. I had previously been for a year at Bologna.

Science is still attractive for young people in my country.

Thanks for the opportunity. At that time it was great not to have the obligation to go to Trieste to sign formalities. Though I like Trieste very much---I have been there for some conferences previously and later---at that moment I needed to work in Bologna!
Guochang Li
China

The impact of the ICTP-TRIL fellowship in 1988 on my research and professional activities is profound and far-reaching. The training and research gave me strength and confidence. Until now, I have taught physics for undergraduate and postgraduate students, and do research work in the field of Photoelectric Conversion. A number of qualified students have met the needs of our country. On basic research, I have published more than thirty articles and applied for three invention patents and one practical new type of patent, three of which have been authorized and have won the third prize of nature science of Hebei Province, China, in 2001. The TRIL Programme helped me to know some new developments of high-level science research in the world, so I can better determine my research field and direction. The TRIL Programme also provided a chance for me to do experiments using advanced equipment and instruments and to obtain the directions from host professors, so my experimental ability and theoretical level were raised.

After coming back to my original university in China, I have received some information on the ICTP-TRIL activities and have applied to participate in programmes such as “Research Planning Application”, “Associate Membership Scheme”, etc. I have mailed my publications and patent certificates to the secretariat. I have also contacted my host laboratory in the Department of Applied Physical Chemistry, Polytechnic, Milan, for getting further directions from Professor L. Peraldo Bicelli.

Italy is a developed country. I went there for studying advanced science and technology. Italian people are friendly and earnest; the scholars engaged in the research received warm treatment; scientific ideas could be developed fully. My research work was hard but interesting; my stay in Italy was short but delightful. I felt that everything was going on smoothly. The working language was English; there were financial support and concrete help from the host for accommodation and police formalities. My health is always excellent so I didn’t meet any difficulty during my stay in Italy.

From September 1999 to December 1999, as a senior visiting scholar, I went to the Department of Materials Science and Engineering, Columbia University, New York, USA, to investigate the properties of a semiconductor material. The two experiences in Italy and in USA were almost equally successful and fruitful. However, the ICTP is a famous international organization and the TRIL structure is more organised, systematic, and effective.

China is a large developing country; though many Chinese people understand Eng-
lish, Chinese is their mother language. It would be fruitful to try and re-establish a Chinese Chapter of ICTP through which Chinese scientists could get information from and interchange opinions with the ICTP-TRIL more quickly and accurately. If possible, I would like to help to re-establish the Chinese Chapter under your direction.

I think that science is still attractive for young people in my country. Now, more and more young people, not only in universities, but also in middle schools, go abroad to study science, technology, music, art, and so on. On the other hand, there is a greater interest in areas which can provide fast economic benefit than in science and technology. Even so a number of young people in our country take a keen interest in science, and any decrease of interest in science with respect to the past is not obvious.

Thank you very much for contacting me. My suggestion is: the ICTP-TRIL should pay more attention to the research field of solar energy materials and solar cells and involve it in the programmes of the Applied Physics Section. Mankind cannot avoid the challenge of the conventional energy source crisis; solar energy will become one of the important energy sources in a future not far from present. The solar energy industry is fast increasing (more than 30% in the world) and many fundamental and applied problems need to be investigated.
The impact of ICTP-TRIL is important on my research and professional activities. TRIL helped me to get funding from NSFC, and I hope to collaborate with Italy more. My thanks to TRIL and ICTP.

The main difficulty during my stay in Italy was the language.

I would like to do something for the Chinese Chapter of ICTP.

I think there is slightly decreasing interest in science in my country.
Xing Zhong Li

China

I was engaged in Plasma Physics and Controlled Nuclear fusion early in 1959 at Tsinghua University, Beijing, China. I obtained a Ph.D. in Plasma Physics in 1983 in the US and visited the MIT Plasma Fusion Center in 1984-1985; then, I returned to China. ICTP provided me an important opportunity to go abroad again in 1991 and in 1999. In 2000 I was invited to collaborate with Professor Sergio Forcadi at Bologna University due to the financial assistance of the TRIL Programme. I met very good scientists in the native country of Galileo, and felt more academic freedom there. In 2000, at ICCF-8 (Lerici, Italy), I was elected to serve as a Chairman of ICCF-9 in China. After ICCF-8, I collaborated with Professor Sergio Forcadi for one month in Bologna. Since then I had more contacts with Italian scientists in Milano, in Frascati, in Palermo, in Asti, in Siena and in Bologna. I visited Europe and Italy 5 times in the period 1999-2005. I switched from plasma physics to condensed matter nuclear science. I gave seminars in Europe (Italy, IAEA (Vienna), Euratom (Brussels), France, Switzerland, Slovenia, etc.) with the assistance of ICTP activities. In 2004, I was elected as the first Chairman of the Directorate Board of the International Society of Condensed Matter Nuclear Science at the Asti Workshop. Now I am the Associate Editor of the Journal of Fusion Energy (Springer) in charge of Condensed Matter Nuclear Science, and a member of the Steering Committee of the International Symposium on Current Trends in International Fusion Research: Review and Assessment (partially sponsored by IAEA).

The financial aid for travelling abroad was very difficult to obtain in China in the 1980’s-1990’s. The TRIL activity provided me the assistance to overcome this difficulty, and helped me to start more contacts with European scientists, particularly with Italian scientists who have the tradition inherited from Galileo and Fermi. This policy might still help to overcome the financial difficulties for the young scientists who are working in interdisciplinary areas of science.

The language in Italy was a little difficult for me, but I bought an electronic dictionary, which could translate Italian to English quickly, and I made progress in Italian as well.

Italian laboratories have more freedom in academic activities. I believe that it was inherited from Galileo and Fermi.

There is a decreasing interest in science. However, there are always some young
students who are full of curiosity in science, and dedicate themselves to scientific endeavor.

Professor Giuseppe Furlan played an important role in TRIL activities with an open mind. Hence I would like to make a suggestion that it is time to consider the establishment of an International Center for Condensed Matter Nuclear Science.

Professor Salam established TRIL after he became a Nobel Laureate. I believe that ICTP should be a cradle of Nobel Laureates. Condensed Matter Nuclear Science faced three major obstacles in science, i.e. explanation, confirmation and exploration. Now, the explanation of “excess heat” without commensurate neutron and gamma radiation is done; the confirmation of nuclear products is done as well. The exploration needs a research on the wave-like property of deuterons inside condensed matter. Enrico Fermi developed a diffusion theory for the neutron flux inside fission reactor; a fission reactor was completed just 3 years after the discovery of fission. Now we have to develop a theory for deuteron flux inside condensed matter; the repetition and the application would be solved at the same time. This center would develop the necessary theory and experiment to set up the foundation for a deuteron flux reactor with no nuclear contamination.
The ICTP experience: the TRIL programme

Yougui Liao
China

The ICTP-TRIL programme greatly helped me to improve my research ability and knowledge of semiconductor physics, material science, and related characterization methodologies. Therefore, I was able to help LTRIM technologies (Montreal, Canada) to improve the quality and reliability of laser-diffused resistors. Furthermore, I authored three publications (published by the Journal of Electrochemical Society, Applied Physics A and Journal of Applied Physics) on the basis of that work. In addition, I finished my Ph.D. study and graduated from Ecole Polytechnique de Montreal, Canada. This achievement was partially due to the ICTP-TRIL project.

TRIL provided me the opportunities to join a research group of advanced semiconductor technology, and thus helped me to improve my capacity in the development of microelectronics devices and materials. If possible, I hope TRIL can ask the host laboratories to let the visitors attend international conferences (e.g. at least once per year).

I have contacts with Italian host laboratories, but do not have collaborations with ICTP and Italian host laboratories because of limited funds. Do you have any suggestion for me on this point? Thanks.

The main difficulty for me was “permission stay in Italy”.

I think that it is fruitful to try and re-establish the Chinese Chapter of ICTP. If it is necessary, I am very happy to do something for its re-establishment.

Science is still attractive for young people. I do not realize any decreasing interest at this moment.

If it is possible, I hope we can have one party for meeting all the previous ICTP scholars.
The ICTP experience: the TRIL programme

Nianqing Liu
China

I had the opportunities of receiving training and doing research in LNL, INFN, Italy, during 1987-1988 and 1994-1995 in the framework of TRIL. TRIL was helpful to me not only in obtaining the skills of nuclear analytical techniques (PIXE, XRF, SXRF), but also to have the idea for the application of nuclear analytical techniques especially in biological and medical fields. After I returned to China, the experience of my stay in Italy has been very important and useful for my professional activities. Now I work as a full professor (researcher) in the same field. I was also a technical co-operation expert for carrying out a 2-week mission at the University of Khartoum for a project (X-ray fluorescence Laboratory network in Africa) of IAEA in 1994.

I visited many cities and churches in Italy, and made many Italian friends during my stay in Italy. I also got a lot of help from ICTP and these friends, especially when I was in hospital in 1995.

I think that science is still attractive for young people in our country.
Within the TRIL programme I spent one year at the “European Laboratory for Non-linear Spectroscopy” (LENS). This one-year experience had a great impact on my research activities. LENS is one of the high-ranked laboratories in the field of Bose-Einstein Condensation. For the first time, I was able to have the opportunity to do some theories in collaboration with excellent experimentalists. I learned a lot from these experimentalists, particularly their way of considering the physical problems. During the stay, I mainly focused on the system of Bose-Fermi mixtures, which was first realized at the LENS group, and published five papers in the well-known physical journal, Physical Review A. I also learned how to find out the most interesting problems relevant to my research fields. This is very important for my professional activities. I was able to finish some scientific work of very high quality. For example, in the past two years, I was able to publish two works in the top-ranked physical journal, Physical Review Letters.

There are two main difficulties in my research career:
(a) how to find out the right way to consider the physical problems, and
(b) how to grasp the hot topics in the relevant research fields.

The TRIL programme provided me a very nice opportunity to overcome these two difficulties.

I have a very regular contact with my Italian host laboratory, LENS. By email, I often communicate my theoretical results with the relevant experimental group at LENS. Last September, I also had a short visit to LENS.

I enjoyed very much my stay in Italy. Actually, I did not find any huge cultural differences between China and Italy. Italians are very hospitable. Of course I met some difficulties with the language, accommodation, and so on. The accommodation is the most significant problem. It is extremely difficult to find a nice and cheap apartment or room in Florence. I remember that I spent more than 400 Euros (one-third of my salary) per month for a small single room.

Now I am a postdoc at the ACQAO center in Australia, which is a theoretical group. I therefore cannot make a direct comparison with my LENS experience.

I wish to become an associate member of ICTP once I find a permanent position in China.

I think it will be very fruitful to re-establish the Chinese Chapter of ICTP.

As far as I know, science is becoming more and more attractive for young people...
in China.

I benefited a lot from the TRIL programme and sincerely hope that more and more young researchers can also have such an opportunity.
Marija Luic  
*Croatia*

I published some papers with Italian scientists. This is the main impact of ICTP-TRIL on my activity. Furthermore, I did my Ph.D. thesis in Italy (partially supported by TRIL).

I have no longer any contact with the Italian laboratory and ICTP.

I knew some Italian before coming to Italy. In Italy I learned it well. I like Italian culture and keep visiting the country.

I spent some time also in a German laboratory. This one was better organized.

I think that there are no big differences in the interest of young people in science with respect to the past.
Djibrilla Maiga
Mali

My training and research period in the framework of the TRIL Programme was carried out in Ce.S.I.A with Professor G. Marrachi in Florence. This stay had a very important impact on my research and professional activities. After Florence I was appointed as project manager to contribute towards an early warning system for food security. And now, I am the deputy director of the meteorological service.

The TRIL activities helped me to overcome some difficulties in the field of geographical information systems and agro-climatic modeling.

I have regular contacts with my host laboratory and we are working on the practical use of meteorological information by farmers in the field, particularly seasonal forecasts. Every time I need their help, they respond. We are members of the agrometeorological commission of WMO and sometimes we meet.

I evaluate my stay in Florence very positively: it permitted me to visit historical places in Rome, Firenze and Trieste and to have many interesting relationships. The only problem I had was the language.

The difference of TRIL with respect to my other experiences abroad is the possibility of an exchange of experience by visiting other Italian laboratories to participate in other activities of ICTP such as conferences and seminars.

Unfortunately, I have never had electronic information about ICTP but we regularly have documentation from ICTP. However, we receive no information about the TRIL Programme.

I think young people are still attracted by science but the problem for us is the lack of sponsors to have financial support. This situation discourages the young.

I have appreciated the TRIL a lot and hope that it will continue. It could help to overcome the financial difficulties of our institutions. It will be interesting to think about short and very short stays.
Milan Majoros
Slovakia

TRIL opened new professional activities for me and gave me an opportunity to work with equipment that is not available in my home country (Slovakia) even today.

It pushed me forward and confronted me with a broader set of scientific problems, an experience that would be difficult to acquire at home.

Although I worked in CISE (ENEL), which unfortunately does not exist any more, I am still in touch with my former colleagues – they have been transferred mostly either to CESI (ENEL) or to EDISON.

The cultural impact of my stay in Italy is very positive. I speak Italian. The main difficulty at that time (1992-1994), was, surprisingly, to open a bank account.

I cannot compare TRIL with other fellowships. I was too old to get them, because most of them were limited to the age of 40.

Science is certainly attractive, but it is not the only motivation. Most people would like to do science, but also at an adequate level. And it is also a question of money. Poorly equipped laboratories certainly will not be an attraction.

Continue your activities!
The TRIL programme of the ICTP helped me a lot to build my scientific career and scientific collaborations with Italian research laboratories and also with the scientific community of Europe and the rest. I gained a lot with this programme and now I am in a position to run my own research projects with a better scientific approach. With the knowledge gained with the TRIL research experience, I am now in a better position to advance this knowledge for the benefit of the scientific community of my country.

I started my TRIL programme in 1996 at the University of Bologna. My supervisor involved me in different scientific projects and also in the main international research project, the MACRO-experiment. I successfully completed this project and I am now involved in the international project Search for Light Intermediate Monopoles (SLIM-experiment).

As I belong to a third-world country, in the past, I had no such experience to work in an environment with an entirely different approach for handling scientific problems and to use the latest technological equipment in the laboratory. With the TRIL programme I now have more confidence and gained a lot of research experience; I can now better collaborate with the international scientific community in my field and communicate my point of view better. I am an author (or co-author) of more than 90 scientific papers, published in journals of international repute. For my outstanding research performance in the field of physics I was awarded the Third World Academy of Sciences (TWAS) prize in physics for the year 1999 and the PINSTECH “Gold Medal” Performance award 1999. The Pakistan Council for Science and Technology compiled a data book “Leading Scientists of Pakistan, 1999”. The ranking is based on the cumulative impact factor, which has been taken from the latest list of impact factors available from the Institute of Scientific Information (ISI), USA. On the basis of my impact factor of 19.8 at the time of the publication of the list, I was ranked nationally in the 36th position. Currently my impact factor is more than 90. I also supervised 10 M.Sc. students in their research theses belonging to various postgraduate institutions.

I am a regular fellow of the TRIL programme with the Italian Universities.

The TRIL programme has a strong cultural impact. I not only gained scientific knowledge but with this programme, but also improved my personality with the Italian culture, communication with the people, living standards, etc. In the beginning I had...
many problems with communication but solved it with time and interest in the Italian language.

Here I would like to mention the important factor of the TRIL programme, the salary. What we are getting from the programme is too low and the officials have to think about it very seriously. A higher level of fellowship would be necessary to live with dignity and honor.

Now I come to another factor of the TRIL programme; when we are at ICTP, all the official formalities are handled very nicely by the efficient staff of the TRIL office. But we face the following problems when we interact with the general public: I always ask myself why the majority of the general public think that the people from third-world countries are not well behaved.

Here I would like to mention that with new developments and fast communication, the borders are coming closer and we have to make special efforts to protect cultural and moral values. Otherwise we are going towards self-destruction. The new generation is following things without thinking about the outcome.

Science subjects are still the most attractive amongst the young people. The Government is making special efforts to keep this interest alive by providing more and more incentives. I think that this will have a very strong impact and we have to encourage this with more incentives and make this world a global village with peace. We can very easily win hearts and minds of people with a simple smile, not with arms or power.

The persons who are benefiting from the TRIL programme are only a fraction of the scientific community from the third-world countries. We have to think how we can improve their technological potential. We have to improve or update their scientific laboratories, to provide a free online access to scientific literature for more scientific Institutions, as already done by ICTP for a few institutions.

I am very thankful to the ICTP and the TRIL programme for granting me the fellowships. I hope they will increase this interaction and more fellowships will be provided to the young scientific generation from third-world countries, especially from Africa and Asia.
ICTP-TRIL gave me the first contact with a laboratory in a developed country with good scientists and high quality research.

I still have some contacts with my host laboratory and ICTP.

Brazilian and Italian cultures are similar, so I did not find much difficulty during my stay in Italy.

The interest in science is still increasing in my country, even though it is more related to technological issues.

I recommend that you continue supporting potential researchers from the third world.
The TRIL programme allowed me to carry out research activity by using novel scientific equipment. With my Italian colleagues from my host university, I published 2 important papers in the US.

Because of the lack of necessary financial possibilities in Armenia, there are problems in having new scientific equipment. The TRIL programme allowed me to overcome these difficulties. The TRIL programme also allowed me to be in contact with Italian and European colleagues. I still have regular contacts with them and we presented a project for collaboration.

I enjoyed visiting Italian cities such as Venice, Roma and Napoli. I want to note a high level of democracy and freedom in Italy. I had some difficulties with accommodation, because I was requested to present a “permission of stay” document from the owner. Sometimes I had some difficulties with the language, but tried to overcome them. I never had difficulties with the police and medical service.

In Armenia science is less attractive with respect to the USSR period, because financial support has decreased sharply.

I think that it will be better to support participants of the TRIL programme for continuing research works in the host laboratory.
The impact of ICTP-TRIL on my research and teaching activities has been in the area of nonlinear analysis and design techniques for microwave power amplifiers at CSELT in which I teach and guide research of our M.Sc. and Ph.D. students at CICESE. I obtained very good experience that now allows me to direct more than 8 projects, 8 B.Sc. theses and 12 M.Sc. theses and the publication of 12 papers and more than 30 symposia participations since I returned to Mexico in 1989. I consider that ICTP-TRIL and CSELT helped me with the use of software for the design and analysis of nonlinear devices, in the design of microwave power amplifiers, oscillators, mixers and other nonlinear components. Moreover, I acquired expertise on fabrication, calibration and measurement techniques. During the early after my return to Mexico, I continued to be in contact with the CSELT researchers and technicians, but not anymore because they have moved to other companies. In the future, I would like to collaborate with ICTP probably offering some courses or participating in research projects, in addition to receiving from TWAS the support for calibrating and upgrading our laboratory equipment and acquiring some calibration standards.

My stay in Italy was very pleasant, I had the opportunity of visiting cultural places such as Florence, Rome, Pisa, Venice and Milan, and, of course, Torino where I lived for one year. I didn’t find any difficulties with language because I studied Italian before living in Italy. I was lucky to find an apartment near the CSELT laboratory the second day of my arrival. The medical assistance was good because CSELT had its own doctor and the medical expenses were reimbursed by ICTP.

I have visited other laboratories: the University of Massachusetts, the University of San Diego and CalTech in the US; the Politecnico of Cataluña and UPC in Spain; and recently, the Laboratory of Electromagnetic and Acoustics (LEMA) from the EPFL in Switzerland. I believe that the Italian laboratories (at least those that I know) have enough infrastructure to perform research and are comparable in terms of the equipment available in the other laboratories just mentioned.

I regularly receive regularly information about the programmes of ICTP. In fact the address of my institution has changed and I would like to make a correction. The new address is: CICESE, Division de Fisica Aplicada, Km. 107 carretera Tijuana - Ensenada, Ensenada B.C. Mexico, CP. 22860.
I believe that science is still attractive for the young people. Our center has 9 programmes and our programme (Electronics and Telecommunications) receives each year about 80 new M.Sc. students and 6 Ph.D. students approximately. Some of our M.Sc. graduated students are currently studying their Ph.D. in other countries (USA, France, UK, Spain, Switzerland and Italy); some of them are working on basic science but a large fraction is involved in applied science. At least in Mexico, I have not noted a reduction in the number of the applications to study in our center.

I want to say thanks to the ICTP, and in particular to the TRIL programme, for giving to me the opportunity to interact with very good Italian researchers. I think it has been very helpful. I think that the TRIL programme is very well organized and must continue to support students, professors and researchers from developing countries.
I participated in the Fifth International Conference on Applications of Physics in Medicine and Biology, Giorgio Alberi Memorial, held at ICTP from 2-6 September 1996, where I presented the work on Energy Dispersive X-Ray Fluorescence in Biological Samples and Other Environmental Pollution Indicators. I also participated in the College on Medical Physics: Method, Instrumentation and Techniques in Medical Imaging, 9-27 September 1996. The college was useful for my laboratory in Cuba, the XRF Department at Centro Nacional de Investigaciones Científicas (CNIC), to gain experience for the continuation of the project about the development of densitometer gamma for diagnosis of osteoporosis in patients at “Frank País” Orthopedics Hospital in Cuba.

I did part of the measurements for my Master of Science thesis degree (X-Ray Fluorescence (XRF) in Environmental Pollution problems) at Istituto di Fisica e Matematica di Sassari, with Professor Roberto Cesareo, thanks to the TRIL programme. The main achievements were to test quantitative methods for trace elements determination in marine pollution indicators (algae, corals and sediments) and micro-algae powder used as supplementary dietetic product in Cuba for its validation, with more sensible XRF spectrometers.

Besides the measurements of environmental samples, during my visit to Italy in 1996-1997, I was interested in Archaeometry research that was done by Professor Roberto Cesareo’s group. I did measurements of Latin American ceramics (from Cuban Taninos aborigines, from Brazil Tupariguani aborigines and from Mexican Maya aborigines) and participated on the XRF measurement’s campaign of golden altar at the San Ambrogio church with a new thermoelectrically cooled detector. We presented these results at international conferences.

I should declare that definitely the TRIL was very important for my current work because I acquired my enthusiasm for Archaeometry from the experiences of Professor Roberto Cesareo and, in 1999, proposed to the Oficina Del Historiador de La Habana, an institution that is in charge of the restoration of Havana City, nominated as a UNESCO Human cultural heritage, a project on the development of an X-ray fluorescence portable system for cultural heritage studies. The instruments were constructed thanks to collaborations with the Oficina del Historiador de La Habana and the Interna-
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

tional Atomic Energy Agency (IAEA) and the first applications were made at the Kunsthistorisches Museum in Vienna, where several masterpieces were non-destructively analyzed. The results were also presented at various conferences.

In 2002, I was invited to IAEA's Laboratories in Seibersdorf, Austria, to assist IAEA in developing a portable XRF system, that was the second prototype based on the experiences of the first prototype developed for Cuba. In June 2001, I proposed the creation of an Archaeometry Laboratory in Havana; (see http://www.ohch.cu/_menu_1/info.php?cat=Gabinetes%20de%20estudio&iditem=110&id_Cat=14)

for the research of art and archaeological objects at Havana Historical Center, as support of the restoration process.

I would really appreciate if TRIL could help my academic research and professional activity with a book on cultural heritage studies and with the possibility of college or training on cultural heritage research to new professionals in this field in Latin-American countries based on the important Italian experience in this field.

I have had no contact with ICTP after starting to work in the field of Archaeometry. I would like to be informed about the possibilities that ICTP offers in Archaeometry.

I evaluate my stay in Italy as a wonderful experience; Italy is a country where museums and culture can be found everywhere. I have no problem with language (as I studied Italian before going to Italy), accommodation, medical assistance, nor police formalities, and so on.

My experience abroad was at the IAEA laboratory but I was invited in my capacity as consultant or expert. I didn’t participate as a student but I have indirect relations with fellow students and their training. I noticed that the programme of XRF laboratory for fellows students has improved in the last years.

I have no regular information about ICTP programmes but it will be a pleasure to receive communications. We would appreciate it a lot.

Currently, I am the head of a new laboratory where the staff is completely young and we are very motivated about Archaeometry, as it is a new field with respect to the development of nondestructive and microanalysis testing techniques. Fortunately, in general, young people are always enthusiastic but it is unfortunately true that several of our most beautiful ideas or projects can’t be realised because of financial problems. For instance, I want to develop (since 2002) an advanced radiation based portable system that includes as the most innovative part the combination of X-ray fluorescence and X-ray diffraction techniques using the same X-ray tube and detector. I already have experimental results in non-optimal conditions that show the projects could be successful.

Finally, I want to remark on the kindness of ICTP organizers and staff during my
The ICTP experience: the TRIL programme

stay and the value of the objective of your institution. It should always be recognized as an important contribution to science developments in the world even when it has many years of prestigious collaboration, especially with developing countries.

Thanks for contacting me after all these years.
I still have contacts but no collaboration with my host laboratory and ICTP.
My other experiences abroad were very good.
I think it will be fruitful to re-establish the Chinese Chapter of ICTP.
I notice a decreasing interest in science with respect to the past.
The TRIL fellowship allowed me to obtain in April 2005 a Ph.D. degree in the University of Udine, carrying out research activity in C.E.T.A. in Gorizia.

The TRIL Programme allowed me to afford travel expenses in order to attend courses, seminars, congresses, etc, thus facilitating my training experience.

I found no difficulties during my stay in Italy.

Science is surely still attractive for young people. In the particular case of Argentina, where I come from, the recent economic problems have forced many students and young researchers to go abroad in order to develop their professional activity. So I think that programmes such as TRIL are very important.
The impact of ICTP-TRIL is most pronounced on my ability to communicate with scientists from different countries, because, while staying in Italy, I was able to overcome language and communication barriers that I had at that time. My training at OGS, Trieste, gave me an opportunity to see the latest developments in oceanographic research, as well as to learn the basics of analysis of oceanographic data. The other important aspect of my stay was the opportunity to speak Italian with my fellow colleagues and friends. I was learning Italian in Croatia for one year before coming to Trieste, and the 4-month long stay there provided me with an excellent opportunity to learn and practice with native speakers.

The main difficulty that TRIL training helped me to overcome concerned communication barriers. It was also of great help in understanding the way oceanographic research in Italy is done.

I still have regular contact with the colleagues from my host laboratory (OGS, Trieste) and also have non-scientific contacts with my friends from there.

The cultural impact of my stay in Italy was enormous. Even before going to Italy, I knew much about the culture, history, sports, etc., but it is only when living in a country that you want to learn about that you can feel and sense the place and its pulse. At the beginning, the main difficulty was language, since it was the first time I was using it with native speakers, but even a 4-month stay enabled me to improve Italian and continue studying it.

I have to admit that my work and obligations in preparing the masters theses didn’t give me too much time to follow information on ICTP programmes.

I would say that there is a decreasing interest for science in Croatia. People are looking for easier ways to make a living. And those persons who want to make a life in science very often leave the country and go for graduate studies in Europe and the USA.
Virgilijus Minialga  
Lithuania

ICTP-TRIL gave me a better understanding of laser radiation stabilization methods and efficiency, which is useful in my teaching practice.

I think that with TRIL help it will be easier to overcome difficulties of gas and diode laser stabilization for optical measurements of mechanical quantities.

I tried to keep more or less regular contacts with IMGC in Turin, where I worked within the TRIL Programme. However, they do not answer my letters perhaps because they are very busy.

During my stay in Italy I had the possibility to go solo by bicycle to see the sights of Turin and its surrounding area. It was very interesting. Perhaps it would be more efficient to go with some guide. The language was a problem because collaborators were speaking only English with me and without explanations in Italian. And therefore it was difficult with Italian in the city. There were also some difficulties with bank transfer in Euro from Trieste to Turin.

I think that science is attractive for young people in our country in the same percentage as in the past. However, the problem is that the absolute number of young people is decreasing because of the demographic problems and high emigration to states where funds for education and science are bigger.

A final remark: I had problems with consultations and usage of equipment during the time of the summer vacation. I was left alone in the laboratory during this time. Perhaps it would be useful not to organise activities during the time of the summer vacation. It is difficult for heads of laboratories and for training participants.
The impact of the ICTP-TRIL research was really strong, because it allowed me to continue in the same field in my own country, teaching postgraduate students about technological advances in my field of research. Several publications have emerged.

The time was short to conduct a detailed research, because of the waiting time for equipments, chemicals, so perhaps an extension of the scholarship in certain cases may be considered. Truthfully it was considered in my case.

I have no contact with my host laboratory and ICTP since I left Italy, so I wonder if the continuation of the support is possible especially if one is pursuing the same research.

In Italy, police formalities are more than terrible. I still remember registering with Questura. One is treated like a criminal, and there is no help with non-Italian speaking foreigners. Accommodation is very expensive so the allowance must be increased. The language was not a problem and one can pick it up quickly.

It was not stated whether my scholarship included pregnancies because my wife was already pregnant when we arrived in Italy. This was later settled peacefully.

I have also worked at the School of Pharmacy at London University and the organization was terrific. However, Professor Gliozi’s group and organization is really fantastic, and they were helpful in every sense and I would like to thank them a lot.

I think there is an increasing attraction to science in Sudan for young people.

I would like to thank ICTP for their kindness in offering me this opportunity and my thanks go to Professor Furlan for his understanding, and Professor Gliozi for the driving force which I still possess, the Department of Physics at the University of Genoa, and finally the Italian Government.
I joined as a postdoctoral research fellow of ICTP-TRIL in March 2002. Since then, I have not only gained useful and wide experience of working with eminent scientists and in leading laboratories in the world, but also had the experience of using some very advanced instruments in my research. Some of my important achievements are listed below:

a) Young Scientist Award in 21st International Conference on Nuclear tracks in Solids, New Delhi, India, 2002;
b) Selected for participation in 55th Meeting of Nobel Prize Winners from June 26th to July 1st, 2005 in Lindau, Germany;
c) Referee of the International Journals – Material Research Bulletin and Radiation Measurements;
d) In 2004, selected as Editor-in-Chief of INTS (International Nuclear Track Society) Newsletter;

Thanks to the TRIL Programme I received an opportunity to use the most advanced instruments for my experiments. I have access to a lot of journals and study materials. I had the opportunity to interact with many scientists working in my field. With the ICTP funds available to us for attending conferences, I have attended a number of them and visited many European laboratories for my research work.

Italy has a great culture, an exciting history and a beautiful present. We are fortunate to get the opportunity to visit the country and to learn about its rich culture.

Language is not a problem in Italy. Free language courses are given in the University of Rome. It is easy to learn since the alphabet is the same as English. I did not face much difficulty in finding the accommodation, since I had some friends in Rome. Medical assistance was very good. The main problem I faced was the ‘permit of stay’. It was very difficult to get an appointment with the questura officials. It would be very helpful if ICTP can have some agreement with the questura, which can help the fellows to get the ‘permesso di soggiorno’ easily.

Though I am not aware of this, the Indian Chapter of ICTP is a great initiative and should be strengthened.

Science has always been exciting and attractive for youngsters in India. ICTP’s initiative to bring research fellows from India and train them in Italian laboratories helps
many students to widen their outlook, to gain experience in foreign laboratories and to enrich their knowledge and research.

For students from India, ICTP-TRIL has been helping a lot of students to enrich their research and knowledge. It would really be a great help for the students of developing countries if some regular meetings could be arranged, where all the ICTP fellows can interact with each other. Then a lot of scientific information regarding the facilities available in different laboratories could be exchanged. If online library access can also be given to students who are not staying in ICTP, Trieste, then it would be very beneficial for students staying in different parts of Italy.
The TRIL Programme had a very high impact on me; it determined my research field, and I established most of the contacts that decided my scientific career. Since then (1987-1988), I have published more than 60 articles in the field associated with the TRIL fellowship (ionic channel biophysics) in international peer reviewed journals.

Coming back to the country of origin may present difficulties. In most cases, it is almost impossible to continue the research initiated in Italy. Even considering that the situation in Italy is not very favourable, the situation with science in developing countries such as Latin American ones, is worse. There are two main problems on coming back: it is almost impossible to start a new laboratory, and consequently to have the independence to start a new research line; the second problem that conditions the former is the lack of financial resources. For a young researcher it is quite difficult to obtain funds from local – almost non-existent – sources, and international organizations do not support young people. In conclusion: without a follow-up programme, including funding for a starting project in their country, most of the fellows of the programme will leave their country very fast and will not go back. I am one of them.

I have almost no contacts or collaborations with ICTP or TWAS. I have tried several times to ask for support for young people or for courses that I have organized in Latin America. The answer has always been negative. In the last contact I requested support to buy, or to borrow, a computer projector to be used in a week-long school held at La Havana, Cuba. I did not even receive an answer from TWAS.

The contact with the host laboratory continued. Actually I have a permanent position in the former host laboratory.

I had no cultural problems in Italy, also because of my Italian roots. When I was a fellow of TRIL, there was no significant problem with police formalities. Later, police formalities become offensive to individuals, and now the situation is worse. I understand that the Programme cannot do too much for that, but this aspect must be kept in mind.

The TRIL organization ranks among the best that I have seen.

I periodically access the ICTP website, and some information is received in my institute.
Science is a frustrating occupation with very low salaries, with few possibilities for work improvement, and almost no resources for research. The best individuals, with a science vocation, immediately notice how frustrating it can be to do science in a developing country. Therefore, they decide not to begin a scientific career, or plan to leave their country.

The ICTP-TRIL programme is conceptually good, and is well managed. My experience – and I could make the same comment on most ICTP programmes – is that they have been designed without taking into account the situation of young people in developing countries, at least Latin American countries. Probably an advice from them, or from people that know the situation in these countries, will help to increase the impact of the Programme. I really appreciate the idea of collecting information with this questionnaire.
My participation in the short course in 1983 and in some other courses and seminars in ICTP has been profitable and useful in my past as well as present research and professional activities. I have found interesting and useful information about laser applications in Chemistry in the TRIL course, which can be helpful for educational and training purposes.

I am still in contact with some of the laboratories and centers that I have contacted and worked with in Italy:

1- Professor Leonardo Palmisano, Università di Palermo, Dipartimento di Ingegneria Chimica dei Processi e dei Materiali;
2- Professor Luigi Campanella and Professor Bruno Scrosati, Dipartimento di Chimica, Università degli Studi di Roma “La Sapienza”;
3- Dr. Bruno Fabbri, Istituto di Scienze e Tecnologia per Ceramiche, CNR - ISTEC, Faenza.

In recent years we are busy with the publication in international journals of the results of joint research.

Surely, having been in Italy had a very good impact on my experiences culturally, and I didn’t have any problem with the language. But prices and expenses in Italy are rather high compared to the money that I received.

Unfortunately I don’t have a regular access to ICTP information but I try to find it as far as I can. It would be appreciated if you send me this information via email or air mail.

I think the young people in Iran are interested in science, but the problem is that the amount of new information is increasing so rapidly that it would be difficult to get updated regularly.

As ICTP courses are so useful for researchers, I suggest you to keep holding them. I would be interested in participating in another course in Rome University “La Sapienza” or Palermo University in the near future (maybe the next year).
The ICTP-TRIL Programme helped me to obtain training in the field of experimental Solid State Physics from 1984 to 1988. Subsequently I obtained the academic title of Dottorato di Ricerca, after the presentation of a thesis entitled “Proprietà intrinseche delle leghe amorfe di carbonio-stagno nella conversione dell’energia solare”.

My stay in Italy was an opportunity to learn how the academic activities are organized in the universities of Turin, Trieste, Rome and Padova. I also learned the Italian language and was exposed to Italian culture.

Thereafter I was appointed director of academic services in the University of Burundi in 1995. Later, in 1998, I was nominated Minister of National Education in Burundi for five and a half years.

TRIL continues to link Burundi with Italian research laboratories. We have a collaboration with the “Dipartimento di Fisica of the Politecnico di Torino”. TWAS has supported activities in environmental research.

I had no difficulty during my stay in Italy. TRIL is flexible for the daily activity and it allows participants to be visited by family members.

There is a decreasing interest in science in my country: I had to force young students to be enrolled in maths or physics.

I suggest the creation of collaborations using ICT.
The ICTP experience: the TRIL programme

Mandavilli Mukunda Rao
India

TRIL had a great influence on my teaching and research in India. It gave me excellent contacts, which I could use for my research activities. I maintained these contacts, the last one in 2004.

In Italy I made excellent friends with whom I keep in touch regularly.

I was also in Germany as Alexander von Humboldt Fellow during 1978-79 and the TRIL programme compares very well with the AvH programme.

I am aware of the Indian Chapter of ICTP but, since Chennai is very far from Delhi, I could not actively participate in its activities.

A final suggestion: help us visit ICTP and our old Italian host institutions whenever we pass through Italy.
Most importantly, I now have a good network of researchers whom I continue to contact for exchange of ideas and information: this has impacted my work positively. The main difficulties that TRIL helped to overcome are the access to relevant journals and books, and contacts with experts in my area of research.

I do have contact with the ICTP and my hosts at ENEA (Monte-cuccolino, Bologna) and am still collaborating on a number of projects that we started during my visit. Presently we are doing most of the collaboration by correspondence, but they have extended an invitation to me for a short visit, subject to funds and an agreeable schedule that we are now working out.

The cultural impact of my stay in Italy was tremendous. From the informal interactions with my colleagues, I was able to pick up some Italian words, but even more importantly, many of my colleagues also picked up a few words in Kiswahili and Yoruba, which we still use today when we communicate. They were also pleased with the opportunity I presented to them to sharpen their use of English.

Initially, I had a terrible experience with the accommodation but, eventually through the assistance of my hosts, I enjoyed where I stayed.

I also had a four-month research visit to Homburg-Saar in Germany under the sponsorship of the German Educational Exchange Service (DAAD). I felt the TRIL team, including the Director, were closer and easier to reach.

Science is still attractive. In particular, there seems to be an upward trend in the numbers of young female scientists, but there is still a lot of ground to cover. There seems to be a stigma that the scientists are generally resigned to a modest life if not outright poverty in comparison to other ‘less demanding’ careers.

TRIL is an innovative way of assisting researchers from less developed countries. I also appreciate the fact that the ICTP (and TRIL in particular) have financial limitations, but perhaps in future it may be possible for TRIL to set aside an allowance, which a TRIL fellow could use to purchase the most relevant ‘spare parts’ or a component of a facility which will facilitate his research on return to his country. It could be just like the TWAS equipment grant, but the big difference is that the fellow is already in Italy where he is able to search for the part, and even make the purchase. Thank you for the good work.
Jaya Naithani  
India

My TRIL experience was a big step forward in my research career. It gave me new confidence. I learned many new things during my stay at IFA, Rome. Also it was my colleague in Rome who talked about me to a researcher working at the Université Catholique de Louvain (UCL), Belgium, who invited me to join their institute to work on their Regional Climate Model. ICTP granted me leave to join this team at UCL (my present host university). This too was a very good experience, so much so that I even talked with Professor Furlan about joining a modeling team once back in Italy.

I still remember my first day when I was to meet Professor Furlan on 18 February 1998. I was very nervous: my hands were shaking and voice stammering. It was the first time that I had to talk to a non-Indian. His secretary could sense this and assured me that Professor Furlan was a very nice and gentle person. Today I am a different girl. This is to say that my TRIL experience not only instilled confidence in me, but also helped me in overcoming my fears.

In 2001, I changed my field and started doing limnology. I was offered a 4-year contract. I am studying the hydrodynamics and ecology of Lake Tanganyika. I am enjoying it. My research contract will be finishing soon. I have to look for a new job.

With time I am realizing that I am unable to find people with whom to collaborate healthily and it is usually myself who has to put in all the effort right from scratch. This was not good and did not help me much in strengthening my CV.

I do not have much contact with ICTP for quite some time. I would love to be at ICTP again as well as to work with my Italian colleagues. Presently, my project does not allow me financially to visit IFA to work. However, I am in constant touch with my Italian colleagues. With time, we learned to laugh our happiness and cry our sorrows together.

I am trying to have research collaborations with three research institutes in India, and have to look for funds to be able to visit them.

I fully cherished my stay in Italy, except for the initial shock experienced during my very first few minutes at Roma Fumicino airport. I was taken to the airport police as I had no return tickets and all my documents from ICTP were in English. No one could read them or understand me. They did not even know ICTP. They were asking...
me the same questions over and over again. The only thing I understood was how many dollars did I have! It was harassing but I do not blame them or hold a grudge against them. Aside from that long and terrible hour of shock, anxiety and fear, my stay in Italy was wonderful. My colleagues and their families were nice, polite, friendly and warm towards me. They took care to make my stay in Italy comfortable. They introduced me to Roman art and architecture, and medieval, gothic, perspective and styles. Given another chance I would love to be in Rome and work.

Presently I am working at UCL, Belgium. I feel that research-wise I have experienced more or less similar facilities as with TRIL.

I am sorry not to have been aware of the Indian Chapter of ICTP earlier. However, in one of the meetings with Professor Furlan he had mentioned that he often goes to IIT Delhi. I would be happy to join this group. I am in the process of starting research collaborations with Professor S.K. Dash at the Centre of Atmospheric Sciences, IIT Delhi.

I do feel science is still attractive for young people in India.

When I look back, I remember three very beautiful experiences. My scientific expedition to Antarctica, my wonderful stay in Rome and the birth of my son, Ishan. I have great regards and sincere gratitude for all who worked to make my TRIL experience fruitful. Today everything seems like a dream.
The ideas of ICTP-TRIL are very important and interesting to young scientists in third-world nations. By working with Italian scientists in their laboratory, taking part in seminars, discussing interesting topics every day during the period in Italy showed me what I should improve in my daily research work in my country.

The TRIL helped me understand how to develop ideas, write proposals, link with persons and institutes abroad in collaborative projects.

I have personal contacts with my supervisor, Mr. Pietro Alessandro Brivio. I always see new information about ICTP from the Internet. I have also applied for Junior associate membership.

What a beautiful country is Italy! Many Italians do not know English. However, Italian is not difficult to learn. One year in Italy was a wonderful period for me. In the first month, I had some difficulty in looking for a house and undergoing police formalities, perhaps because I lived in Milan, a big and busy city. My colleagues helped me very much in how to live in Milan and Europe.

TRIL is my first experience in working in a foreign laboratory. It has a very good structure.

Unfortunately many people in Vietnam do not understand the important role of science in development.

I think that TRIL will be more interesting if it supports young scientists in taking part in special short-courses in host laboratories or at ICTP every year. ICTP may collaborate with host laboratories to organize short courses that relate to the interesting issues in science. Finally, improve, update and launch more information about TRIL.
The 18-month stay in IROE of the CNR in Florence and a few one month follow-up visits in 1995-96 were for me an introduction to the international scientific world and the beginning of true, systematic and efficient collaboration with foreign laboratories. Collaboration with this laboratory has been ongoing till now and several tens of joint papers have been published in international journals. Moreover, through this laboratory, complemented by another cooperation with CERN, I started collaboration with other Italian colleagues (e.g., Professor F. Somma, Department of Physics, Università Roma Tre, Dr. S. Baccaro, ENEA Casaccia, Professor M. Martini, University of Milan-Bicocca, etc.) and several projects funded by CNR, INFN or INFM resulted from these collaborations, complemented by other grants from INTAS and NATO funding agencies.

The main help (apart from the scientific work itself) of TRIL was an introduction to another research team, which initiated further collaboration.

I have no contacts with ICTP anymore, but regular collaboration, supported by both the Italian and international projects, is going on with the Italian laboratories mentioned above, mainly with the Department of Material Science, University of Milan-Bicocca (A. Vedda, M. Martini).

I like Italy very much and also have some friends there. I learned Italian already in 1993-94 and can use it fluently, which makes my stay in Italy much easier. Some difficulties appeared, which may happen in any country. Perhaps the experience with “questura” in 1993-95 is among the worst ones, even if this observation may be obsolete now as I do not know the present situation.

I have an intense collaboration with Japanese laboratories and actually we often create a “triangle” of collaboration including Italian and Japanese teams. My experience with TRIL structure is very positive, i.e., I found the organization of my stay in 1993-96 both efficient and friendly. In Japan, perhaps an even higher efficiency in organization exists, but both daily interactions and work life are troubled by high cultural barriers. It is not easy to understand well the people and the mechanisms of interactions, while common situations in Italy are very close to those in my country.

In the nineties there appeared a definite decrease of interest for a scientific career in my country, which was partly due to political changes after 1989. Today we might even
have a kind of “come-back”, but at a much lower level with respect to the situation before 1989. Still I think in “attractive laboratories” one can see young students and Ph.D. students. The task for scientists is to make science “attractive” for the public and we are not much used to such a job; some of us may consider it as an obsolete notion, which is a mistake.

I do not have particular remarks, but use this occasion to thank ICTP for the award of the fellowship in 1993, which definitely made a strong impact on my later scientific career.
I benefitted immensely from my association with the research group on atmospheric aerosols and the Space Physics research at IROE, Florence, under the ICTP-TRIL programme. I learnt the use of LIDAR for atmospheric studies and published an article on the back scattering characteristics of cirrus clouds and jet contrails in the journal “Geophysical research letters” from my collaborative research in Italy.

On my return, I proposed to the Department of Science & Technology (DST), Government of India, to set up a Micro Pulse Lidar at my parent institution, Andhra University, to make aerosol vertical profiling at select locations on the East coast of India. I successfully defended my proposal and with the support of the DST, I have established a Micro Pulse Lidar at my parent institution at a cost of US$ 1,15,000. This is one of three such facilities in India and mine is the only University to have a Micro Pulse Lidar. The system is operational now on a routine basis and is making valuable measurements on aerosol properties that have a significant importance in the radiative forcing estimation and global change studies. My publications during the last five years (2000-2005) are in part due to the impact of my training under the TRIL programme. I still feel that a periodic exposure to advanced laboratories will help in modifying the scientific approach and will keep us abreast with the thrust areas of research in the relevant fields. A periodic re-visit programme will definitely help in updating the knowledge and I hope ICTP will continue this activity.

I proposed to invite the host scientist (Massimo Del Guasta) to our laboratory under the visiting scientist programme of TWAS, but, unfortunately, this was not approved. If approved, his visit would have been very useful in the context of the development of a good experimental system (Micro Pulse LIDAR) at my parent institution and would have provided us with an opportunity to optimize the experimental system for its best utilization.

I cherish my association with Italy and Italians. They were very friendly and helpful. The major problem I faced during my stay was with accommodation in Florence. But somehow, I managed for one year.

I came to know of the Indian Chapter of ICTP very recently. I have not joined it yet but feel that this initiative should be strengthened.

Science is still reasonably attractive for young people. Though there are various
The ICTP experience: the TRIL programme

reasons for the decrease in interest towards science, I am hopeful that science will again get back the attention that it deserves.

It is sometimes painful to notice ICTP supporting individuals, who, even after 4-5 long trips to Italian laboratories under the TRIL programme, do not do anything at their parent institutions. These individuals have worked with the world’s most renowned research groups in Italy under TRIL but show no publication record except those that they produced during the visits. I feel that TRIL is basically a training programme and should not support a collaborative research visit to enable the scientist to do research only in Italy. I think the TRIL programme should look into the publications and their quality from the scientist’s own work at his parent institution after one visit, before approving a re-visit. Kindly consider this as a suggestion and not as a criticism.
The impact of ICTP-TRIL on my research and professional activities has been tremendous. The ideal I developed during my TRIL programme provided the basis for all the subsequent works that are now published in international journals.

My main difficulty is gaining experimental research experience. The work I have done so far is computational (in diagnostic radiology). I will need to carry out experimental work to be able to be clinically exposed to hospital experience and be practically useful in routine hospital clinical practice of quality control in medical imaging in local hospitals in my country (especially in teaching hospitals). This will provide an opportunity to serve as a professional medical physicist in the hospital (in the practical sense). I would appreciate it if I can secure an award to have this practical hospital practice as a medical physicist in any Italian laboratory. My theoretical work is being highly commended through various requests I get for my published work.

I have just completed my Senior Associateship programme with ICTP (2000-2005). I have utilized all the visiting slots under this programme. I will not hesitate to contact any Italian laboratory that can offer me practical experience in clinical medical physics research as pertaining to X-ray diagnostic work.

I found my stay in Rome very exciting. I made many friends among the Italians. They (Italians) are accommodating. I went through so many places with one of my good friends who took time to explain a lot of historical things to me, including a place where there was an earthquake close to Rome. I was given a free hand to work in my laboratory. The concept of spectral equivalence, which has been my main research, started during my TRIL at ENEA, Casaccia. I did not have too much language difficulty but I wish I had the opportunity to learn Italian. I did not have any medical problem. I did not have any problem with accommodation. In fact I had many choices. I did not have problem with any police formalities.

I did not have much experience elsewhere but I had a free hand to participate in the ongoing research in my laboratory though I could gain more. I think the visiting researcher is well supported and welcome to free participation and contribution to research activity.

Science is quite attractive but many want to go out of the country for better facilities to do their postgraduate studies. The only thing that sounds frustrating is the lack
of facilities locally. There are many brilliant students who can academically perform wonderfully well.

The TRIL is a good programme that should be allowed to continue. The culture of functional research gained is important to us who lack facilities and government drives and motivations for research work useful for national development. The atmosphere of scientific research experienced during the visit provides motivation for doing research on returning home.
There has been a tremendous impact of the TRIL programme on my academic research and professional activities. My area of specialization is Applied Nuclear Physics, and my research work is accelerator-based. Unfortunately, the 9 MeV tandem accelerator which was purchased by the University of Ife, Nigeria (now Obafemi Awolowo University), in 1978, has not been fully installed nor commissioned for use even now. This has adversely affected my research productivity for several years and hence my research publications were very few prior to my TRIL fellowships.

However, the ICTP-TRIL programme provided me the unique opportunity of working with two accelerators at the Istituto Nazionale di Fisica Nucleare (INFN), Laboratori Nazionali di Legnaro (LNL), I-35020 Legnaro (Padova), Italy, under the able supervision of Professor G. Moschini. Consequently, my opportunities within the TRIL programme have tremendously improved my research publications and C.V. Besides the publications due to the TRIL programme, I have obtained data on other research works carried out at INFN, LNL, Legnaro (Padova) which I am presently working on for more journal publications. All these publications and research output would not have been possible without the TRIL programme. We are still hoping to have a functional accelerator at CERD, OAU, Ile-Ife, hopefully this year. But waiting for several years for the accelerator in my country would have been too painful and very frustrating for my academic research work without the TRIL programme.

I am thus grateful to the ICTP-TRIL Programme and to the Head of the TRIL Programme, Professor G. Furlan, and his very dedicated Staff.

The TRIL programme has helped me solve the problem of academic barrenness due to the lack of adequate facilities in my area of specialization. Future opportunities with my research collaborators at INFN, LNL, Legnaro (Padova) will still enhance my academic performance with regard to scientific publications and activities.

I have regular contacts with ICTP and with Professor G. Moschini and his team at INFN, LNL, Legnaro (Padova), Italy, which is my Italian host laboratory.

The cultural impact of my stay in Italy has also been very good. I did not have any difficulties with the language, because English is generally spoken in my host laboratory and at ICTP. Besides, INFN, LNL provided me with very good accommodation at its Guest House, the Foresteria. Medical assistance and police formalities were taken...
The ICTP experience: the TRIL programme

care off by the ICTP-TRIL Medical Insurance Scheme and the assistance of ICTP Visa Office; efforts and links of INFN, LNL, with Padova’s Questura helped a lot. I have also enjoyed very good hospitality and kindness at INFN, LNL, Legnaro (Padova) and at ICTP.

The TRIL structure is fantastic and should continue to be followed. I had the privilege of being a guest scientist at Brookhaven National Laboratory (BNL), Associated Universities, Inc., Upton, Long Island, New York, USA, from August 1 until November 15, 1984; I also carried out research work at Oak Ridge National Laboratory, Tennessee, USA in 1991; and I was a guest researcher at the Department of Nuclear Physics, Lund Institute of Science and Technology, Sweden, for the period of October 1, 1985 - August 31, 1986. My experiences in these laboratories are comparably good.

Science is still very attractive to young people in my country because this is the age of technology and the impact of science, and especially computer technology, on the youth in my country is enormous. Besides, the chances of getting better jobs in science-oriented disciplines are far more than others. This has consequently attracted young people more to science and technology. In addition, the government’s policies are geared towards encouraging science at all levels of education with better rewards for science-based subjects.

The consistent efforts of Professor G. Furlan, the Head of the TRIL programme, over the years deserve very high commendations because he passionately monitored and followed the progress of TRIL fellows and their research outputs. He gave lots of encouragement, pieces of advice and challenges. His immense contributions, innovations and dedications to the TRIL programme and TRIL fellows over the years are yielding positive results and progress on the academic pursuits of the TRIL recipients. Such excellent work should continue. His dedicated staff members and, more generally, the management of ICTP also deserve great commendations.
Concerning the impact of ICTP-TRIL on my activity, I have presented the studies carried out on dispersion analysis in a regular course of the local geophysics graduate programme, and am trying to use these studies in the analysis of finite-difference methods for GPR (ground-penetrating radar) modeling assuming attenuation. This is a joint work with a colleague professor and a doctorate student. The work on dispersion has not yet been published, although it will be presented in the EGU General Assembly in Vienna, in April 2006.

After the doctorate I have changed the field of study from numerical analysis to geophysics. Even though I have learned much from the Geophysics Department where I have been serving as a research assistant, I have always missed the interaction with someone who works specifically with numerical methods for wave propagation, in particular finite element methods. My first visit to OGS provided by TRIL was helpful in this sense, but it will still be important to establish myself in the field of numerical methods for geophysics.

I still have contacts with my TRIL supervisor, Professor Geza Seriani. Since I come from a country with Latin background, the assistance from the ICTP personnel was quite efficient, and the research laboratory I visited was near the ICTP. I consider the difficulties during my stay as minimal.

The housing service was more effective than the one available in the American university where I did my Ph.D. degree (I found an apartment and moved in half of the time). The other services were similar. It was also similar and positive with the constant traffic of visitors and guest lectures/seminars and opportunities to discuss ideas.

I think that the urbanization, the easier access to information and the shortage of jobs in many areas have increased people’s interest in an academic career in my country. The access to college education has significantly increased in the last five years with the growth of private schools, but the quality of education is unfortunately decreasing, as it has happened at pre-college levels.

I have done my Ph.D. studies with a scholarship from the Brazilian government agency, and met students from Thailand and Turkey who have done the same. A partnership with those agencies, if not already in place, could be interesting for both sides.
Thanks to the ICTP-TRIL Programme I have been able to get publication in highly professional journals and have gained experience in the area of high temperature mechanical properties of materials. The main difficulties that TRIL can help to overcome are: working in a laboratory with adequate scientific equipment and access to journals and textbooks.

I am in regular contact with my host in Milan.
I easily got integrated into Italian culture and civilization. I learnt the language and had excellent interaction with wonderful Italians. I had no problem with medical assistance. Lately, the police formalities have been discouraging. The formalities at the embassy are unnecessarily cumbersome and frustrating.

I have experience with other laboratories abroad. The TRIL structure is excellent as the money is paid immediately.

In Nigeria science is now becoming interesting as our economy is improving.
I thank the personnel of the TRIL programme from the bottom of my heart.
ICTP-TRIL helped me a lot in my research career. Presently, after my training, I have started air quality monitoring in Lagos State, Nigeria. Also, since December 2005, when my training was completed, I wrote two papers based on the work carried out during my training. One of the papers was sent to the Journal of Nuclear Instrument and Method B, and the second to the Journal of Science of Total Environment.

TRIL assisted me in placing me in a Laboratory in Milan which helped in the analysis of airborne particles sampled from the workplace environment using EDXRF. I will also need the assistance of TRIL in my present research area of air quality monitoring in Lagos City using EDXRF. Presently, our TXRF had its X-ray tube damaged, and all efforts to get it repaired proved abortive.

I still have regular contacts with the laboratory that hosted me. In fact, we are currently working on aspects of the work I did during my training.

My TRIL fellowship was in the university environment. I had no problem with communication in English except for outside the Laboratory (University of Bicocca, Milano), where I found it difficult to speak Italian.

I have had training in an IAEA laboratory (Seibersdorf, Vienna, 1 April 2002 to 1 October 2002), which helped me to prepare for my TRIL fellowship. All the necessary facilities needed were provided during my TRIL training programme. I was able to analyze 480 samples after my training within two months.

The TRIL programme has been wonderful for young scientists. I cannot imagine what I have gained within two months of my training in Bicocca. It has really assisted me in my career. I want to say a big thank you for giving me the opportunity.
The ICTP experience: the TRIL programme

Amlan J. Pal

India

TRIL helped me a lot in the early stage of my research. The post-doc experience with TRIL helped me to get a job in India and pursue research as a career. Having been an ICTP postdoc carried a lot of weight as a TRIL Fellow.

I do have contacts with the Italian host laboratory. They are my good friends.

During my stay in Italy it was good that I learned the language, so that I could absorb some of the great cultural heritage. To stand in a long general queue at the Questura for reentry visa or visa extension was a bad experience.

I enjoyed working in every laboratory in the world. It is the mutual personal chemistry that matters.

I am a life member of the Indian Chapter of ICTP since its inception. However, I did not have an opportunity to attend any meeting. I think that the meetings should be held at different cities of the country.

Basic sciences, CPM (Chemistry, Physics and Mathematics) are very attractive to young students of our region. The picture may not be the same in other parts of the country.
Before TRIL, I was doing some research work on cardamom drying without any orientation or methodology. The TRIL programme shaped me as a trained researcher in the field of solar drying, opening many new avenues. My association and training with leading scientists in Milan University helped me to develop new technology suitable for Indian conditions. After my first and second training I had started, along with other leading planters and scientists an interactive forum titled “Planters Energy Network” (PEN) at Madurai Kamaraj University, to promote energy efficiency and renewable energy sources in the plantation sector. PEN had conducted more than 45 energy conservation studies in plantations, stretching from Assam to Sri Lanka. PEN had also introduced solar heating to reduce fossil fuel consumption in 9 tea factories. In addition, PEN had organized three international events on Renewable Energy application, one at UPASI, Nilgiris, and another two at IIT, Madras. The last conference was attended by the Italian Ambassador in India. The solar technology developed for the tea industry has been extended to many other industries like spices, coffee, fruits, vegetables, salt, fish, and leather.

To conduct research in a remote college in India is very difficult due to lack of mentors and literature. TRIL helped me in providing research methodology, necessary guidance for the same as well as reference works. This help of interaction with leading academics and professionals may still be needed from TRIL to enhance my scientific work.

After my first visit to Milan University I made subsequent visits in 1989 and later. I stayed with my professor who has shifted his office to Ancona University. Interaction with other Italian host laboratories is yet to start.

Compared with other European countries, I found the cultural interaction of my stay in Italy was overall satisfactory except for a few problems like police formalities. I find the people very social and open to new ideas.

The present operating method being followed in the TRIL structure is perfect as it creates a kind of good working atmosphere for the visiting scientists. TRIL might consider expanding similar activities encompassing EU laboratories (one may call it TREL) for developing countries. In the selection procedure of TRIL, weightage may be given to young researchers in remote areas since they may not be able to compete.
with IITs and other established universities.

Though very active in the beginning, the Indian Chapter of ICTP is now dormant. It is essential to reactivate the Chapter.

In India applied science and computer science is dominating basic sciences. It is necessary to stop this slide.

The TRIL programme is partly fulfilling the dream of Professor Abdus Salam in sharing the research in Western countries with scientists from developing countries and emerging economies. It is necessary to expand this programme so that a larger number of aspiring third world scientists may get the benefit. Many third world scientists are not aware of ICTP’s contribution to science. Steps may be taken to highlight the opportunities given by TRIL. The role of the local Chapter is very essential and it has to act as a vessel in promoting the excellence of science and the activities and opportunities of ICTP.

In a nutshell, ICTP is acting as a powerful tool in transforming the life of many scientists in third-world countries who might be proud of their association with that institution.
The impact of the ICTP-TRIL programme on my present activities was very positive. During the stay at the IMM-CNR I was able to increase the number of publications and the attendance at conferences. The activities during the ICTP-TRIL also allowed me to be in contact with different researchers in my field of work.

I think that the ICTP-TRIL programme helped me to overcome many difficulties in my research activity. During the ICTP-TRIL programme I was able to take part in conferences, learn about new experimental equipment, know problems of the state-of-the-art in my field of work, and start collaboration with other researchers. At present, the experience acquired is helping me to carry on scientific activities at a proper level in Argentina.

After ICTP-TRIL, I have started regular contacts with the IMM-CNR at Catania. At present, we are continuing collaborative work and writing joint papers.

During the stay at Catania, I felt very comfortable. The police formalities were the main difficulty that I encountered. The procedure to obtain the permit of stay was very uncomfortable.

In my opinion, the TRIL structure works very well. Every time I had a problem or a question, the TRIL office assisted me.

I think science is still attractive, but due to the low salaries the young people in my country are forced to work in different subjects.

I think that the ICTP-TRIL programme is an important tool for researchers in developing countries. It helps to start collaborations with other researchers and to maintain a proper level of work.
The ICTP experience: the TRIL programme

Carlos Leopoldo Pando Lambruschini
Mexico

The ICTP-TRIL Programme has been very important. I attended conferences and seminars during my stay and shared the expertise of researchers in the host institution.

I had no significant difficulty. I have regular contacts with researchers in the ICTP Condensed Matter Section during my stays in Italy and also with the OEA programme.

It was a great experience for me to stay in Italy, mostly with respect to cultural aspects.

The TRIL programme offered me the opportunity to work as in two other places (Montreal, Florence).

The Masters and Ph.D. programmes are regarded as another job opportunity for many students. In any case, there is a decreasing interest in science in comparison with the past.
I am delighted to share my experiences in the TRIL programme. I am grateful to Professor Furlan and Professor Panza who gave me the opportunity to avail myself of a TRIL fellowship at the University of Trieste, Department of Earth Sciences during 1998-2000. At that time, I had just completed my Ph.D. but was not exposed to current research activities in the field of seismic modeling for zonation and microzonation. I spent two years at a stretch mostly under TRIL and partially under the Regular Associateship programme of ICTP and completed some challenging research work on deterministic seismic hazard for India, strong ground motion attenuation law and pilot study of microzonation in Delhi. This work helped me to get the attention on my potential to work on deterministic seismic hazard and microzonation studies, and I obtained a permanent faculty member position at C-MMACS.

In my country there was no previous research work in the field of deterministic seismic hazard assessment using realistic ground motion modeling and site specific microzonation studies. The TRIL programme provided me the opportunity to work with Professor Panza and his group members, and I could produce some exciting research papers for my country. I am fortunate that I am still working in close collaboration with Professor Panza. Recently we have been granted an Indo-Italian bilateral research project between two governments.

I am a regular visitor of ICTP as a TRIL fellow and as a Regular Associate. My Regular Associateship expired last year and I will apply once again for the next term and hope that I will be granted continuance. I also wish to apply for one more term under the TRIL programme.

My stay in Italy was excellent. I stayed in Trieste with my wife and one year old son. We had a very nice time which we will always remember with pleasure. I take this opportunity to thank our landlord Mr. Duilio Duili. Mr. Duilio and his family members were always very cooperative and we are grateful to him for having made our stay almost as in our home.

Unfortunately, I don’t have any long-term experience in any other laboratory abroad, and so cannot make a comparison with TRIL.

I was not aware of the Indian Chapter of ICTP. But, if it still exists, I would like to join it.
I think that the interest in science is decreasing now, compared to what it was in the past. Maybe it is temporary because most of our young top students try to join multinational companies in the field of information technology because they are very well paid there. This would be 5 to 6 times more than what we are paid.

The objective of the TRIL programme is very nice and it has helped thousands of researchers like me to get direction in their career. I hope that TRIL will continue the task with the support of other organizations.
The impact of ICTP-TRIL on my past and present research and professional activities has been great. Thanks to its support, during my first stay of five months, in 1999, at the Paleomagnetic Laboratory of the National Institute of Geophysics in Rome, I received a first-hand high-level training in experimental physics and data processing in rock magnetism. I met a great number of high-level researchers from all around the world. I was also able to consult the most recent papers and books on paleomagnetic and rock magnetism applications to Earth Sciences, which allowed me to get a broader picture of the applications on these topics to environmental problems.

Of course, my stay at the Foscary University in Venice for a month also helped to complete my environmental knowledge on the conservation of water resources quality.

During the first stay I brought with me sedimentary and terrigenous rock samples collected from cañistic regions of my country to carry out research on the evidence of paleoclimatic changes for the quaternary times on the magnetic susceptibility record from rocks of those sections in Western Cuba. The results were promising and were included in the report for my M.Sc. Degree on Environmental Science. These results were also part of a broader investigation project, “Paleoclimatic and paleoenvironmental Reconstruction during the Pleistocene-Holocene times in Western Cuba” (2000-2002)”, which was awarded the National Scientific Prize and Medal “Carlos J. Finlay” from the Cuban Academy of Sciences in 2002. Since then, I have been working on environmental magnetism with applications in Paleoclimatic Studies and monitoring of soil’s pollution with outstanding results. This work has allowed me to take part in some international scientific events and to publish papers.

A second short stay at the Paleomagnetic Laboratory of the National Institute of Geophysics and Vulcanology in Rome allowed me to perform experimental work on the magnetic properties on soil samples collected from the hydrologic basin of the Almendrares river in the province of Havana as part of an environmental research project on this very important aquifer, which supplies around 45% of the water consumed by the inhabitants of the capital city. The results seem to be promising and a second project is being conducted. All these results will form part of my Ph.D. thesis under preparation and they are also being prepared for presentation at international scientific
The ICTP experience: the TRIL programme

events and for publication in scientific journals.

The main difficulties that TRIL helped me to overcome are, first of all, the access to a reference laboratory of high scientific quality and secondly, access to the most recent bibliography on these topics. It also made possible personal contact with scientists of high level and human quality to exchange experiences and results in friendly cooperation.

Of course, I am currently in contact through emails with the researchers of the National Institute of Geophysics and Vulcanology in Rome (Professor Melloni, Professor Sagnotti and others), and with other Research Centres in Europe and Mexico which foster these subjects in their respective countries.

I evaluate the cultural impact of my stay in Italy as very high and unforgettable: I was in contact with the magnificence of the Italian historical buildings and monuments, not only in Rome but also in Venice, Florence and Trieste and the contact with their people and social lives. In all cases I have received lasting help and support from all the authorities, officers, the TRIL Programme staff, its Director, Professor Giuseppe Furlan, his secretaries Elena Dose and Luisa Durrani, the officers as well as the staff from different offices of the ICTP, including those charged with duties such as arranging accommodation, transportation, medical assistance, police formalities, etc. I have to say the same of the people from the National Institute of Geophysics and Vulcanology in Rome and of Professor Zuppi, his collaborators and students at the Foscary University. All these wonderful and kind people were always attentive to my personal and working needs and they facilitated my stay in Italy. Due to the closeness of our Latin languages (Spanish and Italian) I had no problems in communicating with the Italians in their own language and also some of the people who worked with me learned Spanish.

According to the experiences of some colleagues from my department who have visited laboratories in Mexico, Sweden, France, Spain, Czech Republic and Russia, the Italian laboratories may be considered as reference laboratories in the world for their excellent facilities, structure, organization and infrastructural quality.

As I said before, in Italy and also in Cuba I have had continuing information on the ICTP programmes, in particular about TRIL, mainly by electronic means.

The young people are still the basic resource for science in my country. Every day, interest in sciences grows in this segment of our society but we belong to the Third World and we do not always have access to modern infrastructure, laboratories, scientific literature, etc. in spite of the efforts of our Ministry of Science, Technology and Environment to provide financial support to the researchers in our country from the very limited resources available. The ICTP programmes, in particular the TRIL programme, help some of us, the people from the Third World, to overcome some of these difficulties.
The ICTP experience: the TRIL programme

Thilakan Periyasamy
India

The ICTP-TRIL programme created a major impact on my research career. I could get world-class research exposure through this programme, which uplifted me to develop attitude to compete in the research with world-class researchers. The primary exposure through ICTP-TRIL helped me to acquire fellowships and jobs at various countries.

I received a research award such as “Telecommunication Advanced Research Fellowship – TAO, Japan”, for which I worked on the development of Quantum Dot ordering as well as microdisk laser. I traveled in various countries such as Italy, Germany, Switzerland, UK, Singapore and Japan as a researcher. Currently I am working in the area of “Semiconductor Nanomaterials and Devices”. As scientists from a developing country, we do not know about the advances in research facilities such as clean rooms, hi-tech machineries and their function, or about safety in doing research. As we know, the materialistic approach of science requires one to know all those matters in order to flourish. I have received this exposure through the ICTP-TRIL programme in Italy. So, I was able to sustain a job as a researcher in various research environments and countries. I am still keeping regular contact with my host laboratory ENEA research center, Portici, Napoli. Recently, in January 2005, I re-visited the laboratory and delivered lectures in the area of “nanofabrication”. We are also doing some collaboration work.

In my case the initial period of my stay in Italy was difficult but later I found it to be OK. Here I would like to mention that the accommodation is costly and it was very difficult to afford it with the ICTP support. Except for that, it was fine to live in Italy. I learned a lot from Italian culture.

I stayed also at NIT, Nagoya-Japan, NTU-Singapore and Hokkaido University-Japan. If I have to compare these with the TRIL structure, I can say that TRIL is well organized in every aspect. I found NTU-Singapore is also similar to TRIL, whereas in Japan, the social structure is different. There, we are considered as part of the society, which creates some functional problems due to the poor language support. However, Japanese public services such as transport and hospital access are well organized to support foreigners.

I appreciate the establishment of a Chapter of ICTP in India. I returned to India recently in August 2005 and joined as Assistant Professor at Vellore Institute of Technol-
ogy (VIT). I will now get involved in the activities of the Indian Chapter.

If I have to tell the truth, science should be more attractive to young people but in our country young people are diverted to other areas, such as computers, due to job opportunities in those areas. We are trying to teach them the necessity of science in social development. Our national interest in science is not decreasing but increasing due to the open exposure of the world trend in scientific achievement. However, at this time I can say that science is going to take on a new dimension, which may appear as a loss of scientific interest.

As a remark, I would like to say that ICTP-TRIL is a stepping stone for people from developing countries. In this light, I request ICTP to formalize the support every year, as JSPS or MONBOSO of Japan does, so that a large number of people can benefit every year.
The impact of ICTP-TRIL on my present research and professional activities is quite important. It allowed me to advance my skill as a researcher.

The main difficulties that TRIL can help to overcome are the absence of money for salary and equipment for research.

I have regular contacts and collaborations with ISAC/CNR.

I evaluate the cultural impact of my stay in Italy as very high.

I notice a decreasing interest in science in comparison with the past.
The TRIL changed my professional activities significantly by giving an opportunity to enlarge and extend my knowledge and experiences as well as my scientific contacts. During my stay in the Institute of Atmospheric Sciences and Climate (ISAC) of the Italian National Research Council (CNR) in the framework of the TRIL programme, I participated in the following activities:

1. Investigation of the solar ultraviolet (UV) radiation. Development of the UV radiometer UV-RAD which included the investigation of the technical characteristics, calibration and development of the methods for retrieving the total ozone amount and UV index using the UV-RAD data. Investigations of the atmospheric conditions impact on the solar UV irradiance using the radiative transfer models and improving one of the existing computer codes (Tropospheric Ultraviolet-Visible Model - TUV) adding a new algorithm, developed at ISAC-CNR (see below) for calculating the Rayleigh scattering of the solar irradiance in the earth's atmosphere. Development of the procedure for the UV index forecast in the framework of which I participated in two campaigns aimed to compare UV-RAD with the standard devices, and carried out the comparison at Sestola, Italy, during January-June 2003, and at ALOMAR Observatory, Norway, during September-November 2004.

2. Investigations of the earth atmospheric impact on the solar irradiance, especially the development of the new algorithm for calculating the Rayleigh scattering in the atmosphere improving the existing algorithms. This improvement was achieved by adding a parameter (atmosphere humidity) that has not been taken into account till now. Obtaining of mean-monthly vertical profiles of the atmosphere thermodynamic parameters in the polar regions, based on the radiosounding data, using a new correction procedure for the errors made by the radiosonde sensors, was also attempted.

The results of these investigations have been presented in four publications.

TRIL helped me to overcome the main difficulties connected with my arrival and accommodation in Italy (obtaining the visa and permit of stay in Italy, medical insurance, etc.) that made my work fruitful. I am still working in the host institute.

I am very happy to have an opportunity to sojourn in the country that has given the main standards and values to contemporary civilization. I am grateful to all my Italian colleagues and TRIL staff that helped me to overcome the difficulties that always arise.
when one changes the habitual life conditions.

I did not have such a great experience with the various scientific structures abroad but I find that TRIL is organized in such a way as to allow a very comfortable and fruitful stay of the fellows in Italy.

I find that science is still attractive for young people in Bulgaria but unfortunately not to the extent as it was before.

I think it will be nice if TRIL continues to work in the same way in the future.
The TRIL had a large impact on my professional activities. During my stay in Italy, Bologna University, DEIS, I studied Beam Propagation Methods for the modeling of integrated optical devices. Now, I am working further on this method and applying it to simulation of photonic structures and optical data storage.

TRIL helped me to study finite-difference methods of solving partial differential equations. Also, after my stay in the Italian laboratory, my English was considerably improved.

I have regular contact with one of my collaborators in the Italian host laboratory. In 2003, I visited Bologna and delivered a seminar in DEIS on my present research activities.

The cultural impact of my stay in Italy was big. It is a country that I would like to visit again. All the problems with accommodation, medical assistance and police formalities were successfully resolved.

I have experience with staying in other laboratories abroad and the TRIL structure is excellent.

There is some decrease of interest in science with respect to the past in Lithuania as well.
My research and professional activities have greatly improved after the research carried out in the framework of the TRIL Programme at the Department of Physics, Parma University. With Italian professors we have common publications and good experimental results in the field of fibreoptic components and devices such as EDFA, fibreoptic sensor for measuring sugar and or salt content in water, white light interferometry from optical fibres. We had common research projects between the Institute of Materials Science (VAST) of Vietnam and the Department of Physics, Parma University, in the period 1999-2004, for the development of materials and components based on optical fibre doped rare-earth elements.

The TRIL programme has been helping us to contact advanced Italian laboratories and active Italian professors and researchers. From this collaboration we can solve many research problems in our country.

We have regular contacts and collaborations with Parma University. Now we have contacts with the Departments of Physics and Engineering in Parma University.

After staying in Italy we could study the Italian culture and history and it is very useful for us. Now I can read Italian newspapers and speak a little bit of the language.

The structure of TRIL is good enough for foreign researchers. But it would be more fruitful if TRIL could help the foreign researcher with financial support for short stays in Italy (such as 3 months) to do some common research with the host Italian laboratories.

Science, especially nanoscience and nanotechnology, is still attractive for our young researchers.

We hope that TRIL will help many of our young researchers in the coming years.
Thanks to ICTP-TRIL I had the possibility to do postdoctoral research in Italy. Unfortunately, at present I have no contact with ICTP but would be happy to get in touch with it again.

During my stay in Italy I spoke Italian and did not have too many troubles in adapting to Trieste society. I cultivated very good friends there.

In my opinion, the main difference between my presence in ICTP in comparison with other laboratories is that ICTP centres the interest on people and their professional careers. Instead, in most other places I have known, the interest is placed on what is for the benefit of the host institution and local researchers. In that sense, ICTP gives a unique opportunity to young researchers, which is difficult to have in other places.

Actually I have not consulted the ICTP web-page for a long time, so I am not aware of ICTP programmes (but it is entirely my fault). On the other hand, I do not know if I, or my students, can benefit from these programmes as I have a permanent position in a European country.

Unfortunately, science, and physics in particular, is becoming less and less attractive to young people. Our students look for careers that, in their opinion, can assure a rapid and “good” job. Money is becoming more important than knowledge. It is a very sad situation.

ICTP is one of the greatest institutions around the world. Many young scientists from the third world have had a unique opportunity for doing research thanks to the ICTP programmes. In the present situation of scientific vocational crisis, it would be wonderful to extend the ICTP activities to European students.

I would be happy to collaborate with ICTP in anyway it considers useful.
I was in the ICTP-TRIL programme for one year and for several shorter periods later. Ever since, I have a close collaboration with colleagues in Italy. I believe that we performed a good job, as can be seen from our joint publications.

TRIL brought me in contact with colleagues from Italy. When contact was established, and since we had common interests, the rest was routine. I still have regular contacts with the Italian host and other laboratories.

The richness of Italian cultural heritage, which I have been able to learn, see and feel, was, and still is, a unique experience for me. The friendship I acquired there was a unique experience, and it has enriched my personal life.

I have been a guest scientist in France and US and the concept of TRIL is comparable.

Unfortunately, I see a decreasing interest in science with respect to the past.

I hope that the TRIL programme will help the other fellow scientists from developing countries as it helped me. Please continue your work for their benefit.
The impact of the TRIL Programme on my professional activity was very important. I had a postdoctoral fellowship at IMM-CNR (Sezione di Bologna) Institute in 1999-2000, where I performed very useful work and obtained personal experience. Also, I produced several scientific publications which, along with others, surely helped me to obtain the permanent position I now have in my country.

Last year I had another stay in Italy, at IMEM-CNR Institute (Parma), supported by the TRIL Programme, where I took the first stab at a very important technique, MOVPE (Metal-organic vapor phase epitaxy) used to fabricate high-efficiency solar cells. This is not achievable in Argentina. I hope this stage will have new and successful consequences on my work.

As I outlined before, TRIL gave me the opportunity of having a fruitful postdoctoral activity with important professional consequences for me, helping to overcome the lack of work that existed in my life at that moment. Nowadays, I am trying to establish a new collaboration with an Italian laboratory, and, in this framework, I guess the TRIL support will always be a huge help to me.

I have regular contact with my colleagues in both Italian laboratories where I stayed.

The cultural impact of my stay was very huge, although Argentinean culture is very similar to that of Italy. To be a stranger forces us to overcome a lot of personal barriers which, in general, produces good results. Italian is a very nice language and I had the pleasure of learning it; also, in general terms, it is very familiar to Argentinean people. Accommodation was always a problem: the rule was the difficulty in achieving a suitable place to live during the long and short periods of my stay. I proposed in one of my reports to build something like a “net of owners” centralized at ICTP in order to provide accommodation to TRIL fellows. Fortunately, I did not suffer any problem related with medical or police issues. However, the permit of stay (“permesso di soggiorno”) is a complication, time-consuming, and may be really mortifying. Perhaps ICTP can make an agreement with Italian authorities in order to automate the procedure at the administrative level of the hosting laboratory.

I notice a decreasing interest among young people in science. I guess that it is a consequence of dominant ideas in the last decades, at least in the occidental part of the
world, about how people have a positive personal development. National states have a big responsibility with regard to science. They have to understand the consequences of science and promote pacifist social development in which science could help.

Please don’t cut out the help for science in developing countries, particularly in renewable energies, which is my field and very important.
Mark Plesko
Slovenia

I worked at the light source Elettra through the ICTP in the machine physics group. Based on the experiences gained there, I collaborated with the Forschungszentrum Karlsruhe and have developed with a team of my students the complete control system for the light source ANKA. I am now one of the top world experts on accelerator control systems. In 2001, my students and I have established a spin-off company that is specialized in control systems for accelerators and radiotelescopes. The company is very successful. We have clients in the major laboratories in the US, Japan, Switzerland and the EU.

There were no major difficulties during my stay in Italy.

I have no contacts with ICTP, but visit my friends at Elettra regularly and discuss about potential business.

During my stay I learned Italian, which I still use now, also for business. There were no serious difficulties.

I worked only at Elettra, so I cannot directly compare the experience with that in other laboratories. In any case, Elettra is a good laboratory, managed well with very good and friendly people.

Science is still interesting, but less with respect to the past. The number of students has decreased, but there are still a few very clever people that study sciences.
Ramchandra Balaji Pode  
India

First I visited ENEA Frascati, Rome, in 1989 and worked with Dr. G. Baldacchini under the TRIL programme. It helped me a lot to establish a permanent link with the ENEA. We are still continuing our contact and now working on the improvement of organic luminescent materials and have published several research papers.

Since 1989, I am visiting ENEA almost every year under the ENEA fellowship. Getting an Italian visa for researchers is very tough. We can’t visit the embassies every time in Bombay or Delhi. If TRIL could help to convince the Italian Government to issue 10 year visitors visas or multiple-entry visas, it would be very nice.

As I said above, I have regular contact with ENEA Frascati, Rome.

My training in an Italian Laboratory totally changed my way of working and way of attempting the various issues of interest. In the beginning, I had the problem of the language, but learnt Italian later on. Now I can understand the language. There was no problem with any agencies like police and medical assistance.

I also worked with the Korea Electronics Technology Institute, South Korea. They are very professional and work on problems of commercial interest. They have joint projects with industries. In Italy, the participation of industries with TRIL laboratories is almost nil. This type of research may help to develop technology, which is totally missing in Italy.

I am aware of the Indian Chapter of India, but never participated in any activities of this Chapter.

The interest of young people in pure sciences is declining. As a final suggestion, I think there is need to involve industries and other institutions in research activities.
In the year 1996, I visited the University of Parma (Host: Dr. Bocelli Gabrieli, CNR) for a month under TRIL after an ICTP activity. I mainly collected the X-ray diffraction data for about 10 small molecules, mostly drugs and organic compounds of chemical interest. We published those results in 7 papers in reputed international journals in the years 2000-03 after submitting my Ph.D. thesis in India. These evnts gave major impetus to my career and I could get an STA (JSPS) long-term postdoc award from Japan and then move to the National Institute of Health, USA.

TRIL helped me to use experimental facilities (collect X-ray diffraction data) at CNR and learn many things from scientists there. It still helps.

I do not have contacts with ICTP but do have contacts with the Italian host Dr. Bocelli. We published a paper last year, which is the continuation of our collaboration.

The cultural impact of my stay was not much as my stay was just one month. But I faced difficulties with accommodation.

I was also in RIKEN at Japan and at present at NIH, USA. The TRIL structure is good in the sense that it helps predoctoral research. The Fellowship was also OK.

I am not aware of the existence of an Indian Chapter of ICTP, probably because I have been out of India for a long time. But I would like to see it strengthened to help many students like me.

Science is still attractive in my country and more students are joining research, although some areas of research are going down.

There should be follow-ups like this. Scientists who contributed or benefited from past visits may have chances to visit ICTP. TRIL has to reach the really poor universities where students should get motivated. TRIL should take care of accommodation as other foreign agencies do. That’s all.
Viorel Pop
Romania

I would like to bring to your attention the following aspects concerning the impact of the ICTP-TRIL programme on my activity:

First of all, I appreciate the opportunity to meet and be in contact with the scientific teams from ENEA Frascati, Rome. I used this chance to complete and reinforce my knowledge in superconductivity and superconducting materials. Of course, my colleagues from ENEA have also appreciated my knowledge in magnetism and magnetic measurements, especially in the study of superconductors by ac and dc susceptibility measurements.

My research experience from the Institute of Atomic Physics, Bucharest and Babes-Bolyai University Cluj Napoca, Romania, offered me the possibility to compare the scientific work in Italy to that in Romania and gave me the opportunity to improve the research and teaching activity in my university. Some examples of these activities are given below:

- Research in the field of magnetic properties of high Tc superconducting compounds.
- Structural, magnetic and magnetoelastic properties of rare earth-3d transition metals compounds.
- The content improvement of my lectures in “Physics of Metals and Alloys” and “Magnetic Materials and Applications” for the undergraduate students and master and Ph.D. students.

The stay in Frascati gave me the opportunity to benefit from the advantages offered by the very good libraries from the Frascati research centers. This helped me to complete the documentation for my research activity and to improve my theoretical competence. It also allowed me to benefit from updated information in the field of superconductivity and magnetic characterization of superconducting materials.

I appreciated very much the opportunity given by the TRIL programme to buy some scientific books and the support for a week-long research stage in a European research laboratory (Louis Néel Laboratory, CNRS, Grenoble, France).

The main difficulties that TRIL helped me to overcome are:

- The exchange of scientific knowledge with valuable research teams from abroad.
helped me to overcome the lack of scientific dialogue.

The high level of my research group at ENEA Frascati gave me the excellent opportunity to improve my knowledge in superconductivity and superconducting materials.

The access to the scientific information in a good library.

The challenge to prove my scientific competence in a conducive environment.

I have a regular scientific collaboration with Dr. Traian Petrisor who worked during my stay at ENEA Frascati.

I did not have any real difficulties during my stay in Italy. The contact with the Italian authorities was positive. I am also pleased to inform you about the cultural benefits of my stage in Frascati:

Thanks to this grant, I learned the Italian language. At the end of my stay, I was able to give a seminar in my host laboratory in Italian.

I had the fortunate possibility to visit a lot of famous cultural and historical places in Rome and Frascati as well.

Thanks to my knowledge accumulated in the Italian language, I had the opportunity to meet a lot of Italian common people and understand their life and habits.

I also worked in some laboratories in France, Germany and Spain. I find your programme to be well organized and consider that it offers an excellent opportunity for foreign researchers to work in an Italian laboratory. Regarding the grant money, I consider that the quantum of the grant is rather low for a senior researcher.

Unfortunately, in the last few years it is increasingly obvious that the young people in my country find science unsuitable for their career. The reason for this is that they find the ratio of effort vs. money unappealing in comparison with other jobs.

Finally, I would like to be better informed about the ICTP programmes.
The TRIL programme was the beginning of my professional career that I am following today and will continue for a long time, hopefully. Presently I am working in the industry that uses the project I was working on under TRIL and this makes the time spent with the programme more than useful.

TRIL helped me to overcome the lack of experience I had at the beginning of my career, which is a huge help. It also helped me to get a direction that I am very happy with.

I have a regular contact with OGS, the laboratory where I was working. I got extremely valuable cultural experience during my stay in Italy. The country will probably play a very important role in my life. The biggest difficulty I had in Italy was with the permesso di soggiorno. I think the law should make a distinction between a scientist and other general visitors. I encountered no other problems whatsoever.

I have worked only in laboratories in Serbia and Montenegro that cannot be compared with OGS and the TRIL programme.

I think that interest for science is growing in my country.
The ICTP experience: the TRIL programme

Gayatri Prakash

*India*

TRIL gave me exposure to work in an Italian Laboratory, which was equipped with modern gadgets. The international collaboration also helped me in my professional activities.

I still have contacts both with ICTP and the host laboratory.

The cultural impact of my stay was substantial. I could learn a lot about the western culture and a new language. However, finding suitable and reasonably priced accommodation and police formalities were the main difficulties encountered.

I actively participated in the activities of the Indian Chapter of ICTP. It must be strengthened.

Science is no more attractive in my country.

The TRIL programme is one of the best joint research programmes. However, this should be followed up by a small financial support for equipment on the basis of periodic evaluation for continuing research activities in the home country.
The TRIL and ICTP connection had a great positive impact on my research activities. It gave me a very strong and continuing experience of internationally collaborative research, which exposed me to newer application of my knowledge. It also helped me professionally and encouraged me in writing books, which are well received by the Indian students.

TRIL greatly helped me in making my research activities international. Even now I continue with some joint research activities with Italian researchers.

The cultural impact of my stay in Italy was very positive. I learnt a lot about western culture. This broadened my horizons and improved my thinking. Furthermore, I learnt a new language. Finding a suitable accommodation in Florence was always a challenge. This was the main difficulty I faced.

Italian Laboratories in which I worked were very well equipped. However, certain grants for equipment and other scientific activities should be made available to TRIL fellows so as to allow some flexibility in programming the research activity without entirely depending on the funds of the host laboratory.

I was actively involved in setting up and running the Indian Chapter of ICTP. I strongly feel that this initiative should be further strengthened both financially and administratively. Setting up similar national and regional chapters should also be encouraged.

I am noticing a strong decline of interest in basic sciences amongst the youth in India, but the interest in applied sciences and technology is growing.

TRIL is one of the best programmes under the able leadership of Professor Furlan that has given lots of international experience to scientists from developing countries. This should continue with all its might.

However, some small recurring grant should be provided to the TRIL fellow on a regular evaluation basis for continuing research work in his home institution, since government funding of scientific research in most developing countries is declining.

Some method to solve the accommodation problem for the TRIL fellow in the host laboratory should be worked out.

Jai Prakash

India
The impact of the ICTP-TRIL Programme during my sojourn in Italy was a great help in my research work and professional activities.

TRIL helped me first of all with laboratory practice (equipment etc.), with the interaction with my colleagues and with specific literature in the research field.

I have regular contacts with my colleagues in Italy and, whenever possible, I have also participated in scientific activities (as in ERICE last year).

The cultural impact of my stay was very good concerning the improvement of the Italian and English languages; no difficulties for accommodation were experienced (and for my family too). Some difficulties with police formalities were encountered.

Young people in my country are very much interested in science but during the last years, because of financial difficulties, many young people go abroad to work and participate in different research groups.

My TRIL experience was very good. This is my honest opinion.
The Abdus Salam International Centre for Theoretical Physics

Adriana Puiu
Romania

TRIL gave me the possibility to work in the framework of interesting scientific programmes, enriching my professional knowledge and list of publications.

It is difficult to know the state of European research without spending time on site. Thanks to TRIL, I had the opportunity to get experience in an updated European laboratory.

I have regular contacts with the Italian host laboratory of ENEA because of continuous cooperation that we have in the field of breath analysis spectroscopy.

The police formalities seem to be a big problem; it is quite a long process because it lasts more than three months to provide us with the “permesso di soggiorno”. This is a big impediment if we need to participate in meetings or conferences abroad. It takes a long time even to prolong an already given permission with a D-type Visa.

I think science is still attractive for young people.

The TRIL Programme gives the possibility to young scientists coming from developing countries to train in advanced laboratories.
I benefited a lot from my association with the research group of IATA-CNR, Firenze, under the ICTP-TRIL Programme. I learnt different methods of time series analysis and got acquainted with work on climatic change. I published an article “Detection of variations in air temperature at different time scales during the period 1889 - 1998 at Firenze, Italy” in Climatic Change, an international journal, based on my collaborative research in Italy. On my return, I have been pursuing research on climate change as an associate project leader in a Network project on climate change with a total budget of US $1,00,000.

The availability of current literature and the interaction with fellow researchers at IATA-CNR, Firenze, helped me in analyzing voluminous climatic time series data and also in writing articles of international quality.

I don’t have regular contacts with ICTP or TWAS after my return to India but want to have some collaborative projects. I seek your guidance and help in reviving my lost links with ICTP. I am still in touch with Dr. Marco Bindi, my advisor at IATA-CNR, Firenze. We jointly proposed a collaborative project for the EU funding; unfortunately, it did not reach its destination on time.

I cherish my one-year stay in Italy as a memorable experience. I enjoyed the love and affection of the Italian people. They were friendly and helpful. Accommodation in Firenze was a major problem. I still feel proud of staying in Florence where great artists, poets and scientists lived.

I didn’t have any experience in other laboratories abroad other than Italian laboratories. I was told that a periodic re-visit programme to ICTP fellows was in operation earlier. I hope the periodic re-visit programme will be revived for TRIL fellows to regularly update their knowledge and maintain continuity with the current research work.

I don’t have access to any information on the ICTP programmes. Please add my email address to your system for sending me information on a regular basis.

I am not aware of the Indian Chapter of ICTP. I have not joined it but will do so soon. I feel that this initiative should be strengthened.

Science is not attractive to young people in our country. They are interested in Information Technology, which gets them good employment. A decreasing interest with
The Abdus Salam International Centre for Theoretical Physics

respect to the past can be noted.

The TRIL fellowship duration has to be shortened to a maximum of 6 months. The fellowship amount should be increased. For the TRIL fellows, revisits of a short duration (3 months or less) should be arranged. The cooperation of ICTP officials was excellent during the fellowship period. Collaborative projects of ICTP and TRIL fellows should be encouraged.
My TRIL fellowship followed directly after receiving my Ph.D. degree from SISSA. This fellowship has helped me a lot in gaining more experience in research and building up contacts with colleagues working in the same field of research. This has enabled me to get a postdoctoral position at the Cavendish Laboratory, Cambridge University. My work at the Cavendish Laboratory, which lasted for more than three years, was very fruitful in terms of research and training. The training and experience received during my study at SISSA, TRIL fellowship and Cavendish Laboratory were invaluable for my research and building up my career at Yarmouk University. I was promoted to Associate Professor (in 1996) and to full professor in Physics in 2000. I received the Addel-Hameed Shouman award in Physics for the year 1995, merit fellowship from the Islamic development bank for the year 1994, ICTP regular associateship between 1994-2001, DAAD (Germany) fellowship in 1998. Since the year 2001, I am conducting a very interesting and fruitful research project with the group of Professor M. Scheffler (FHI-Berlin) on the exact-exchange Kohn-Sham density functional theory calculations.

There are two difficulties that TRIL helped me overcome:
(a) The training one gets during his Ph.D. study is usually not enough. Thus, during the TRIL, I got extra training in research and on writing scientific papers.
(b) Scientific isolation: this is the most important problem facing researchers working in developing countries. I solved this problem by building up contacts with colleagues working in Italy, UK and Germany before going back home, which proved to be invaluable.

I was a regular associate at ICTP between 1994 and 2001, and have visited the ICTP several times during this period. I still come to ICTP from time to time to participate in its scientific activities.

During my stay in Italy there was no problem and I encountered no difficulty. Remember that I had spent four years in Trieste before starting my TRIL fellowship.

I truly think that a follow-up support would be very useful. After one year of work at a certain laboratory or university, one usually does not complete the work he (or she) has embarked on. So, one or two subsequent short visits would be highly important to follow up on the unfinished work.
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

In general, there is still interest in science in my country but the number of excellent students is decreasing with time.

I would like to take this opportunity to thank the ICTP for its continued help and support, through the TRIL and the Associateship schemes.
The ICTP experience: the TRIL programme

Nikolay Rachev
Bulgaria

I was awarded a grant within the framework of the ICTP-TRIL Programme for the first time in 1999. At that time, I was a Research Assistant at Sofia University “St. Climent Ohridski”. In the next few years my scientific employment changed as follows:

2000 – 2001: Assistant Professor, Sofia University “St. Cl.Ohridski”

2002 – 2003: Senior Assistant Professor, Sofia University “St. Cl.Ohridski”

2003 – present: Head Assistant Professor, Sofia University “St. Cl.Ohridski”

In 1999 I finished my Ph.D. thesis and at the beginning of the 2000 obtained a Ph.D. degree in the field of Oceanology.

The results of the work I undertook with the support of the ICTP-TRIL Programme were presented (by me or by my coauthors) in several international workshops.

The main problems that TRIL has helped me to overcome are:

1. The lack of recent scientific literature in my country. There have been strong financial restrictions in Bulgaria during the last decade and the possibilities to buy scientific books and journals are limited. I am very happy to have access to both the ICTP and ISMAR libraries, where I can find the latest publications.

2. The insufficient contacts with leading scientists in the field of physical oceanography. In my country, there are only a few scientists working in the field of numerical simulation of ocean circulation. During my stay in Italy I had the possibility to work and discuss the results with many famous scientists such as S. Piacsek, G. Carnevale, A. Longhetto, E. Salusti, R. Purini, and F. Crisciani.

The collaboration with my colleagues from ISMAR will continue in the future, as I am working with the staff of ISMAR on the project “Present anoxia in the Northern Adriatic Sea, their sedimentary records in historical time, their influences on fishing and benthic resources. Modeling and forecasting (ANOCSIA)”. ANOCSIA is a FIRB coordinated project of the Italian Ministry of University and Research, approved for the years 2004-2006.

My stay in Italy has a definitely positive cultural impact on me. I visited many places connected with world history, enjoying the cultural monuments. I learned Italian and now have the possibility to communicate freely with Italian citizens. During my first visit in Italy, I had some problems finding appropriate accommodation in Trieste, but now I have a lot of Italian friends, so this is not a problem anymore.

I have electronic access to ICTP information. My colleagues from the Faculty of Physics, Sofia University, have regular information as well. We receive posters of the ICTP activities by post.

I think that science is not as attractive for young people in Bulgaria as it was in the past. This conclusion is valid especially for physics and mathematics. The reasons are that these are very hard disciplines to study, it is difficult to find appropriate work in the scientific institutes, and finally, the salaries in the field of science education and research are very low. Young Bulgarian people prefer to study business or law.
The TRIL programme has helped me to specialize in a rare and versatile experimental technique (Cathodoluminescence Spectroscopy and Imaging), which I will set up at my home institution. Besides, it has brought a few good research publications, as follows:

(i) J.K. Radhakrishnan and G. Salviati, Narrow, deep level cathodoluminescence emission from Undoped SI GaAs, Applied Physics Letters, 84 (2004) 197


Working under the TRIL programme in Italy has exposed me to an entirely different way of accessing information and scientific literature. I still have some access to ICTP archives, having registered for the EJDS of ICTP. Its use is limited, because important Physics and Material Science publishers like Elsevier, APS, AIP, and IOP are missing.

I have regular email correspondence with my research supervisor at my host laboratory of the TRIL programme.

The cultural impact of my stay in Italy has been with respect to Italian food and the leisurely Italian life style. I enjoyed both. The main problem I faced was the language. It would be a good idea if all TRIL fellows were given a two- to four-week training course at the ICTP in the Italian language before being sent to their host laboratories. In this way the impact of the Italian culture would be even stronger.

I was not aware of the Indian Chapter of ICTP, even though I work in Delhi. I feel this initiative should be strengthened. Either this information should be placed on the ICTP website or circulated to the Indian TRIL fellows.

I can see that youngsters tend to prefer business and management, because these fields are more remunerative. However, some youngsters who have developed a taste for science (mainly because of some good teachers) still prefer science. The Indian Government is taking strong initiatives to encourage youngstersto take up science.

An increase in the fellowship amount would have a positive impact.
I joined the ENEA in Rome under the ICTP-TRIL Fellow scheme on September 2004 and started work on Cu2O solar cells with my host Dr. Alberto Mittiga. I have submitted a detailed work on Cu2O cells in my visiting report. The major milestones achieved in nine months are mentioned below.

The objective of the work was to optimize the optical, electronic and doping properties of Cu2O for obtaining Cu2O solar cells with maximum efficiency.

Cu2O has received attention as a promising material for cheap photovoltaic power generation because of its theoretical solar cell efficiency, material abundance and the simple process for semiconductor layer formation. Cu2O is a direct gap semiconductor with a band gap of 2eV and is a well-known semiconductor, which has been investigated for a long time. The electrical conductivity of Cu2O, which is a non-stoichiometric semiconductor, is caused by copper vacancies that are accompanied by holes.

The practical applications of Cu2O have not been achieved because of the difficulty in controlling electro-optical properties. However, still Cu2O is an attractive material with high absorption coefficient combined with non-toxicity and low-cost producibility. The spectral response of three samples prepared at low P(O2) =0.27 Torr are reported in Fig. 1. The maximum temperature for sample 52A is 930 C, for 33 C is 1000 C and for 55A is 1050 C. The data show that the sample synthesized at 1050 C has the best spectral response.

These and other data obtained suggest that high temperature stages can be useful to improve the material quality but must be followed by a slow and careful cooling.

International standard laboratories are hardly seen by young third-world researchers. TRIL fellowships help students like me to get exposed to many sophisticated scientific instruments.

I have contacts with the Italian host laboratory (ENEA, Anguillara). Dr. Al-
berto Mittiga is my host there. He is working on a joint publication on the basis of the work described above. I do not have collaborations with ICTP right now, but will try to do it in the future.

During my stay, I had some problems initially with the language, but since I took a course in Italian, I was able to manage. There was a delay in getting the permit of stay from the questura in Rome. But the rest was really good. Being an Indian girl, I was scared about the cultural difference, but was really happy in the end that I had an Indian life in Italy.

This is my first experience in a foreign country. I can say that I lived a beautiful and comfortable life.

I am not aware of Professor H.P. Garg at IIT Delhi, perhaps due to my location in Chennai, Tamilnadu. If there is access to the website, then it will be quite easy to be informed.

There is a tremendous increase in interest in science among the youngsters. More opportunities are required to kindle their zeal to greater heights. Programmes such as TRIL, Workshops, and Seminars are most encouraging for the young scientist. And better opportunities for postdoctoral fellows to carry out individual work will bring a more fruitful result than training fellowships.
Wael A. Ramadan  
*Egypt*

During my training period (10 September 2001 to 10 July 2002) under TRIL, which I spent at the Università degli Studi di Roma “La Sapienza”, there was a very important impact on my scientific and academic career and the specific research I undertook. This can be summarised as follows:

1- Scientific career:
   During the period of training, I worked to realize experimentally a spatial optical soliton on photorefractive crystals, such as BSO-lithium niobate. I was lucky to solve the entire experimental problems I faced, and to achieve very important results. This challenge has left me with great experience in the field. The Laboratory group and I have prepared many publications to demonstrate, for the first time, some new results.

2- Academic career
   i. After I returned to Egypt I was in an active mode, enabling me to finish the supervision of two M.Sc. and one Ph.D. thesis for Egyptian students.
   ii. With the publications mentioned above and the activity in my department I was qualified to move on from a Lecturer’s position to an Assistant Professor’s position.

3- Scientific research
   Because of this training period the experimental work of my research was enhanced and developed. This enabled the host laboratory to present important novelties in the field. Reviewing some important journals and conferences one notices that, after my training period, the group presented more than ten articles and participated in many conferences. The extensive work and novelty, presented in the last two years by the group in the field, makes it one of the most important, if not pioneering, groups in realizing experimental optical solitons in photorefractive crystal. So the TRIL period had, and has, a great positive impact on my professional and research activity.

   The main difficulty that TRIL could help overcome is to enable return visits to the host laboratory for small periods in order to continue the interaction with the host group, thus enhancing research experiences the capability of research work. These short visits would also open the way for my students, through scientific cooperation, to make different contacts in the future. So I think that TRIL could financially support such visits, for example for one month every year for three or four years. These visits could be for the old applicant himself or for him along with his students.

   I still maintain contact via email with the host laboratory, and have a friendship with most of my colleagues there.
The Abdus Salam International Centre for Theoretical Physics

The cultural impact of my stay in Italy is very positive. It is a pleasure talking with Italian people and working with Italian colleagues. Maybe this is because we are all Mediterraneans and we have the same human sensitivity. I do not know if this feeling is common for the other nationalities. There were no problems with language or police formalities. Regarding accommodation, it was difficult to find a suitable apartment for a reasonable rate in Rome. The medical assistance system is very good, but it requires the researcher to know where the office of the specialized doctor is located. Sometimes he does not know which specialty he must seek, and his lack of knowledge of medical terms prevents him from describing his case.

I have no experience with other laboratories abroad but think that the TRIL system is excellent for developing and helping serious young researchers.

I think that science is still attractive for young people in my country.

Concerning medical care, I think it would be better to include the applicant (for TRIL) in the Italian public health system. This is well known to Italian people and it is easy to get help from a colleague.
Assignment to an administrative post makes it difficult to concentrate on research activities. Going through the TRIL programme, one will be able to focus on research. The continued guidance and supervision of experts in the field makes one more confident to finish a project.

I still have contacts with the Microprocessor Laboratory at ICTP. I was able to host an international conference in our university. As a Regular Associate I periodically visit the laboratory. I am preparing another proposal to host another workshop in 2007.

During my stay in Italy everything went very smoothly. Language is very easy to understand. The presence of many Filipinos in Rome made my stay (and that of my family) easy. I like staying in Italy. If given another chance, I would like to have another activity of this type.

The TRIL Programme is more organized than other programmes in which I was involved. But I could not compare the host scientists because the experiences were of entirely different nature.

My term as a Regular Associate of the ICTP has just ended. I regularly visit the website and receive brochures and announcements regularly.

Science is still attractive. The university and the science and technology institute of the government make a lot of efforts to encourage the younger generation to take science courses. The academicians have a way of making science enjoyable.

I subscribe to the vision and mission of ICTP, so will do my best to assist ICTP in my own little ways, such as forwarding announcements of workshops and invitations for scholarships to my staff and colleagues in my country. I wish I could do more.
Pedro Augusto Matos Rodrigues
Brazil

I consider the TRIL programme very important in my research and professional activities. When I went to Italy I was a naive researcher and the period I spent in Italy made me grow up in terms of research skills. The need to interact with different people in an ambience which had many well-established research groups made me change my way of doing research.

I think that the TRIL helped me in improving my interaction with other groups, helped me to do science in an ambience with many research groups.

Nowadays I don’t have regular contact with ICTP or the Italian laboratory where I was a guest. I participated in the programme almost 15 years ago and a few years after I came back from Italy I had a collaboration with the host laboratory. Later on this collaboration ended.

Being a native of a country with Latin culture (Brazil), my stay in Italy did not have a great cultural impact on me. I had some problems with medical assistance but this could not be considered a great difficulty. I think the assistance I got from ICTP and from the host laboratory was pretty good.

I spent two years in the US as a postdoc. In terms of structure and assistance I consider the TRIL much better than the US. For example, in the US, I had no help in renting a place whereas in Italy I had a place rented for me. Therefore from the assistance point of view, it was much easier for me in Italy than in the US.

I think the interest in science, particularly hard science, is very much decreasing in Brazil. In my view, it is a consequence of the lack of scientific policy, funding problems – and last, but not least, very low salaries.

I consider TRIL a very good programme for scientists from the third world.
From June 2003 up to February 2005, thanks to an ICTP-TRIL fellowship, I had the opportunity to join the SYRMEP (Synchrotron Radiation for Medical Physics) group of the University of Trieste and INFN Section of Trieste. During that period, I was involved in research activity on the SYRMEP project, which is related to mammographic breast imaging using synchrotron radiation.

It was a unique opportunity for me to enrich my research experience working in the Synchrotron Radiation Facility (Elettra, Trieste), which does not exist in my country. This kind of experience helped me not only to introduce better properties of this unique light source, but also to understand the impact and benefits of its characteristics to specific medical purposes, above all in the field of mammography. Furthermore, I would like to underline the importance of the knowledge that I obtained by working on dosimetric aspects and exam codification of the SYRMA project that can be useful for the development of this field in my country.

Thanks to the TRIL programme, I had the opportunity to continue to work on my professional experience, which is very important, not only for my personal career, but also as a contribution to my country where, because of a very difficult economical situation, possibilities for research activities and knowledge exchange are very low.

I still have contacts with the SYRMEP (Synchrotron Radiation for Medical Physics) group of the University of Trieste and INFN Section of Trieste.

Very kind and always available staff, and good and well organized services of ICTP, helped me a lot to resolve difficulties, mainly related with the initial period of my stay in Italy (police formalities, bank account, language course, etc.).

The statistics collected by the Department of Physics, University of Novi Sad (Serbia and Montenegro) show a very slow increase of the number of students registered for science in the first year of study.

I would like to thank very much the ICTP-TRIL programme for having given me the possibility of this very important experience.
The ICTP experience: the TRIL programme

Svetla Simeonova Rousseva
Bulgaria

It is really hard for me to be brief about the contribution of the ICTP programmes, activities and events to my scientific career: my life has changed completely since my first contact with the Abdus Salam International Centre for Theoretical Physics in the Spring of 1995 under the TRIL Programme. All the activities listed on my CV since 1995 are due to the wonderful opportunities that ICTP gave me.

The studies I carried out in the Istituto Sperimentale per lo Studio e la Difesa del Suolo in 1995-1996 and 1998 with a grant awarded by the TRIL Programme and the participation in different ICTP activities during my visits as Regular Associate helped me to keep my scientific level, increased my research criteria and gave me new self-confidence because of the worldwide recognition of the results of my research efforts. Awarding me research grants, the ICTP TRIL Programme helped me in 1995 to get out from isolation and in 1998 – to recoup some of the losses I suffered because of a fire in my home Institute, which transformed 20 years of my life as a researcher into two heaps of ash on the ground. In 2002, I completed a monograph entitled “Information bases for developing a geographic information system for soil erosion risk assessments” for obtaining a professor’s grade, which could not be realised without the TRIL and the Associateship Programmes of ICTP, which gave me the opportunity to keep a high level of research, and to establish and keep close contacts with the leading scientists in the fields of soil physics and soil erosion. In 2002 I was selected from among other former participants of the College on Soil Physics to deliver 2 lectures at the 20th Anniversary College organised at the ICTP from 3 to 21 March 2003. In 2005 my ICTP Associateship helped me in obtaining a travel grant for participation in the World Conference on Physics and Sustainable Development held in Durban, South Africa, from 31 October to 2 November 2005. I was nominated as a contact point for Europe of World Network of Physicists working for sustainable agriculture.

I can say honestly that I fell in love with Italy and I do enjoy staying in Italy, combining progress in science with learning more about Italian culture and history, and learning the Italian language. I had only some minor difficulties with accommodation, medical assistance, and police formalities (permit of stay) during my stay outside ICTP.
Unfortunately, scientific positions are not prestigious in my country because of very low salaries and miserable working conditions, so the young people are not much interested in science. I hope that the TRIL Programme will continue giving scientists from developing countries an opportunity to stay close to the international scientific community without leaving home permanently. I wish the TRIL programme all success in its noble activities.
During my stay at the Scuola Normale Superiore at Pisa with TRIL fellowship I was introduced to the exciting field of Biophysics. We started work on MAP Kinase pathways in living cell. This work has been completed and communicated in EMBO Journal. The title of the manuscript is “Dynamical Regulation of ERK2 Nuclear Translocation and Mobility in Living Cells: Spatio-temporal Dynamics of ERK2 in Vivo”, and the authors are M. Costa, M. Marchi, F. Cardarelli, A. Roy, F. Beltram, L. Maffei, G.M. Ratto. This work was presented in the conference “Frontiers in Nano-biotechnology” which was held in Trieste in July 2003. The title of the paper is “Real-time Visualization of Nuclear Import of ERK in Living Cells”.

The TRIL programme introduced me to the fascinating field of biophysics in a good and active research laboratory. The scientific discussion with the coordinator of the biophysics group of SNS, Pisa, Dr. Vittorio Pellegrini, was exciting and highly motivating. I feel that this was a very good opportunity for me.

I am still in touch with Dr. V. Pellegrini (who was my host in SNS, Pisa) and other scientists in CNR, Pisa, with whom I worked during my stay there.

A year ago I received a grant from TWAS to carry out further work related to biophysics in India. In this project I have worked on conformational changes in biomolecules by single molecule spectroscopy. This work will be communicated for publication shortly.

My experience in Italy was, of course, great!

The Secretary of the SNS Laboratory went out of her way and helped me to get accommodation in Pisa and to complete the police formalities. Without her help, I think it would have been very difficult in the beginning.

In my opinion, the laboratory in SNS, Pisa, is on par with the laboratories in the University of Tsukuba (Japan), Ecole Polytechnique (France) and University of California (USA), where I have worked before.

I am not aware of the Indian Chapter of ICTP.

The Indian Government is presently encouraging young scientists in various ways. Science is quite attractive for young people in our country.

Undoubtedly, TRIL is an excellent programme offered by ICTP. However, since it is a fellowship for training, it is difficult for a scientist to get introduced to a new
subject, to learn a new technique and to successfully complete new research work in a single visit. This was my case. I have my own laboratory in India and cannot stay for more than seven months at a stretch in Italy. Also, it is sometimes difficult to get long leave from our institute. It would be better if TRIL could keep an option open to award a fellowship for two or three successive years (for a shorter duration of two or three months at a time) according to the feedback (mutual interest) of the host and the fellowship holder. This would also strengthen the interaction between scientists.
I am involved in ion beam analysis applied to several fields, among them non-destructive analysis of historical materials. Through the TRIL programme it was possible to stay for short time at the Accelerator Laboratory of the Physics Department of the University of Florence. I got some experience and learnt the fine details of the study of ancient manuscripts (inks and paper) and paintings using the external beam system. I collaborated on some measurements. After my stay in Florence, I improved our research on this subject in Mexico. The TRIL programme provided training and research experience, and the opportunity for collaboration and exchange with experts.

We prepared a short report, since my stay was not long, on the analysis of some prehispanic paper-like samples from an offering of one of the Templo Mayor Museum of Mexico. Other papers have been published as a consequence of my stay in Florence but they are based on my own research. I consider that I profited from my short stay. A longer one could be much better. So TRIL helped me to get the fine details on the experimental conditions of the analysis. We have already improved and solved this problem but actual difficulties are getting a suitable budget to replace our X-ray detectors and having a better performance.

The scientific and academic relationships with Professor Mando and Professor Lucarelli have improved since my stay and I invited Dr. Lucarelli for a short stay at our accelerator laboratory at the Universidad Nacional Autonoma de Mexico. We carried out some measurements using a portable XRF system in Museums. The exchange of experience has been very interesting and useful for both groups.

Since I got my Ph.D. in Belgium (I lived in Europe for four years) and can speak some Italian, among other languages, I did not have special difficulties during my stay in Florence. I improved my spoken Italian and appreciated this experience very much. I enjoyed being in such a beautiful city. The people of the laboratory were just great! In the particular case of Florence, the main general difficulties are accommodation and police formalities. Especially for an educated person, the police formalities may prove to be a bad experience. It would be great if the police formalities could be done by the TRIL programme itself.

The spirit and structure of the TRIL programme are good but the communication with researchers and formalities may be improved. In other countries like mine, the
stay and most of the formalities are pre-arranged through the local host laboratories. It is easier to establish the scientific research, schedules, travel and any modification of the programme directly with the contact group, and then only a few formalities are done by the invited researcher directly at the host laboratory.

I think that science is still interesting, especially interdisciplinary research. Nevertheless, the economical conditions may limit the development of science.

I do not receive the TRIL and ICTP information regularly. I have to go and look for it. Especially for the TRIL programme it would be great to receive a short informative message. I truly consider that TRIL is a very useful programme which must be continued, but more diffusion about the programme is needed.
Mohammed Saber  
Morocco

I am very pleased with the TRIL programme, which has allowed me to start my research and to understand life in Europe. I have been able to do my research under the best conditions, to interact with eminent Italian scientists, to exchange ideas, experience the culture in an international environment of peace and make many Italian friends. This has had a very interesting impact on both my private life as well as my past and present research and my professional activities. Its impact will last for the future as well.

I am in great need of:
- Cooperation with Italian colleagues;
- Training and Research in Italian laboratories;
- Exchange of culture and education;
- Italian friends.

I still have contacts with Italian laboratories, in particular with Professor L. Pelliti and his group from the University of Naples and Professor P. Mazzoldi and his group from the University of Padova.

My stay in Italy has had a very interesting cultural impact on my life and on the life of my family. I do not have difficulties in Italy.

I have experiences abroad also with:
1. the IITAP in Iowa, USA,
2. the Max Planck Institut in Dresden, Germany,
3. the ALARICO in Cosenza, Italy.

The TRIL programme is established and more structured compared to the ALARICO programme.

Science is still not attractive to young people. There is a decreasing interest with respect to the past.

I think that the Associates Scheme within the TRIL would be very interesting.
Laszlo Sajo Bohus  
Venezuela

I would say that the impact of ICTP-TRIL is very high. My research and professional activities benefited strongly. The experience was decisive for me to be admitted to the programme to promote researchers, which is an initiative of the Ministry of Science in Venezuela (called PPI with around 3000 members).

The main difficulty that TRIL helped to overcome is the access to scientific publications and personal relationships with colleagues to discuss projects and plan research. The advantage of TRIL is that often collaboration on a firm basis follows; a strong interaction with Italian scientists promotes the exchange of visitors, the organization of scientific meetings, student exchanges and research initiatives. This often means that the equipment and materials employed during the training will be acquired to continue the research activities in home countries. Technology transfer is possible only in a participative way. I am firmly convinced that TRIL is the most efficient way to contribute to the promotion of science and technology in emerging countries. Many administrators in home countries do not understand the importance of financing travel expenses for TRIL and therefore often financial support is also required. However I would like to suggest that TRIL should not finance travel expenses, but only living allowance; this would reinforce the importance and interest of administrators from home countries and probably other sources of participation.

I still have contacts mainly with INFN in Padova (with Professor Giuseppe Viesti, Professor Vincenzo Palmieri, Professor Giuliano Moschini), in Milan (with Professors Ettore Gadioli, Mario Milazzo and Enrica Giordano) at ANPA (which recently changed its name) in Rome with Professor Luigi Tommasino. In the past, I had contact with Professor Battezzati in Turin to study new materials (Fe75B25).

The cultural impact of my stay in Italy was very positive. The Italian culture intrinsically accepts foreigners. People are very helpful, tolerant and friendly; language is not a barrier since Italy is a tourist country. I did not have experience with medical assistance. The police formalities were within the average. Comparison with other experiences abroad should not be made; objectives and situations may be different. However, compared with KFK Karlsruhe (Germany), KFKI-AEKI-Budapest (Hungary), Radiation Centre of Birmingham (UK), Berkeley (USA), and Besancon (France), the TRIL structure is good.
I still contact the TRIL as needed, to learn about the programmes for our Institution.

There is a strong cultural change in my country. Science is not promoted, education especially in the first cycle is very poor, and education often is not the priority in any government programme. Often bureaucracy creates a further barrier. For a request for a financial project, the main interest is not in science but in social impact, social objectives, benefits to the population and what impact factor it will have, how to quantify the result expected using fancy terms. Most often these questions are not answerable. Another barrier is that young professionals, because of the lack of publications, do not have the possibility to bid for financial support. Therefore, people often turn away from research and science. In Venezuela at present, science receives some support but due to the lack of infrastructure, it is almost insignificant. I would like to state, however, that personal initiative is the most effective way to promote science, support young scientists in their dream and give all the necessary back-up. TRIL must play an important role in this process since the only way to change the actual situation is to introduce young professionals to the environment of the Italian laboratories that offer the Italian culture, art, fertile imagination, human values, virtues and humor!

TRIL should be strongly promoted. Financial contributions should be restricted to the payment of living allowance in the host laboratory, and home countries should be encouraged to participate more in helping to finance the travel.
The impact of ICTP-TRIL was very important. I learned new skills in Italian laboratories and, after returning to Argentina, supported my work with the acquired knowledge. The TRIL programme was the key to developing my work in Argentina.

TRIL helped me with the access to bibliography and research equipment. My work together with important Italian researchers was a very valuable experience. I have recent publications with Italian researchers, specifically from the Milano Positron Group where I developed my TRIL programme, in collaboration with Professor Consolati and Professor Quasso:


The cultural impact of my stay was very important for me and my wife. We learned the language in the street and visited important historic places and museums. We did not have problems, the accommodation was very good and all the formalities were only a bit of work.

I think the TRIL structure is very good.

In my university there are a lot of students with interest in science.

I would especially thank Professor Giuseppe Furlan and the TRIL team that in 1996 made my stay possible in the Milano Positron Group. As you can see, there are publications with researchers of Milano even ten years later. Such collaboration was started in my short work in 1996 in Milano within the TRIL programme, but the results of the opportunity that it gave me continue for a long time.
The TRIL Programme enabled me to conduct my work on the dynamics of galaxies, more specifically the problem of dark matter in the early-type galaxies. Through the TRIL Programme and the courtesy of the Department of Astronomy of the Trieste University (DAUT) and the Astronomical Observatory of Trieste (OAT), I was able to get the necessary resources for the successful accomplishment of my work: access to observational data related to the galaxies which I studied, fast Internet connection, access to the astronomical databases, use of the libraries (both ICTP and DAUT/OAT), and access to on-line journals (both through ICTP and DAUT/OAT). Through the TRIL Programme I was able to finish my Ph.D. thesis “Dark Matter in Early-Type Galaxies with X-Ray Haloes. A Spectroscopic Study of Dynamics and Abundance Indices” under the supervision of Professor John Danziger and Professor Francesca Matteucci at the Department of Physics at the University of Trieste. Recently (May 2005) this thesis was awarded the bronze medal “Premio Tacchini” by SAIt (Societa Astronomica Italiana). Two publications (“Dark matter in early-type galaxies: dynamical modeling of IC1459, IC3370, NGC3379 and NGC4105” and “Globular cluster kinematics and X-ray emission in the early-type galaxy NGC1399”) related to the dynamics of the early-type galaxies were submitted and are now in the process of refereeing. Several more publications based on my Ph.D. thesis are in the process of preparation and should be submitted soon.

To conclude, the TRIL Programme enabled me to get in touch, and to deal with, the observations that I also modeled using different theoretical approaches. Prior to my participation in the TRIL Programme my work (in my home country, Serbia) was almost exclusively theoretical because of the difficulty of obtaining high-quality observational material. The TRIL Programme helped me overcome this main difficulty in my research work. Being in Italy the TRIL Programme has also helped me get in touch and exchange ideas with the leading experts in my field (from both Italy and elsewhere).

Since I performed my work visiting at the Astronomical Observatory and the Department of Astronomy I have had many contacts with people at these two institutions. I also have contacts with another TRIL member (presently at the Trieste Observatory), Abouazza El Mhamdi. With TWAS I do not have any contact.
My stay in Italy influenced me very much culturally: I was able to visit a significant number of important sites related to science and art (such as Rome, Venezia, Firenze, and Accademia Nazionale dei Lincei). I was also able to buy a certain number of books and movies, which are important to me. I wish to stress that the problem of language was greatly alleviated with the ICTP Italian course organized for the scientists, which I attended. I did not have any problem with the accommodation. Medical assistance was great (both for me and my wife, especially, at the moments when she needed it very much). As for the police formalities, I can say that everything was OK: the people at the Visa office and the Questura helped me very much when I had to go home because of a serious personal situation and my permit of stay was not yet ready. In general, I am very satisfied with how all the possible difficulties were resolved.

I do not have much experience with other laboratories and institutions. I am familiar with the situation of the Astronomical Observatory in Belgrade. The comparison can only be made with the Trieste Astronomical Observatory: the Trieste Observatory has many more resources at the moment.

I still receive the ICTP information through the ICTP mailing list and mails sent by the TRIL team.

Unfortunately, from what I hear, there is a decreasing interest in science (especially for physics and mathematics) in Serbia with respect to the past: it is obvious from a smaller number of enrolled university students.

I would like to thank the TRIL Programme for everything and wish a successful future for it!
The ICTP experience: the TRIL programme

Dirtha Sanyal
India

The ICTP-TRIL fellowship helped me to carry out work in a very good experimental laboratory. In this period I have done some experiments with unprecedentedly low energy (down to 0.1 eV) positrons from the new positron-molecule spectrometer at the Trento “Positron and Electron Physics Laboratory”. Our investigations were mainly concentrated on low-energy positron interactions with molecules, especially important for their biological relevance.

This experience will help me a lot to carry out research in the future as well. We have already communicated one paper in Journal of Physics B. We are preparing other manuscripts which will be communicated shortly.

Instrumentation with high precision is a requirement for scientific measurement, which is lacking in our country. The combination of ICTP-TRIL and the Trento University has provided me with an opportunity in this regard.

I have regular contact with the host institute. Actually we are still collaborating on the preparation of manuscripts, which are the outcome of my stay in Università degli Studi di Trento in Povo, Trento, with the ICTP-TRIL fellowship.

The cultural impact of my stay is very positive. Actually I had no language problem, and the accommodation was very good. For this I am very much thankful to my host Professor A. Zecca. Police formalities were very simple. I believe that the medical assistance is very good.

I have very little experience with other laboratories, but I think the TRIL structure can compete with other laboratories on equal footing.

I don’t have much information about the Indian Chapter of ICTP.

I think science is still attractive for young people although the job opportunities in basic sciences are gradually decreasing compared to other professions, e.g., computer-oriented jobs.

The increase in the number of fellowships for short periods may be considered as a useful addition.
Manoranjan Sarkar  
*India*

Immediately upon completing my Ph.D. I was offered the TRIL Fellowship to work at the Institute of Scientific Research & Technology at Trento (IRST) from 1984-1986. At that time, I had to work on the micro-analytical part of a Scanning Electron Microscope. That area of research was almost a new field with respect to my earlier research. It took me almost a year to acquire sufficient knowledge to start working in this field and, finally, we were able to publish a few articles in international journals. The most important impact on my research career of the TRIL programme is that it gave me an opportunity to gain self-confidence to work on any new field of research. Through interactions with other colleagues at IRST, I also acquired some knowledge of new topics such as X-ray Diffraction, Ion Implantation, and Auger Electron Spectroscopy.

While I was working as a faculty member in the Department of Physics, Dhaka University, Bangladesh, we had practically no grants for research activities in the Department. A generous grant of $5000 from TRIL and $4000 from TWAS helped me to purchase some equipment to set up an Energy Dispersive X-ray Fluorescence (EDXRF) Laboratory at the Department of Physics, Dhaka University. In that laboratory, a few students were later trained for their M.Sc. degree.

At present, at the Saha Institute of Nuclear Physics where I have been working as a faculty member since 1996, we have reasonable research grants every year and so grants from outside are not often required. But as a former fellow of TRIL, it might be helpful for me to keep abreast of the new developments in my research field if once in two or three years a visit to an Italian laboratory could be arranged by TRIL. This could also help in continuing collaborative work with Italian laboratories.

I still have contact with the laboratories that I visited. After my first visit to Italy as a TRIL Fellow, I attended a few courses at the ICTP and visited different laboratories with support from TRIL.

During a three-year stay in Germany as a DAAD fellow, I had the mistaken impression that all West European nations are culturally alike. But my ideas changed when I visited Italy through the TRIL Programme. I was very much impressed by the culture of the Italian people. To my surprise, I also found a lot of similarities between the Indian and Italian people. Being impressed by their culture, I wrote a book on Italy in my mother tongue (Bengali) narrating my personal experiences. The book is now in press...
and will be published in a month’s time.

Initially, I had some problem with the language but with the sincere help of my Italian friends, that problem was solved in two or three months. The initial accommodation problems were also solved by my friends. There was no problem with medical assistance or police.

As I said, I had been at the University of Bonn during 1978–81 as a DAAD Fellow. Comparing the DAAD structure with that of TRIL, I would like to make the following suggestions: in Germany, before we were sent to the universities to start research, we had to take a compulsory intense German Language Course (four to six months) at a Goethe Institute. I would suggest such a compulsory language course for new TRIL Fellows. Such a course would definitely give the fellows a chance to come closer to the people by enabling them to know their culture better. Moreover, communications with scientific staff members who normally hesitate to speak in English would also be easier.

Every three years, DAAD has a re-invitation programme for its former fellows who remain active in research after their return to their own countries. This type of programme should also be introduced in TRIL. This would help the former TRIL fellows immensely to keep in touch with new developments in their fields of research. For such a programme, the former fellow could be given the choice to select any laboratory in Italy where he would like to work. This is important because with the passage of time, sometimes the earlier Italian host or the former fellow changes the field of research. So re-invitation should not be restricted only to the earlier host laboratory.

As a former fellow of DAAD, I am entitled to receive books worth Euro 300 per year and this continues throughout the whole academic career. Such support could also be extended by TRIL to the former fellows.

I have access to ICTP information but do not receive any information or new announcements in my email account. While in Bangladesh, I used to get printed matters regularly.

Science is definitely still attractive to young people in my country. But engineering and medical streams are, in general, more attractive. Very few good students are opting for pure science these days.
The ICTP experience: the TRIL programme

Deep Sarmah
India

I attended the ICTP Plasma School during the autumn of 1999. The school not only augmented my knowledge of plasma physics for my Ph.D. studies in India but also helped me to find useful references in the ICTP library.

During the ICTP-TRIL Programme (7 October 2003 to 31 December 2005) I received splendid financial help from TRIL, not only as a salary but also to visit scientific conferences and meetings. I benefited from the very warm and cordial supervision of Professor Massimo Tessarotto, which helped a lot.

My main difficulty, which the ICTP-TRIL Programme has solved, was to get financial help. Useful scientific journals and books are beyond reach in more than 95% of Indian universities and research centers primarily due to their high cost and to mismanagement. The ICTP library has solved this problem. I received very careful attention from my cool and ever-smiling supervisor Professor Massimo Tessarotto. His readiness to help me in all matters was very encouraging.

I am in contact with my host laboratory as I am still working in the CMFD (Consorzio di Magnetofluidodinamica) Group. The work is to be completed by 31 December 2005.

In Italy the habits and social structures have a positive impact on me. I like Italian food. On other issues India is a much more conservative country than Italy in my opinion. Unlike in India, harassment of the individual by society and the administration is quite absent here.

Language remains a problem but most Italians cooperate with their kindness. Food and accommodations are costly, medical assistance is good. Police formalities take a very long time for the processing of the permit of stay and its renewal.

My experiences abroad are much better than those in Indian laboratories.

I am not aware of the existence of an “Indian Chapter of ICTP”. I have no opinion on the strengthening of such an initiative. It might be useful if implemented properly.

Usually IITs and a few science centers in India are resource-rich due to direct Central Government assistance. Apart from IITs and a few other institutions, most of the Indian universities do not have minimum requirements for carrying out scientific research.

Young people have a decreasing interest in science in recent times due to difficulty...
in finding a suitable job in India (apart from medical sciences). I have observed a similar kind of anguish among young Italian research students (a good percentage of my Italian friends at least!) because of their difficulty in finding a suitable job with their degree. Although it is not comparable to the Indian situation, in my opinion, it is beyond corrective measures!
For me, the exposure to cutting-edge research at an early stage of my career in the area of surfaces and interfaces has been most beneficial. The confidence resulting from this exposure is most important in the career growth of any scientist. Since the ICTP-TRIL programme focuses on postdocs who are at the impressionable stages of their careers, this is a most important aspect of the programme.

Personally, many of the tools that I had learnt and used in Rome and Trieste during this programme (1988-1991) dedicated to the electronic structure of surfaces and nanomaterials have been most useful for my own research now in the area of nanomaterials. The understanding of the electronic structure of nanoscale particles that I gained then has been useful in molding my own research programme in India. My research work has been most productive and a large measure of the credit goes to this training in Italy.

In my own case, I faced a certain amount of scientific isolation on my return to India at the initial stages of my career. Though I am well established now, periodic visits to different laboratories in Italy at that stage of my career when I was still starting off in India would have been most useful. This is something that TRIL should look into, and to maintain links with past scholars too.

I don’t have any contacts with my host laboratory anymore. This is mainly due to the fact that I have changed fields since returning to India. Had there been avenues for maintaining contact with my old group at Tor Vergata and Sincrotrone Trieste, or with other new groups in my new area of interest, it would have been useful.

During my stay in Italy, the language was a big problem initially. Once I learnt Italian, life became much more pleasant and I could appreciate the local culture quite readily. Accommodation and medical assistance were not much of a problem. Some encounters at the Questura trying to obtain the Permesso di Soggiorno were rather difficult. All said and done, the stay in Italy was most enjoyable and after traveling to different places in the world, I still consider Italy my second home.

I have worked also in France, Japan, Australia and the US. It is certainly much easier to come up to speed in the US and Australia (knowledge of language helps). I consider working in Italy much easier than in either France or Germany (my assessment of this is that Italians are intrinsically friendlier and warmer than the natives of
The ICTP experience: the TRIL programme

these other places!). The structures of the two laboratories that I worked in Italy (Rome and Trieste) were quite different from each other but both highly educational in their own way.

Just one suggestion here: there should be a one or two-month stay in Trieste for TRIL scientists prior to leaving for different places. There could be an introductory programme that explains Italy and its culture to the trainees and the teaching of basic Italian. I find that the knowledge of Italian is essential and English does not get me very far in Italy!

I do access the net for updates in TRIL programmes. I would appreciate receiving a newsletter from ICTP about the TRIL activities and would also like to participate again (if possible).

Not surprisingly, I am not aware of the Indian Chapter (many things work like this in my country!). I would love to join it and help strengthen this initiative.

There is a decreasing interest in science among the younger generation. This is to a large extent due to India’s emergence in IT.

The ICTP needs to strengthen bonds between past fellows and the existing team. Such interactions would help us improve the programme, and make it more attractive for young scientists. It would also help foster ties between the past fellows and young scientists in Italy. I would be most happy to facilitate and contribute to this interaction in the future.
I have no contacts anymore with my host laboratory or ICTP.
Ho imparato a parlare la lingua italiana. (I learned to speak the Italian language.)
I am noticing a decreasing interest in science with respect to the past.
I was in the TRIL programme at Turin University during 1987-1988. During that period, I also had close contact with the Microprocessor Laboratory at ICTP, Trieste. In TRIL, I learnt the technique of developing 32 bits microprocessors to keep ahead on the embedded system application in China. Then I was involved in the SSC projects in the US for two years on electronics. Since 1994, I have been a Professor in the Engineering Physics Department of Tsinghua University, China, where I give lectures on Nuclear Electronics, Embedded Real Time Operating System and the Application of Microcontroller. I supervise Ph.D. and Masters students to use the Microcontroller for applications in high energy physics. With this experience, we obtained funding from foreign companies, industry, and also the Chinese National Funding Agency. With those funds, we finished many projects and some are still going on smoothly, including the CERN LHC high energy physics experiment cooperation and Nuclear Research Engineering in China. I have now graduated many masters and Ph.D. students. In the last ten years I have published five textbooks, translated two English books into Chinese and also published many papers. Most are in Chinese.

After my visit to Italy, I brought back to Beijing the technique of 32 bits microprocessor development and also a VME101 board, which was the first VME board in China at that time. Based on that, we developed the first VME DAQ System for the Beijing e+e- Collider. TRIL paid for the board (around 700 USD). It did help me a lot. At that time, the financial situation was quite difficult. Without this contribution we would have needed at least a few tens of thousands of dollars to get it commercially.

I had regular contacts with the microprocessor laboratory of ICTP until 1996, when the 4th International Embedded RTOS in Physics training course was held. I then lost contact with the microprocessor lab in ICTP because of budgetary problems.

I collaborated very happily with Italians for many years. The Chinese and Italian cultures have many points in common. The main difficulty in this cooperation with Italians is the visa application formalities. We had some collaboration with Padova University in CMS cooperation with CERN. I sent my Ph.D. students there to make detectors for CMS. My students were highly appreciated. The budget may have come from INFN. The main difficulty, again, was the visa application for Italy. If Padova University wishes a visitor to extend his stay for three months or six months. I don’t understand why he should back to Beijing for the extension! He may even fail to get the visa in the Italian Embassy in Beijing.
Compared to other laboratories in Europe, my own experience and that of my students is that TRIL is the best. Life in Italy is much easier than in other places like Germany, CERN, and NIKHEF in the Netherlands. The difficulties in other laboratories are housing problems, lunch problems, and air ticket problems. All that does not exist in TRIL. The only thing to do is to work hard.

I haven’t had contacts with TRIL for nearly 10 years. If possible, I would like to re-establish the cooperation with TRIL for my young faculty members and Ph.D. students. The research environment in China is much better than 20 years ago. Italian scientists are also most welcome to come to China to do research and give lectures. The personnel exchange should be in both directions. Thank you TRIL.
Many thanks to the ICTP-TRIL! The programme should be the most important training stage in our research and professional life. What I can say is I am becoming a scientific researcher rather than a scientific worker following this programme. I always repeat what Professor D. Nobili once told me: “Don’t give up the essential Chinese tradition in scientific research: deeper and deeper, even in a small point. Your harvest must be from that point.” He is very proud of his solid research interest on the kinetics of electrical deactivation of silicon in which his long-lasting passion has affected, and will continue to affect me, in my professional career.

The main difficulty that TRIL helped to overcome is this: how to distill the essential physical significance from the data of the experimental results?

Unfortunately I don’t have regular contacts with ICTP or the Italian host laboratories. The main reason is my busy schedule arising from both the management of the two departments in my Institute and my efforts to raise research funding, and also partially because my research interest (optical thin films) in China is a little different from the one in CNR-LAMEL (semiconductors).

Actually I believe that the Chinese and the Italians have a very similar life style. Most of them are so charming and accommodating. I have experienced quite a friendly life in Italy and I am still impressed by it. As a matter of fact, the cultural impact of my stay can be expressed by the question: why are the Italians and the Chinese so much like each other?

Of course, language was a little problem since we didn’t speak Italian. My accommodation conditions were quite good because I stayed there with my family and rented a good apartment. I met with a problem with medical assistance when my daughter had a fever. The difficulty was that I didn’t know which hospital I should go and how much I should pay for treatment. Also I was told by other Chinese colleagues that once my daughter was sent to the hospital we would not be allowed to stay with her. With ICTP’s documents, I never had a problem with police formalities.

I had another experience in Reading University, for a one-year period. TRIL ensures that the laboratory has an open attitude to foreign visitors, more than the lab in UK. I was very impressed by what Professor Nobili said: “TRIL is set up for you to know everything that we are doing in all of LAMEL, not only in the group.” He told me: “You should ask anyone any question you have and visit any lab and discuss with any researcher whatever topics you want to understand.” I felt that I was a real member
of LAMEL and not just a visiting scholar.

I absolutely believe that it would be fruitful to have a Chinese Chapter of ICTP.

I believe that science is attractive for young people in China because of the efforts on the part of the Government. Unfortunately I am noticing the trend that some of the outstanding young researchers don’t believe that science is the essential base for a country’s development, partially because of the unfairness of our country’s scientific system.

I really feel an incentive arising from ICTP with this questionnaire, I hope to have regular contact with ICTP.
ICTP-TRIL is an excellent source for research career development. I have developed through the TRIL and ICTP programme and need the continued help of these programmes. Now we have good gas sensors, I have published 44 research papers in international journals, I am doing good research work in my country and advancing my career. I hope that these programmes will remain useful for developing countries and that they advance the careers of a number of younger people.

The main difficulties that TRIL can help me to overcome concern ideas to implement in the tribal area in India, where I am working. Through the TRIL programme, I have done excellent research in Bologna with Dr. Dori and implemented the gas sensor programme here in the tribal area. The research has come to the international level. I hope the TRIL programme will help me and other researchers like me in the future.

Regards to Professor Furlan and the TRIL programme.

I have regular collaboration with ICTP and TWAS. The TWAS has sanctioned a research project in the year 2002-2003. The project has been completed and we have submitted the technical report.

Everything is very nice in Italy. Dr. Dori has arranged all the facilities for me and my family. The TRIL structure is excellent in comparison to other foreign laboratories.

I have still contacts at ICTP, TWAS and other programmes. I need more TRIL help in the future.

I have been a Life Member of the Indian Chapter of the ICTP since 2001.

Science is still attractive for the young people in my country.

The TRIL programme should be continued for the old as well as new fellows. For old fellows, it would be useful to have visits arranged every two or three years. I hope TRIL will continue with the further development of new ideas of science.
I am working as scientific officer at the Radiological Physics and Advisory Division of Bhabha Atomic Research Centre, Mumbai, India. I am involved both in research and development (R&D) in the field of medical physics as well as in radiological advisory services for radiotherapy centers in India. Specifically, I am responsible for the development of dosimetry methods and tools applicable to radiation therapy as well as development, update and review of quality assurance procedures and protocols for radiotherapy systems and sources. I am a faculty member in the postgraduate programme in medical and radiation physics at (i) RP&AD, BARC, Mumbai, (ii) Anna University, Chennai, India, (iii) Mangalore University, Mangalore, India, (iv) Bharthiar University, Coimbatore, and (v) Calicut University, Calicut. I worked as a member of a task group appointed by the Chairman of the Atomic Energy Regulatory Board (AERB), India, for review and harmonization of a syllabus for training of radiotherapy technologists. I am also a member of the medical linear accelerator committee of AERB. I am a consultant for indigenous development of medical electron accelerator and telecobalt units. These two devices are used for treatment of cancer patients.

Planning a systematic approach to carry out an experiment, physical explanations of the results obtained, refinement in the way of error analysis (determination of uncertainty) and presentation of the work done in a proper manner were some of the issues for which I got very good ideas under the TRIL programme. Hands-on experiences with the equipment and devices of modern technology used in radiotherapy and patient dosimetry and quality assurance during radiotherapy treatment were the most important aspects of my training as TRIL fellow. Technologically, radiotherapy is a rapidly growing field. The opportunity to work with equipment and devices of recent technology will definitely be helpful for me, in particular, and for the whole Indian medical physics community, in general. As I am one of the advisors for medical physicists in India, the knowledge and the experience gained by me will be disseminated to them quite effectively.

I have contacts with Professor Leopoldo Conte, Insubria University, Varese, Italy, through email and always receive his guidance. I do not have regular contact with ICTP.

Italy is a naturally beautiful country. Its varied cultures are a source of inspiration.
of everybody. During my stay in Italy, I was having a little language problem in the beginning.

I am not aware of an Indian Chapter of ICTP. I can contact Professor H. P. Garg on receipt of his email address and will join this Chapter.

Science is a very interesting and attractive subject, particularly for young Indians. The ICTP-TRIL programme is an important programme for people in developing countries in general and for Indians, in particular. It should be continued in its current format. The frequency of medical physics programmes at ICTP should be increased.
Ahmad Shoaib
Pakistan

I was indeed selected for TRIL in 1983 to work in Rome University but did not take up that offer as I went, instead, to the UK for a postdoc position. Sorry I cannot answer the questionnaire. I am, however, deeply indebted to ICTP as a centre where one could go to learn and, later on, contribute in one’s own country. I have benefited from ICTP’s unique generosity and remain grateful for it.
TRIL has had quite an important influence on my professional career by establishing initial contacts with the host laboratory, and allowing me to work with top experimental equipment not available at that time in my home laboratory.

I have never interrupted my professional and personal contacts with Dr. S. Debenedictis (CNR Bari).

At the very beginning (1991-92), a different language and mentality posed the main difficulty of my stay in Italy. Since then I have surely absorbed a part of (southern) Italian culture. Since 1999 I have been married to an Italian citizen.

I have had no equivalent experience (in the sense of the length of the stay) in other countries; therefore I cannot make a comparison with the TRIL structure.

It seems that science is beginning to be attractive after a long stagnation, especially since the Czech Republic has joined the EU and with the progressive improvement of its national economy.
I was awarded a visiting scientist fellowship twice under the ICTP-TRIL programme: in 1991-92 for nine months in the field of Medical Physics, at the Institute of Physics, University of Ferrara, Ferrara, and in 1996-97 for one year in the field of Reference Dosimetry in Proton Therapy at Institute of Physics, University of Ferrara, Ferrara. Before my visit to ICTP, I was not much aware of international standards of research, though we were publishing our papers in the international journals. In my long visits to ICTP, during which ICTP allowed me to visit Professor Cooper’s laboratory at Warwick University, Coventry, England (related to my research work) and attend two conferences at ICTP (one on Radon Monitoring and the other on Medical Physics), I had the opportunity to work under the guidance of Professor E. Casnati. In Professor Casnati’s group, I have spent most of my time working on the research fields mentioned above. I will not go into the details of the work done at Ferrara, as the work is mentioned in detail in the research papers that resulted.

Besides the publications, the most important aspect that I have learned from my visit to the ICTP is the research-oriented mental development, with the help of which my group has published a number of international-standard papers (40 papers in national and international journals; 24 full papers in the proceedings of national and international conferences, workshops or symposia and 64 abstracts in national and international conferences, workshops or symposia). After my visit, my colleague Dr. B.S. Sandhu and I established a large research group with four research fellows presently working on different aspects of the Compton scattering process. In spite of small research problems, the group is working well.

Exposure to research activities going on at ICTP and systematization of work at the Institute of Physics, Ferrara University, and also the visit to the University of Padua and the University of Bologna encouraged me to explore various aspects of research work at my institute. That is the reason I have established my research group. The main difficulty that my group is facing is the radioactive source. We urgently need 241Am (59.54 keV gamma ray source) radioactive source of strength about 2 Curie. In a separate letter, I shall send you the details regarding source and price. Presently, I cannot afford the funds to purchase it. One of my students is to work with it on the topic of non-destructive testing of samples of industrial, agricultural, medical and environmental interest. I hope that ICTP will help me in this regard.

I remain in touch with ICTP through Internet. I am aware of the research activities
The Abdus Salam International Centre for Theoretical Physics

The ICTP experience: the TRIL programme

going on at ICTP and even other reputed laboratories related to my field. I wish to share my views with the scientists of the world by joining the College on Medical Physics being held in September 2006. I hope that the ICTP will allow me to join the course and assist me with financial support. My future plan is to work on the topic “medical imaging” of the objects for non-destructive testing. I shall be able to discuss the topic with other groups during my ICTP visit. I am also in touch with the Ferrara laboratory. Professor Tartari is now working on medical imaging and non-destructive analysis of samples using radiation techniques.

From the cultural point of view, Italian culture is very rich in science, sports, industry, architecture, films, etc. In general, I have not faced any major problem thanks to Professor Casnati’s group (Professor Baraldi and Professor Tartari), who helped me all the way. Regarding language, I faced a problem during the first few months of my first visit, after which I was able to understand the Italian language. Fluency of speech has persisted.

Regarding accommodation, during both my visits, I stayed at the same place in Ferrara. It was comfortable, but I spent most of the time in the laboratory, except the sleeping hours in the house. Regarding medical assistance, by the grace of God, I remained medically fit during both of my visits. Regarding police formalities, I had to visit the police station twice during my visits to complete the formalities to stay in Italy, as we are provided with a visa for only three months from India (perhaps it is a policy matter). Regarding meals, Professor Casnati helped me to get the permission for a meal in the hospital mess that opens every day. In summary, I have not faced any major problems. The purpose (namely, research) for which I visited ICTP and Ferrara was fulfilled. All the staff at ICTP and Ferrara was very cordial, especially the librarians. I am very fond of reading books regarding my research topics and they helped me a lot.

ICTP allowed me and provided me with financial assistance to visit the Physics Department, Warwick University, Coventry, England, in Professor Cooper’s laboratory (well known for the Compton Profile studies) in 1991 for 15 days. During this time, I also visited the Physics Department, Birmingham University, Birmingham, for discussions with Professor M.C. Scott. At that time, he was working on the bone-lead analysis problem. The facilities, working environment and research areas in Italian laboratories are on par with the laboratories I have visited, with the discussion part and cordial atmosphere having the upper hand in the TRIL structure. At ICTP the secretarial staff are like family members and they help the scientists at all times.

I am in touch with ICTP through Internet regularly and access the information I like, except that I cannot access some full research papers related to my work from the ICTP library. Is there any procedure to access full papers in the library?

I am aware of the Indian Chapter of the ICTP and am its Life Member. For the last
two years I have not received any information from the Chapter. Professor H.P. Garg is working on an important field, i.e. renewable sources of energy, this being the need of the hour as the other sources of energy will be depleting with time. Once I contacted Professor Garg to work with him, but he has not responded. In my region, nobody other than Professor Garg’s group is working on this problem.

I agree with the view that there is a decreasing interest in science with respect to the past. This trend is noticed globally. I think that people are more materialistic nowadays as compared to the past. Everybody is in a race to earn more money for luxury and as you know there is not much money involved in science and one has to work hard. Now the young people, with a small number of exceptions, are going for the management studies in which the probability to earn more money is higher.

I have no negative remarks about ICTP during my visits. I have learned a lot from my visits. I want to be in touch with the ICTP in the future too. I think that the Associate Programme of ICTP is a useful alternative. Kindly let me know how to apply for that Programme. Also, kindly consider my request for the requirement of the radioactive source, so that my research work may not suffer. There is one suggestion for the travel grants to the scientists. You have allowed us to travel by our own country’s airlines. These flights are costlier than other countries’ flights especially in India. If you allow us to travel on any airlines, ICTP can save a lot of money and use this money for some other research purposes. Also the library facility should be freely accessed electronically, as our libraries are unable to purchase costly journals.
Kamal Singh  
India

My training, research and scientific participation under ICTP-TRIL has played a vital role in pursuing research in solid-state ionics in general and solid-state batteries and electrochemical gas sensors, in particular. The rich experience gained during my visit to Italy has fetched me a good number of research grants from various funding sources in the Indian Government. Concurrently, I have been able to build my own laboratory in the Department of Physics, Nagpur University, Nagpur, with highly sophisticated test and measuring equipment, along with analytical instruments and materials preparation facilities needed for carrying out research in materials science. A good number of research papers and a Ph.D. are the result of active research in this field. Due to all these achievements I was appointed Professor of Physics in the Amravati University in 1995 and at Nagpur University in 2000. Now I head the Physics Department and am involved with teaching and research.

Visits to various laboratories under TRIL have enriched my knowledge, provided a flat forum for discussion with eminent scientists and exposed me to various experimental procedures and techniques. Also funding for spare parts has facilitated the completion of our experimental set-up for electrical characterization. Funding from TRIL for attending workshops and seminars and fellowships for research will help me immensely to do high quality research.

I had regular contacts with ICTP till 1995. I wish to renew regular contacts and collaboration.

The cultural impact during my stay was very significant. I have developed speaking ability in Italian.

I also worked in a laboratory in Sweden (Uppsala University) and the TRIL structure is on par with it.

I am aware of the existence of an Indian Chapter of ICTP.

There is a trend of decreasing interest in science with respect to the past.

Senior TRIL fellows should be encouraged to review their contact. Collaborative programmes should be encouraged for starting work in new areas.
We are actively involved in the development of passive multidetectors stack (referred as ANPA stack), which makes it possible to obtain the spectrometry of cosmic ray neutron with sufficiently high sensitivity for both civil-aviation and mountain altitudes. The stack for neutron spectrometry consists of bubble detectors and different types of track detectors based on the registration of neutron-induced recoils and fission fragments from neutron-induced fission reactions. These detectors are being calibrated at several accelerator centers (TSL Uppsala, CERN, etc.) in order to improve our understanding of their response to all the components of the cosmic radiation field at aviation altitudes.

The training at ANPA laboratory has enhanced my knowledge in the field of cosmic radiation and its measurements. We have also used different theoretical codes (CARI, EPCARD, LUIN) for the estimation of radiation doses at aircraft altitudes. I have offered my services to Air India for the calculation of radiation doses at aircraft for long-haul flights. I am also thinking of offering my services to Sahara-India.

The TRIL fellowship helped me a lot in my academic career. I became Professor in my university. I started work in solid-state nuclear track detectors. Still, the TRIL fellowship can help a lot since very good work is going on at Elettra using Synchrotron Radiation.

I still have regular email contacts with Professor L. Tommasino, APAT, Rome. My Italian stay has had a very good impact on me. I am unable to forget anything even today. People are very cooperative. I did not find any difficulties anywhere.

I also visited ISKP, Bonn, Germany, and CERN, Switzerland, during my TRIL fellowship. There is no doubt that the TRIL fellowship is one of the best.

I would be very happy to receive information about the ICTP programmes (including TRIL) through electronic mail.

I know the Indian Chapter of the ICTP. I am going to be a member of this Chapter. I would like to organize a get-together in the near future.

Science is still attractive for young people in my country.
The stay at the host Italian Laboratory (Department of Physics, University of Genoa) and at ICTP provided an excellent opportunity for learning several new experimental techniques, which were not available at my home university. The interaction with the scientists in Italy provided new ideas to work on and pursue. During my stay in Italy, the area of high-temperature superconductivity emerged. The activity started at the host laboratory was continued on my return to the University of Hyderabad. Overall, it was a very rewarding experience professionally.

The exposure to new experimental facilities was one of the important contributions of TRIL. TRIL can still help in this area as the technology is changing fast and updating the experimental skills is very important in order to achieve new results.

Living in Italy provided an opportunity to understand the Italian culture. The language, food, lifestyle, social life, etc. were all new to me. The main difficulty (for a few months) was the language. The scientists at the host laboratory, however, were very accommodating and this difficulty was not felt while interacting with them. The colleagues at the host laboratory helped me a lot in overcoming the problems of accommodation, medical assistance, police formalities etc.

I would suggest that the details of the research work plan should be decided before the visit is finalized.

I am a member of the Indian Chapter of ICTP. This initiative could be strengthened, perhaps, by setting up ICTP Chapters at other Indian Institutions.

There is a decreasing interest in physics among the young people in India.

The TRIL programme should invite research proposals for collaborative activities and visits between the Italian Laboratories and the scientists who visited once before under the TRIL Programme.
The impact of ICTP-TRIL on my activity is that I got enough material for my Ph.D. TRIL helped me because I was focused on research. In Croatia I am occupied with less creative activities, usually expending great effort in teaching a great number of students.

I still have contacts with my host laboratory. I have prepared announcement materials with my Italian colleagues.

I will not speak about the cultural impact of my stay in Italy. Europe is mixed by definition. I improved my Italian, got to know many researchers and got new ideas for solving problems. It was nice.

I have seen two Croatian, two Slovenian and two Italian laboratories solving the same problems. The advantage of the TRIL laboratories is that one is focused on research. Another advantage is that TRIL laboratories are multidisciplinary. But the TRIL structure has also disadvantages. For example, I was sure that I had a good idea for solar converter improvement, on the basis of which I wanted to prepare my Ph.D. thesis, but I could not find the possibility to do this within TRIL. I think this is the greatest disadvantage of TRIL. Developing an idea in TRIL and evaluating it elsewhere would have a much larger impact if I could finish the Ph.D. inside the TRIL programme.

Generally I think TRIL is a unique opportunity (especially for people in their twenties) to improve their skills and CVs. Italian laboratories are reputable in Croatia.

I have been working with students for the last four years. Older colleagues are saying those students are different because of their “way of thinking”. I think that is positive but I did not notice a greater interest in science. More than that, older colleagues are insuring that science reaches the end or almost the end. I think that there is lot of space but technology has to be changed. The solar-hydrogen car is a nice example. If you start to research in that direction please contact me at sladics@riteh.hr and I will apply immediately. Hurrah for ICTP.
Experiments concerning stochastic and vibrational resonance (SR and VR) in VCSELs at the National Institute of Applied Optics in Florence, Italy, in 2002 and 2003 are the main impacts of ICTP-TRIL on my activity. The following publication resulted from the work:


Some experiments dealing with SR and VR in electric circuits will be performed in my lab in Bucharest, since these phenomena are not entirely explained and hence are worth investigating in systems that are versatile concerning the experimental conditions.

SR and VR represent a new research field for me. Unfortunately, we do not have equipment here similar to that at the National Institute of Applied Optics in Florence.

I am still in contact with Dr. Giovanni Giacomelli from the National Institute of Applied Optics under whose guidance I worked in 2002 with the ICTP-TRIL grant.

After some months in Italy, I was speaking Italian very well (others’ evaluation: well enough in reading, beginner in writing). I consider that there were no significant difficulties of any kind. Concerning the cultural impact, I have liked very much everything I have seen in Italy (especially medieval art and architecture), and also the people (I made five friends in 2002, one of whom is a very good friend). As a consequence, I have succeeded in returning to Florence for about two weeks in 2003 (funded by my university in Bucharest) and I shall probably go again to Turin this year and the next two for scientific cooperation with the Politecnico di Torino, Dipartimento di Fisica. In brief, I consider Italy as my second country.

I was also twice in a British university, also for research cooperation. I think the atmosphere and people at the National Institute of Applied Optics (INOA) in Florence (2002, 2003) and the Politecnico di Torino and Istituto Nazionale “Galileo Ferraris” in Turin (1997), are more “open” to foreign researchers. The equipment in the British and INOA laboratories were comparable (with a slight advantage for INOA).

Unfortunately, the interest for science is generally decreasing in Romania. But there are still young and potentially talented people who understand that science is by far preferable in comparison with boring and “flat” occupations.
Better information on a regular basis about TRIL activities in higher technical and scientific education would be a very good thing in my home institution, as well as in the few remaining research institutes (for example the Institute of Atomic Physics in Bucharest). I could spread such information in my department and could contact colleagues in the Atomic Physics Institute. Unfortunately, my colleagues and I are by now senior researchers (or professors) and therefore our access to new TRIL programmes is already closed on the basis of age (although some scientific cooperation was started within TRIL, for instance, in my case). But I recognize that there are also younger researchers who could benefit from it.
The ICTP experience: the TRIL programme

Alberto Somoza
Argentina

The aim of this article is to give an impression of the impact of ICTP-TRIL on my research and professional activities. It is worth mentioning that my research group still continues to collaborate with the Italian group. The TRIL Programme helps us by means of important financial support (details are given below).

The collaboration began in 1987 within the framework of the TRIL Programme, when I came to the Politecnico di Milano for a postdoctoral fellowship at the Laboratory of Positron Spectroscopy under the direction of Professor Alfredo Dupasquier. At that time, the Tandil laboratory had a very limited infrastructure; its members used general-purpose equipment in Nuclear Physics, borrowed from other Argentine research centers. This equipment was not specifically designed for positron annihilation spectroscopy. I remained in Milano for about two years, participating actively in a research project regarding positron lifetime spectroscopy in light alloys. When I went back to Tandil, I mounted there the first positron lifetime spectrometer in Argentina. This was the starting point of the steady development of the Radiaciones Nucleares Aplicadas (RNA) Group in IFIMAT. At present, RNA is the only research group in Latin America using the annihilation positron spectroscopy in the field of Physical Metallurgy.

Thanks to the support given by the ICTP through its different programmes (TRIL and External Activities), the collaboration between RNA and Milano continued in the following years with periodic visits of Dupasquier to Tandil and of myself and other RNA members to Milano. It is worth noting that in 1993, during one of these exchange visits, I was also appointed as a Professore a contratto of General Physics in the Faculty of Engineering of the Politecnico di Milano. During 1996, another RNA member (W. Salgueiro) stayed in Milano for about one year with a TRIL fellowship. In 1994 the collaboration between Italy and Argentina was extended to the Positron Group of the Department of Physics of Materials at the Universidad Complutense in Madrid, Spain, directed by Professor Nieves de Diego; this collaboration arose as a consequence of the subject affinity with the researches performed by the Italian, Argentine and Spanish groups in the field of defects and phase transformations in metallic alloys. The RNA Group is also linked with other distinguished European scientists, such as Professor Fernando Plazaola (Universidad del País Vasco, Bilbao, Spain) for the calculation of positron lifetimes by ab initio methods, and Professor Antoni Planes (Universitat
de Barcelona, Barcelona, Spain) for the use of differential scanning calorimetry techniques. It is important to mention the valuable support given to the group by Professor Ricardo Romero (IFIMAT Director), a well-known expert in the field of mechanical properties.

The research activity of the RNA Group is specially addressed to advanced commercial alloys (superlight, age-hardenable and superplastic Al-base alloys) and to Cu-based alloys exhibiting shape memory effects. The results obtained so far have been presented in more than 40 papers published in international journals. The international reputation of the group is certified by the recent invitations to the most important international conferences in the field of positron annihilation spectroscopy (A. Dupasquier and A. Somoza, ICPA 10, Beijing, China, 1994; also: A. Somoza, ICPA 11, Kansas City, MO, USA, 1997).

Besides research, the RNA Group has an important function in the formation of new scientists at the Universidad del Centro. Two RNA members will submit their Ph.D. Thesis in 1997, two are in the middle of their thesis work and one has just started it.

The support given by the ICTP to the collaboration of the RNA Group with Professor Dupasquier has been decisive for the above achievements. Of course, a fundamental part of the success is largely due to Professor Dupasquier himself, who supported permanently the effort of developing a positron spectroscopy laboratory for Materials Physics in Argentina.

The impact of ICTP-TRIL was extremely important because it allowed me to establish the first Positron Laboratory in South America. With time, this laboratory became well recognized in the research field of solids by using mainly the nuclear technique Positron Annihilation Spectroscopy.

Two of my Ph.D. students also obtained fellowships from the TRIL Programme for post-doctoral stays at Milano under the supervision of Professor Dupasquier. During 1996 Dr. Walter Salgueiro stayed for 10 months, working at the Dipartimento Dipartimento di Fisica, Politecnico di Milano (Milano, Italy). He studied semiconductors by PAS techniques. Then, in 2000, Dr. Ferragut stayed at the same Dipartimento but at the Polo Como collaborating with the start of a new PAS Lab there. Under the TRIL Programme, the fellowship of Dr. Ferragut allowed him to remain in Italy for two years. Finally, he decided to live permanently in Italy because he won a Ricercatore position last year. Therefore, at present Dr. Ferragut is part of the permanent staff of the Dipartimento di Fisica, Politecnico di Milano. However, it must be pointed out that the group of Professor Dupasquier, and of course Dr. Ferragut, continues to develop its research activity in close relation with my research group in Argentina.

Continuing with the collaboration between Argentina and Italy is a pleasure for me. I note that another of my Ph.D. students stayed in Italy for a long period. Such is the
The experience of Dr. Carlos Macchi who won a post-doctoral fellowship of the Università degli Studi di Trento (from January 2003 till March 2005).

When I went to Italy for my postdoc under the supervision of Professor Dupasquier I was not convinced that it would be possible to start with a Positron Lab in my country; we especially needed funds and knowledge. TRIL, through Professor Dupasquier, gave me the courage to overcome these barriers. I understood that knowledge is fundamental to go ahead. When I returned to Tandil, I fortunately obtained funds, scarce but enough to put on an experimental set-up of the positron lifetime technique to study defects and phase transformations in solids. Then, TRIL continued with the financial support to our group allowing me to visit Professor Dupasquier in Italy and he, later, to visit my laboratory in Argentina. This was the starting point of our laboratory. The comprehension and the personal skills of Professor Furlan gave me the opportunity to consolidate our Positron Group.

TRIL not only permitted me to acquire a broad knowledge of the research in the field of condensed matter. Furthermore, two of my Ph.D. students also obtained a fellowship from the TRIL Programme for a post-doctoral stay at Milano under the supervision of Professor Dupasquier. During 1996, Dr. Walter Salgueiro stayed at the Dipartimento di Fisica del Politecnico di Milano for 10 months. Dr. Salgueiro studied semiconductors with PAS techniques. In 2000, another of my disciples Dr. Ferragut stayed at the same Dipartimento but at the Polo Como.

Finally, I want to remark that at present our Argentinean group is collaborating with the following researchers of different Italian Universities:

- Professor Alfredo DUPASQUIER - Cargo: Professore Ordinario di Fisica, Politecnico di Milano;
- Dr. Rafael. FERRAGUT – Ricercatore Universitario – Politecnico di Milano;
- Professor Roberto BRUSA - Cargo: Professore Associato di Fisica, Università degli Studi di Trento
- Dr. Gregorz Karwacz – Ricercatore – Università degli Studi di Trento;
- Professor Giuseppe RIONTINO - Professore Associato di Fisica – Università di Torino;
- Dr. Marco Massazza – Ricercatore- Università di Torino.

The cultural impact of my stay was extremely useful! Sincerely, I had no difficulties. TRIL gave me all I needed!

I visited different laboratories abroad. It’s difficult to establish a comparison; however, I would like to highlight the friendly relationship established between Professor Furlan, his staff and myself. Professor Furlan always tries to help me and my group. His idea always was to reinforce the possibility to start with positron studies at Tandil (Argentina). He always believed in our task force and tried to help with all the means
he had. According to my long experience visiting different laboratories abroad since my first experience in Italy more than 15 years ago, I consider the TRIL structure to be one of the top programmes.

Despite the difficult economic situation of our country I hope that the people, especially young people, understand that science is the main way to overcome the difficulties linked to the divide between developed countries and the third-world countries. Towards obviating this difference, strong investments in research and technology are necessary.

I only would like to say thanks to every one on the TRIL staff!
The impact of ICTP-TRIL was positive: I have achieved a new experience in a completely new area of research (fuel cell for example). I got new opportunities for my department, new projects for students with updated research activities, publications, and so forth.

TRIL may help by sending books and specialized reviews, giving the possibility of visiting again the laboratories in Italy (once or twice a year) and joint research activities with the host laboratory. It may also help organize conferences, for example.

I am keeping in touch with my host laboratory and am willing to organize a joint conference together.

The cultural impact of my stay in Italy was positive. There were problems of accommodation and police formalities especially when I wanted to bring my family – even for a short period.

TRIL is better than other fellowships abroad, and the people in charge are very helpful. TRIL needs to extend the opportunities to other specialities.

Interest in science is unfortunately decreasing with respect to the past.

Thanks to all staff of the TRIL programme in Trieste.
The main difficulties in my research activity are financial stability. I have not yet found a stable position.

I have not had any contact with ICTP following my training and research period carried out at the University of Ancona.

Police formalities are a very big problem in Italy. They are completely disorganized.

I have experiences with French laboratories (University of Lille). They are better organized and the procedures are clearly defined.

I do not have access to the ICTP programmes, but probably it is my error.

I think that science in my country is still on a high level. The selection of the young people probably is not the same as before.

ICTP has the best-organized structure in Italy. I have a very positive opinion and think that ICTP serves as a good example of very organized structure.

Vesna Stanic
Croatia
Both TRIL and ICTP have had a positive impact on my life and professional activities. The training laid good foundation for my diplomatic career and promotion of the cooperation between Italy and China. TRIL helped me to achieve a command of the Italian language and further my understanding of Italian culture and people.

During the training I published the following papers:


I keep contact with Professor Enrico Feoli, also after my training period.

During my stay in Italy, I have been to many places. Italians are very friendly. TRIL provided me with excellent assistance. There are some similarities between Italy and China, especially cultural identity. This helped me feel quite at home in Italy. Compared with laboratories in Germany and Switzerland, I think TRIL is more suitable for scientists from third-world countries.

It would be fruitful to try and re-establish the Chinese Chapter of ICTP.

Science is a topic that still fascinates young people in China. Every year China holds many international science conferences and science weeks. You can see how enthusiastic young people are in these activities. So far the Chinese Government has taken many measures to encourage young people to engage in scientific research.
Marcel Tabak  
*Brazil*

I believe that the main impact of ICTP-TRIL was in acquainting me with the Italian university system, especially related to the research at the initial stages of higher education. This experience was quite useful for my activities in Brazil.

I believe that in Brazil researchers tend to have their own equipment even if it means unnecessary duplication. The experience in Italian laboratories to rationalize the use of expensive equipment as multi-user units was very useful.

I have not been collaborating intensively in the last few years but am planning to attend an important conference in my area next year to improve the situation.

I believe for a Brazilian scientist the stay in Italy is wonderful since in our country, and especially in the Sao Paulo state, Italian culture is something quite close. In this way it was a very pleasant time. The language was not an obstacle at all, and the food is excellent. Besides that, while living in Parma, it is impossible not to be exposed to music and history; even the French influence is apparent. So, in my case I learned a lot more about Italian culture and society organization. Accommodation, medical assistance, and police formalities are quite similar to those of the Brazilian system.

I stayed in the USA for a year prior to coming to Italy. I believe that in Italy I got comparable scientific and academic experience with more enjoyable cultural and social experiences.

I have not looked at ICTP programmes recently. I suppose this is only due to lack of time.

Certainly science is very attractive. One way to see that is the enormous number of young people interested in getting an undergraduate science degree. In fact, in our public universities the entrance exams are very hard since only less than 10% of places are available for students taking exams.

I would like to receive some information regarding the continuity of the TRIL programme. For scientists from countries where the opportunities in science are very scarce, this programme is quite important. I am not sure if it is as important for Brazil, where science is quite developed and a significant number of people are taking university degrees and doing research, especially in graduate programs.
During the ICTP-TRIL fellowship I had the opportunity to discuss science, use the newest equipment and consult latest methodologies that are used by researchers in Europe. It was also possible to participate in the European Conference on X-ray Techniques. So, new ideas for uses of X-ray techniques have been implemented in my laboratory in Brazil.

The main difficulty that TRIL helped me overcome was the contact in the laboratory with new equipment and technologies.

I have regular contact and collaboration with the Physics and Mathematics Department of Università di Sassari and Physics Department of Università di Roma “La Sapienza”.

I didn’t have many problems in Italy because I know the language very well, my collaborator professor provided the accommodation and I had medical insurance. The police formalities were complicated because Sassari receives a lot of illegal immigrants. They have some limitations in analyzing the processes. So, during my stay I had to undergo a protocol.

This was my first experience in a laboratory abroad.

I think that science is still attractive for young people, but some financial difficulties exist in acquiring equipment and books.

I would like to thank the ICTP for making it possible to participate in this programme.
Jasmina Tekic  
*Serbia and Montenegro*

TRIL gave me the possibility to collaborate with one of the leading physicists in Nonlinear Science, Professor Fabio Marchesoni from Università di Camerino.

Since I am originally from Yugoslavia (Serbia and Montenegro), TRIL helped me to start my career and enter the scientific society.

I am regularly in contact with Professor Marchesoni and we are still planning to continue our collaboration and do some work in the future.

My stay in Italy was a real pleasure. I speak Italian fluently and didn’t have any difficulties.

I am working now as a Post-Doctoral Research Fellow at the Beijing-Hong Kong-Singapore Joint Centre for Nonlinear and Complex Systems, Department of Physics, Hong Kong Baptist University. The TRIL structure has high international standards, just as does this joint center, and in both places I had a great scientific experience.

Today there are more and more young scientists and in my opinion the situation is getting worse. Because of the way scientific work is evaluated, many young scientists work only for publications (in some good journals), for titles, for money or to please the supervisor but not for the real love and passion for science and nature.
The Abdus Salam International Centre for Theoretical Physics

V.C. Tewari
India

TRIL gave me an important opportunity to work on the most important geological problem of Cretaceous Tertiary Boundary in the Trieste area. It was a very successful study, and I extended it also to Slovenia. I worked for five months from July to November 2004 in the Department of Geology at Trieste University. I completed the project Sedimentology and Palaeoenvironment of the K/T Boundary stromatolitic carbonates from the North Adriatic Plate, North Italy (Trieste), as well as adjoining areas. My collaborator (advisor) from the Geology Department, Trieste University, was Professor Nevio Pugliese, Director and Head of the Geology Department. We presented our joint research results from the Trieste and Slovenian areas in the 32nd Geological Congress held in Florence, Italy, in 2004. The research paper is accepted for publication in the International Journal of Palaeogeography, Palaeoenvironment and Palaeoclimate.

TRIL helped me financially to work in a new area of research which otherwise would not have been possible in a foreign country. I am hopeful of extending my studies in other areas of Europe in the future with the help of TRIL. I am a Senior Associate at present. My contacts are confined to ICTP, but with the help of TRIL and TWAS I plan to work in other Italian and European laboratories and developing countries like Brazil, Mexico and China.

I am highly impressed by the cultural activities of Italy and also tried to learn Italian. There were no difficulties during my stay in Italy. Everything was O.K. and everyone was very cooperative. The TRIL structure is very good and provides all facilities to work in Italian laboratories. It would be better if the TRIL activity were restructured as Training and Research in European Laboratories (TREL), which would give us the opportunity to expand our work to other European Laboratories. TRIL is similar to other American and European systems.

I am aware of the Indian Chapter in IIT, Delhi, but have not been able to join or contact them. I will contact them in future and believe that the initiative should be strengthened.

Young people in India are very enthusiastic about science in general. There is a lot of awareness in the fields of Biotechnology, Environment, Earth, Space Sciences and Information Technology.
TRIL has been run very successfully by Professor G. Furlan, the head of the programme for so many years. I personally feel that ICTP should encourage the activities of the TRIL Programme in a big way. It is suggested that its activities should be extended to the other European universities and institutes (France, Germany, UK, Sweden). TRIL provides an opportunity to interact with scientists of Italy that have common interests from different geographical areas. Though the present fellowship grant is sufficient to stay and work, it could be enhanced further with more grants for the purchase of books and equipment. TRIL would then be more useful. Senior scientists who have worked under the TRIL Programme may be given further opportunities to revisit under this programme (as generally done in German Fellowships), to do more joint research and train younger research scholars. If it is possible to include family members, even for a short stay, it would be great.
Since I returned from Italy, I have tried to develop a laboratory for the production and characterization of thin films in my country. To do that, I developed five research projects, four of them financed by local agencies and the fifth financed by the IPPS, the International Programme for the Physical Science of the Uppsala University. Through these projects we built the set-up necessary to produce P-type porous silicon thin films; an evaporation system to evaporate metals as electric contacts on the materials developed by the group was constructed, and a system to produce MoO3 thin films using a CO2 laser acting as evaporation source was developed, as was a photoluminescence system. We are developing a thin-film electrical characterization system. Six physics students prepared their thesis under my direction, five on the porous silicon field and the other on production and optical characterization of MoO3 thin films. Actually two masters degree students are working under my direction – one on porous silicon and the other on MoO3 thin films. Ten local and seven international publications describe the results of the work done since I returned from Italy. In addition I have academic responsibilities. I now teach in a physics career for twelve hours a week. As you can see, more than 70% of my research activities done during the last five years are based on the field in which I worked in Italy. This indicates the high impact of the training year on my scientific and professional life.

I think I gained experience in many fields during my year in Italy, which improved my scientific activity. In this sense the experience with porous silicon helped me to write some research projects on the field; it also allowed me now to have an important laboratory at my university.

For my family and me the stay in Italy was a very good experience in every sense. From the time we alighted the airplane we began to learn. It was very difficult to rent a home. At the beginning the language was a problem.

The TRIL programme is the best-organized programme I know. But a black mark was the lack of organization of the tutor. I stayed in the laboratory for almost five months without doing serious work, wasting time. When I changed to Professor Gigi Di Francia, things got better. It is necessary to prepare in advance a research programme for the activities to be pursued during the year.

In my country the young people are increasing their interest in science. From one
year to the next, there are more demands for places in the physics career. The Ph.D. programme has more credibility with the young people, but things are difficult due to the meager financial support. The number of active students in the physics career has been increased to 200 students in the last three years.
I spent one year (May 1988-May 1989) under the TRIL programme at “Federico II” Napoli University, and three months under a follow-up visit in 1991. I could say that this was the real beginning of my research career. The main ingredient in today’s research is collaboration and exchange of ideas and information, but this was not possible at that time in communist Romania. So TRIL helped me to become a part of the active scientific community. After TRIL I was able to defend my Ph.D. thesis, as part of the results I obtained during the programme were included in the thesis. My collaboration with Napoli University still goes on, even after 16 years, although, in the meantime, we both changed the field of research. The results we obtained in the last few years proved to be valuable enough to be published in top journals.

The main difficulties that TRIL helped me to overcome are the lack of scientific information, absence of scientific contacts and collaboration, and the lack of lab instrumentation. Presently I still have difficulties in keeping myself updated on the literature; I still do not have access to scientific databases and journals. My Italian colleagues help me a lot in this respect but it is only a local and temporary solution.

In general the cultural impact of my stay in Italy was favorable. I could easily cope with customs, civilization, religion, etc., without big difficulties. I have no difficulty with the language, as Romanian is close to Italian. Now Italian is my best-spoken foreign language. Accommodation is a big problem every time I spend longer periods in Napoli; the university has no campus and my Italian colleagues spend a lot of time and energy to find me a proper and convenient accommodation. I had no experience with medical assistance, but police formalities were tedious. There was no interface between me and police authorities, unlike in ICTP for example. So the experience in the immigration office is not pleasant, starting with having to be there very early in the morning to line up and take a number, queuing and wasting a lot of time just to make the application for the residence permit. This kind of experience refers to the 1990-2000 period. I do not know the more recent situation.

I benefited recently from a Brain Pool Programme fellowship of the Korean Government. Initial application was done in tight collaboration with the host laboratory in KAIST, so initial contact was essential. It was submitted by the host laboratory. After approval, almost all other bureaucratic procedures were transparent for me. Accom-
modation was provided outside of the campus but KAIST has a permanent portfolio of apartments, which can be rented.

As in many parts of the world, there is a decreasing interest of the young people for natural sciences. In Romania this decrease perhaps started later than in Italy, and perhaps it is not so pronounced. But the tendency clearly exists.

All my admiration and gratefulness to the people who work for this programme!
My dream of learning more became a reality because of the help of the ICTP-TRIL fellowship. I have gained useful and wide experience by working with eminent scientists in leading laboratories in the world. Training in the use of highly developed instruments as well as achieving results with little error has been of great satisfaction. The gratification of interacting with many experts in our field and utilizing my knowledge, skill and expertise in solving various scientific assignments is unique. My determination and efforts to excel in research, technology and teaching has become even stronger which, I hope, is going to serve me for the rest of my life. With this beautiful experience under the umbrella of the ICTP-TRIL fellowship, I got the chance to learn to work together on a team for the benefit of the entire globe and to understand and solve the real world problems.

The main difficulties that TRIL helped me to overcome are:
- providing laboratory facilities and getting a chance to work with high-tech instruments in various laboratories of international standard that itself ensures the best and guaranteed results derived from any experiment;
- interacting with many expert scientists of international repute as well as many young scientists from around the world;
- designing experiments and working on them independently, but also with helpful guidance, whenever needed;
- the importance of working in a team to realize, understand and solve the real world problems;
- the courage to accept any kind of challenge;
- exposure to new frontiers and gaining a lot of good friends around the globe, which is always going to help in establishing future collaborative work.

I have contacts with ICTP and the host laboratory, but not very effectively, though I am beginning to understand the importance of having this contact.

Italy, being a country of great and rich cultural heritage, contributed a lot to my mental state involving beliefs and feelings, values and dispositions and to act with a positive attitude. Out of necessity, as well as my special interest in learning this sweet language, I was able to understand better the social life, the helpful attitude of the people, and many other positive things. Besides laboratory work, I also enjoyed visit-
ing world-class monuments spread around the beautiful country. My attraction to the impression about the culture of Italy can probably be easily understood from my attempt to bring the Pinocchio story to my homestate of Orissa (population of around 50 million) in India. The Pinocchio storybook of Carlo Collodi has finally been translated into my own language (Oriya), thanks to the people who worked on it.

My stay in Italy has been full of fun and activities, in spite of little problems of accommodation and police formalities. Because of these problems, I understand the problems and limitations of the facilities very well.

It would be a nice idea to create a facility to send and receive all the ICTP information directly to the personal email box, which can be done by creating a mailing list, probably without much difficulty.

I would love to be a part of the Indian Chapter of ICTP. Unfortunately, I have not yet joined it due to lack of information.

Science has always been an attraction for the youth in our country, and I personally feel that the quest for it is increasing. As compared to the past, I notice an accelerated growth in the number of scientists participating in scientific activities around the globe and taking part in international collaborations.

ICTP-TRIL has contributed a lot and played a very important role in helping an aspiring young scientist like me, and my entire lifetime achievements (if any) will continue to acknowledge this fact in the future. I wish I could serve the Institute better. Besides the main assignment of each fellow, if an extra assignment of common interest to all the fellows could somehow be arranged, it would help towards better coordination among the fellows and lead to a great achievement arising out of the integral effect of every small contribution of each fellow. A journal or newsletter can be published on a regular basis, including the contributions from many other scientists and Nobel laureates around the world, besides those of the TRIL fellows.

I would suggest that you could open up more channels with the governments of the developing countries so as to facilitate some easier steps towards employment opportunities.
The ICTP experience: the TRIL programme

Nataliya Tsud
Ukraine

The ICTP-TRIL fellowship was my first postdoc position at Sincrotrone Trieste and was a perfect start of my career as physicist.

The TRIL programme gave me the unique possibility to apply and get a position at Elettra right after I got the Ph.D. degree, i.e., with no long-term work experience in European laboratories.

I am still in contact with my colleagues from the Materials Science Beamline at Elettra. We continue to work on results obtained during my stay there and we are preparing a publication.

Italy became my favorite country where I would most like to stay and work longer. I learned Italian and met lots of people who became good friends. I really enjoyed my stay there. The only troubles or difficulties I met in Italy were connected with police formalities; but I should mention that they are about the same in all countries from the point of view of a foreigner.

I appreciate the overall care that ICTP provides for foreigners connected with daily life in Italy. The TRIL-ICTP programme creates the fruitful work conditions for young scientists from developing countries and provides the unique opportunity to get experience in high-level European laboratories.

Actually, I have lived abroad for long time. In my opinion science remains very attractive for young people in Ukraine because it gives the opportunity to get experience or to find jobs as highly qualified scientists in Ukraine and abroad.
The main difficulty that TRIL helped me to overcome was the lack of financial support for research and visits abroad. ICTP was financing members of my team for measurements on SAXS-beamline at ELETTRA.

The surroundings of ELETTRA are Slovenian-speaking villages, so we feel almost at home there. My visit to Rome was different. Accommodation was hard to find and although everyone was very talkative, it was superficial and I had no social contacts with co-workers.

In particular, laboratory equipment was old as was as the whole building. It was forbidden to drink the water. The situation is England was similar, but in Sweden and the USA, equipment was O.K. and people were friendly.

There is a decreasing interest in science in my country.
The impact of the TRIL programme on my research and professional activities could be summarised under three headings:

1. During the training and research programme I got acquainted with some modern applied physics methods in biology, pharmacy and nuclear medicine.

2. I got more experienced in the methods applied to the analysis of the environment.

3. I was involved with a team developing new instruments for biological and nuclear medicine applications. Doing research in the three directions above is a real challenge and the satisfaction of successfully accomplished projects is the major thrill.

For the period of training and research (2003-2005) I have 14 publications and have reported the results of my work in three international conferences.

The TRIL programme has given me a nice opportunity to follow lectures and seminars given by the best scientists in my field of research. The possibilities to meet scientists and to exchange ideas, to discuss and solve different problems, to take part in different international projects, are activities that are not easy to perform nowadays in our country.

As a TRIL fellow I was to be trained to do research in the Interdisciplinary Physics Department of National Laboratories of Legnaro (LNL) of the National Institute of Nuclear Physics (INFN). A large part of my work was done also in close collaboration with the Departments of Physics and Pharmacy at the University of Padua, as well as the Department of Nuclear Medicine in the hospitals in Padua. At present I still continue to work at LNL. My present work would be impossible without the collaboration with the departments mentioned above.

Doing training and research in Italian laboratories also gave me the nice opportunity to get acquainted with the Italian culture. I learned to speak Italian and it was easy to follow the radio and TV broadcasts, to communicate with Italian people and to follow different cultural meetings. The accommodation in LNL was perfectly organized. In general I had no difficulties with medical assistance, police formalities, etc.

Compared to the other institutions I have already visited, the TRIL supports a lot larger number of fellows and embraces a larger structure. This, however, does not affect the quality of services. TRIL keeps close connection with its fellows and is avail-
able to give help at any moment.

The information about ICTP programmes as well as the TRIL programmes is received (by mail and electronically) regularly in my university and is available for the students and the academic staff.

With respect to the most recent past (last five years), the interest in Physics nowadays has tended to increase slightly. It is probably due to the fact that students realize that physics is a profession that gives them the ability to work in different job positions. It is probably due also to the popularization of physics especially during the year of physics.
Many papers were published out of the work I did under the TRIL programme. My collaboration with Professor Giorgio Benedek and Professor Paolo Milani (at the host laboratories) has been, and will be, very valuable for me.

I have no contacts with ICTP and TWAS but am in contact with the host laboratories.

TRIL or ICTP could be more helpful in obtaining the necessary papers from the police. Foreign researchers have no idea about the Italian police formalities and cannot communicate with them as the police do not understand any language but Italian. Language is, of course, a problem for non-Italians. I was lucky as Professor Giorgio Benedek at my host lab helped me to find an apartment. I assume other TRIL researchers have had problems. I liked my host laboratories.

Science is even more attractive for young people now.

TRIL is a good programme. I thank TRIL because it gave me the opportunity to meet two outstanding professors for whom I have a great deal of respect personally and professionally.

A suggestion: TRIL and ICTP could better help foreign researchers in accommodation, police paperwork, and things of this sort.
The ICTP experience: the TRIL programme

Edgar A. Vallar
Philippines

The ICTP-TRIL programme has helped me improve my research tremendously. It has enabled me to establish contacts with European researchers in my area. I was able to meet and get to know the European researchers. I was able to discuss with them how to improve our LIDAR system here. My stay with Professor Massimo Del Guasta was very, very fruitful. We were able to publish a paper in Geophysical Research Letters about some of our research. Right now another paper has been submitted to Applied Optics about a different aspect of our work done while I was there. Professor Del Guasta taught me a lot. He showed me a lot of algorithms, which I still use up to this time. He gave me many suggestions on my research here and showed me the importance of having many sensors doing correlative measurements. This has enabled me to expand the area in which I am doing research. I am able to tackle more topics right now. There is also the possibility of doing collaborative work with him in the future.

The ICTP-TRIL programme has also enhanced my self-confidence and trust in my abilities. My stay in Italy has allowed me to build my confidence in writing project proposals. Now, I have received funding from my university to refurbish our LIDAR system. I also received a TWAS Spare Parts Grant that enabled me to get filters for the air sampler we are using right now. Furthermore, I have a pending TWAS Spare Parts Grant application for the purchase of laser water filters. Moreover, I was fortunate to pass the first screening of the TWAS Research Grant in the Basic Sciences. In this grant, I am asking for 10,000 US dollars to be able to add a Raman channel for water vapor measurement in our existing LIDAR system. I hope I will be fortunate enough to get the grant.

The URL's www.dlsu-lidar.tk and www.dlsu.edu.ph/academics/colleges/cos/physics/lidar/default.asp may be able to provide more detailed information on the research programmes of our group here at the university.

The TRIL programme has enabled me to make contacts with European researchers in my area. This was a big difficulty for me earlier since I did not have the necessary exposure and funding to be able to meet them. Now that I know them, I can easily ask for their suggestions.

The TRIL programme, through Professor Del Guasta, has emphasized to me the importance of having a research theme that is broad but at the same time synergistic. This
The ICTP experience: the TRIL programme

means that, although the research topics might be a little bit diverse, they complement each other. Earlier, I just knew about LIDAR and wanted to do research on LIDAR. Now, I am trying out topics in other areas that complement LIDAR.

I think, however, that continuous exposure to other experts might be needed so that there is a constant upgrading of our knowledge. Perhaps TRIL can help in this direction by providing previous TRIL grantees the possibility of going back to their host institutions (even for a few months every two or three years) and do research there. This is important because the level of research in European institutions is higher compared to our level of research.

Professor Del Guasta and I write emails to each other frequently. Our families have become very good friends during my stay with him. His children and my children are about the same age so that they got along very well. Professor Del Guasta and I submitted a paper recently to Applied Optics about one aspect of our work during my stay there. We hope it gets accepted. We are thinking of doing collaborative work and I frequently ask his advice on the simulations I am doing here.

My family and I enjoyed our stay in Italy very, very much. It was a very big challenge for us but we had so much fun and we learned a lot. We made new friends with whom we still have regular contact. We enjoyed the museums, parks and very nice places like Venice, Pisa and Rome. The food was also great and we learned to cook Italian dishes.

Language presented some difficulty at first but it was easily overcome because Italian is easy to learn and similar to Spanish and to our native language. We are now able to speak and understand Italian up to almost 90-95%. Accommodation was not a problem, nor was medical assistance. There was a minor difficulty with the Questura but it was resolved in due time.

I was fortunate to have some experience staying and doing research in Japanese research institutions before. The structure is basically the same. The level of funding is commensurate to the standard of living in the place.

Recently, I have read about the DAAD and Alexander von Humboldt Fellowships in Germany. I believe that with these fellowships there is the possibility for the fellow to go back to Germany every few years to do research again. Thus, there is continuous exposure and development of the fellow. However, I do not know if ICTP would also like this scheme and if enough funding is available for everyone.

I have access to ICTP information. I tried to apply to other ICTP short-term training courses but was not lucky enough. I will try some more.

At this point, there is a decreasing interest in science because of the economic difficulties in our country. Most students enroll in courses where they can get jobs easily and get paid a lot. Although there is a great need for people in science in our country,
it is not a lucrative profession at this point so people stay away from it. I hope the TRIL programme will continue and that previous fellows will be given the chance to travel to Italy even for a few months every few years to enable them to train continuously.

I wish to thank the TRIL programme, in particular Professor Furlan and his staff, for all the help they gave me during my stay in Italy. I hope I can repay your kindness in the future. If ever you would like to visit my country, please do not hesitate to email me and I will do all I can to make your stay here memorable.
Effective training under the dynamic leadership of devoted researchers and professors in Italy made me understand several subjects at a deeper level. I do admit this fact: this is a worthy programme envisioned and properly executed by Professor G. Furlan.

In the research area in which I am working, I do not find people to interact with in my country and the professional approach of people in Italy made me accomplish more. The list of difficulties is endless in developing countries. In Italy I learnt how to face them and worked them out independently. I feel that I need more opportunities from TRIL to be better.

Cultural and social activities in Italy are rich. Due to the language problem I do not understand them beyond a certain level. English speaking peoples always helped me resolve my problems.

I feel honored to write that the response at Scuola Normale Superiore with Professor Mario Tosi and his teammates was really superb.

I feel that, for an effective completion of scientific activities, the support offered by TRIL is worthwhile. I should state that it is also good to understand the society that is a pioneer in several aspects. All my experiences have been good. Even when they are bad, I try to learn from them.
The ICTP experience: the TRIL programme

Ricardo Hugo Velasco
Argentina

The ICTP-TRIL Programme had a crucial impact on my past and present research activities. From 1990 to 1992, as a fellow of the TRIL programme, I stayed in the ANPA Laboratory (Rome) working in the radioecological group conducted by Drs. María Belli and Umberto Sansone. The scientific collaboration with them has continued until the present with tangible results. As a direct consequence of this activity, the GEA (Environmental Study Group) was created at the National University of San Luis. In 2004 the Laboratory of GEA was launched. In December 2003, Dr. Belli and Dr. Sansone visited our university as participants of an international workshop on environmental radioactivity organized by the local radioecological group. On this occasion, the doctoral thesis of Liliana Ciuffo was presented (she also was a participant of the TRIL programme). Other members of the local research group had carried out activities in the ANPA Laboratories (now APAT). In the framework of different research collaboration programmes, since 1993, I have visited the ANPA laboratory on the average of once every two years.

Probably the major problems in developing scientific activities in our countries are the isolation, mainly of young scientists, and the need of financial support to improve our laboratories. Institutions such as ICTP, and particularly the TRIL programme, help to reduce these limitations.

From a cultural point of view, the impact of my stay in Italy with my wife and son was positive. We lived an extraordinary experience during these days in Italy and didn’t have serious difficulties.
The TRIL Grants I received, TRIL5512.NLH8 in 1997 and TRIL.A7 in 1998, for visits at Università degli Studi “La Sapienza” di Roma, were of utmost importance for the long-standing collaboration with the research group of Professor Mario Bertolotti and Professor Eugenio Fazio (Department Energetics) in spatial solitons and their applications in guiding light by light. We subsequently won two projects in the Inter-Governmental Italian-Romanian Collaboration Agreements in R&D, in 2001 and 2005 and we are collaborating in the framework of the EU-IST Network of Excellence “PHOREMOST” (Nanophotonics for Molecular-size Technologies). Our common scientific results were published in a large number of papers, including in Phys. Rev. E, Appl. Phys. Lett., J. Optics. A, Appl. Surf. Phys., J. Optoelectron. Adv. Mat. etc. Our collaboration is continuing in different forms bringing new important results for our scientific careers and research groups, including at the level of our Ph.D. students (who are integrated into an Erasmus project).

Some of the main difficulties in our professional work, in which TRIL still could help us, are related to the following:

- Possibility of buying equipment (even small) and consumables in my laboratory, as well as in our Italian partner laboratory for our research work in the frame of existing collaborations (which are in both senses).
- Possibility to ensure a reasonable level of scientific information from Romania by declaring us as an Italian Scientific Partner and ensuring the connection to the Italian BIDS (inter-university scientific journal chain).
- Possibility to ensure Ph.D. co-tutelage for our students (which is not yet established between Italy and Romania, as it is, for example, between France and Romania and with other EU countries). This system will allow, within certain limits, to keep our educated young scientists in Europe and to provide a necessary human force for the knowledge-based society in the EU.
- Obtaining in an easier way the “permesso di soggiorno” for the Romanian scientists coming to Italy for scientific collaboration and arranging for a new type of Italian visa, “Accademico” (or “Ricercatore”, not “studio”) to allow this.

For me, with an expressed Latin origin, the cultural impact of staying in Italy is exceptional. All my family, school, university and personal education are based on com-
mon values, which were strongly enhanced by these visits. Moreover, we are transmitting to our children and students the same cultural tradition and we take them with us in these visits in order to preserve this heritage and pride, which could decrease the negative aspects of “globalization”.

The experiences I had in Germany, UK, Japan, etc are all different. Everywhere, an educated person can have important experiences, which can all contribute to his enrichment. An important feature of TRIL is its offer of a good choice among excellent research laboratories in Italy. Continuous contact with the beautiful ICTP and Trieste Science System is also a remarkable aspect, as I always emphasize.

In Romania, there is a clearly decreasing interest in science with respect to the past. We identify several causes of this phenomenon:

- the media, which present as heros those who obtain life success without too much education, either by brute force or by other activities (speculative commerce, “lawyering” in a disordered law system); and there is a strong audience of such “sub-cultural” TV programmes;
- the low payment of scientists and professors, after years and years of hard work (including in faculties), which also produces a lack of interest among educators;
- the low number of work places in an underfunded research system;
- the strong “brain-drain”, which can offer success only to those who leave their homeland and families and leave the research in the country driven only by “old” people (sometimes compromised in past times).

There are fields in which the interest is still alive: the information sciences and technologies, economy, agriculture, transport (including cars) and other fields in which the EU is asking local specialists.

Please continue your very useful work in the TRIL programme and encourage the young people to believe that science is a beautiful human activity and a vocation not just for money.
During my time spent in the laboratories of Professor Franconi I was able to conduct experiments in the field of Applicators for Microwave Hypothermia. In Prague during that period it was not possible to have a laboratory with the necessary equipment.

I am still in contact with Professor Franconi and other colleagues I met in Italy, for example, Professor Giannini, Professor Sorrentino and Professor Dinzeo.

In Italy I didn’t meet with any serious difficulties. Thanks to Professor Franconi and other friends and colleagues I always resolved my problems easily.

In the Czech Republic we have many students who are interested in pursuing a Ph.D programme (already we have requests also from the EU countries, but we are not able to accept everyone).

I am very grateful for the possibility to have been able to work in Professor Franconi’s laboratories. It was a very useful experience for my research.
I am an experimental physicist and have worked in two important fields of research: (a) Study of the nuclear reactions at high energies, (b) Development and applications of the passive detectors to study the medical physics/health physics related problems. This has all been possible thanks to the Italian Laboratories Programme. Due to the isolation problem I could not do any significant work in Pakistan. I visited the Legnaro Nuclear Laboratories under the TRIL Program in 1987 and then in 1996 for two years and one year respectively. During this period of about 9 years I could publish 18 research papers as compared to 37 research articles in during a period of 30 years. The TRIL programme thus made an obvious and vital difference to the level of my individual research independent of the level of research in the home institutions. This helped me promote research in Pakistan. Moreover, based on my short visits to the Legnaro Laboratories during 2003-2005 I could initiate trace element investigations applying the PIXE technique, which will go a long way to establish research collaboration between Pakistani Institutions and the Legnaro Laboratories.

There are a number of avenues open for research in physics, but due to the lack of required facilities in Pakistan it cannot be done. Lack of adequate funds is another major obstacle in its way. The TRIL programme provided me with an access to the accelerators and modern research facilities, thus enabling me to achieve my objectives for promoting research in Pakistan.

I am still in regular contact with the ICTP and in particular with Italian host Laboratories of Legnaro. I have collaborative understanding with the Physics Department of Bologna University as well.

The cultural impact of my stay in Italy has been wonderful. I could learn the Italian language and make friends in Italy. I love Italy and the Italian people, and never encountered any difficulties so far as language, accommodation, medical assistance or police registration formalities are concerned. Every step is so nicely arranged by the TRIL office that one never encounters any problem whatsoever.

I had the opportunity of working at the University College London in UK and the Philipps University, Marburg, Germany. I would not say they were not hospitable, but the experience I had at the Legnaro Laboratories under the TRIL Programme was always wonderful. Almost every aspect is taken care of under the TRIL Programme in
The ICTP experience: the TRIL programme

an automatic manner and I always felt safe and also well accommodated as compared to the laboratories in other countries.

The Chinese Chapter of ICTP must be re-established. Such Chapters should be established in other developing countries as well and they should be encouraged to collaborate.

Science is still attractive for the young generation but not Physics, Chemistry, and Mathematics. They are interested mostly in the Information Technology, Administrative Sciences and Engineering. Their interest in basic and applied sciences as such has decreased with respect to the past.

The ICTP and TRIL systems are working so effectively that one can hardly find any negative point. In my opinion the TRIL Programme through the ICTP Chapters should encourage the like-minded institutions in the developing countries to collaborate and raise regional levels of science. They should promote research by pooling resources in the fields more suitable for the socio-economic development of their countries.

Award of long-term fellowships under the TRIL programme should, of course, be confined to young people, but the practice of inviting senior people for short-term visits should also be continued for an indefinite period as they provide guidance to the young ones back home.
Without help from TRIL, I could not have finished my Ph.D. research project, which turned out to be a very useful study and had an impact as well. The main difficulty that TRIL helped to overcome was the financial support.

I do have close contact or collaboration with my host laboratory, IMGC.

Although there was a cultural shock at the beginning of my stay, I adapted very well later on and had a great time in Italy. The main difficulty was perhaps the police formalities.

I have been in Singapore for many years. I do not know the situation in China very well now. But I think there are still a lot of young people interested in science as the population is so huge.
My current position is Professor and Director of the Laboratory of Soft Matter Physics. My current research interests include interactions between DNA and proteins such as histones, dynamics of bio-molecular motors, Brownian dynamics and molecular dynamics, simulations of bio-macromolecules. I have published over 80 scientific papers, won the fourth award of the National Natural Science Prize of China, and the second award of the Science and Technology Advance Prize of CAS. I obtained the National Science Fund for Distinguished Young Scholars.

My experiences abroad are similar to those with the TRIL programme. I think that science is still attractive in my country.
I finished the visit to Italy a year earlier. I liked the programme very much. I got a lot from this training. I have successfully mastered a new computational method and this enriches my research experience and will help very much in my future research. I will try to use this method in my research work. I worked with the host scientist in Italy and published a conference paper; now we will look for further research work in the future. My colleague and I have written two papers (SCI) and they have been accepted for publication. They are related to my visit to the ICTP in 2004.

I did not encounter any big difficulties in Italy.

I have contacts through ICTP with my host scientists. We are working together on some research projects. We published some conference papers together.

The cultural impact of my stay in Italy was very good! The big problem there is the language.

I used to visit Stanford University, and had some similar experience. During my stay in Italy, I found it inconvenient to work in a lab far away from ICTP. It was difficult to obtain research information (books, papers) from ICTP. Perhaps it would be good for the visitor to have an office in ICTP, rather than in the lab in which the host scientist works since, usually, the visitor has contact with the host scientist for one time per week as in my case.

I think it will be fruitful to re-establish the Chinese Chapter of ICTP. But I am not the appropriate person. If possible I could nominate some Professors in CAS or universities in China.

I think, overall, that the TRIL programme is very good.
The TRIL Programme had a great impact on my past and present research and professional activities; in the beginning it increased my knowledge in my field of study, which is atmospheric science. Working with colleagues with great capacity in the ICTP-TRIL Programme improved my research enormously. My professional activities, after I returned to my country, increased as well.

I think the main difficulty was at the beginning because I was placed in a different culture than my own. I quickly overcame it, however, especially in my research work with my colleagues in Italy. And that, in turn, helped me to work with great people worldwide.

The cultural impact of my stay in Italy was pretty good, because, as I explained before, I had in the beginning a little difficulty in the language and accommodation. It was, nevertheless, a great experience and I never regretted traveling to Italy in 1983.

I was also in the Atmospheric Science Research Center in Albany, New York, working with Dr. Richard Perez in 1986-87. When compared with the TRIL structure, it is practically the same.

I think that science is still attractive for young people but note a decreasing interest in comparison with the past.
My experience at SYRMEP/Elettra will be helpful for my career during the construction of the Shanghai Synchrotron Radiation Facility.

The main difficulty that TRIL helped to overcome was the contact with the right Italian laboratories, which will be helpful for my further research.

Italian culture is much different from that of the Chinese. My experience in Italy will be helpful for me to communicate with Italians or other western people.

I know nothing about the Chinese Chapter of ICTP. Anyway, I think it will be fruitful to try and re-establish it.

Science is still attractive for young people in China. But some people get more interested in money rather than science.

The TRIL programme is beneficial for young scientists from developing countries.
The ICTP experience: the TRIL programme

Yaozhong Xu
China

The important thing about ICTP-TRIL is that it opens the door to our country. We visit the foreign country and communicate with scientists of the world. The main difficulty is to communicate with the scientists of the world. We need this communication. And I think TRIL provides the chance for us.

I have some contacts with ICTP and Italian host laboratories. Italy is a beautiful country and the people are very nice to us. They love and enjoy life. The main difficulty is language. We can't talk and discuss with them.

I was a visiting scholar at McGill University of Canada. It is very difficult to compare: TRIL paid for us to receive training and to study. At McGill, we had to work and publish some papers in order to be paid.

I communicate with ICTP using email, and receive some information by email.

I am afraid that I don’t know of the International Centre for Material Physics, Shenyang. This is perhaps because I am a biological scientist.

I think science is still attractive for young people in our country.

If I knew the address of the ICTP web I would contact ICTP-TRIL more often. Where I can get the address of ICTP?
My TRIL experience was great: we had a lot of communication and discussion and finally prepared several publications in our field of interest. It was a long time ago. I do not remember difficulties except the availability of research journals and a good library (Palermo University, Faculty of Engineering).

I have no contacts with ICTP, but would like to make a visit to ICTP. It was a real academic and research center that makes you to feel very fresh in professional activities.

Language, of course, in Italy was difficult. Also finding accommodation was not an easy task.

I had an experience six years later with the Solar Energy Center of Colorado University, USA. Staying there for our family was easier and the availability of research facilities was very considerable.

I do not think that science has a specific position in our country. It is no longer the main objective in our society.

The undeveloped or developing countries have always struggled with politics. This activity expends a lot of time, wealth, efforts and human values.

The best way to expand knowledge and science is to force underdeveloped countries to have strong relations with other developed countries, and create mutual activities concerning science and technology.
The ICTP experience: the TRIL programme

Ali Yılmaz

Turkey

ICTP-TRIL activities on Medical Physics became the framework of my research during my life. Most of my work is almost an extension of my earlier research done in Italy. TRIL helped me to solve the most fundamental problems: we did not have a convenient instrument for running experiments and enough experience for preparing papers. TRIL helped me to collect data and to get experience for preparing papers. This contributed to my academic, research and professional life.

Now we have a 400 MHz NMR instrument and I have enough experience for preparing papers, but there is still a strong need to work at higher frequencies and also to share ideas with Italian colleagues.

Since 1993 I have had no collaboration with Italian host laboratories, but have participated in two ICTP activities on protein folding held in 2001 and 2003.

Cultural life in Italy was magnificent, and I was very happy there. Living under Italian culture for a while had contributed to my knowledge of western culture and influenced me positively about western life style. ICTP-TRIL provides an excellent dialogue between different cultures. I met with no difficulty during my stay there and felt as if in my own homeland. People were very nice, and everything was very positive for me.

In my opinion, the TRIL structure is more perfect than others. Laboratories designed for research in different fields of Experimental Physics were assigned for TRIL programmes. The various instruments in these advanced laboratories provide a research change in many fields. Due to the involvement of many laboratories and also many tools, the research capacity of TRIL is absolutely higher than those of the others. For these reasons, TRIL has superiority over the others. I must sincerely express that TRIL is also a very wise organization. It provides a good chance for talented scientists from developing countries to work in advanced Italian laboratories. TRIL also provides a useful contact between Italian scientists and scientists from developing countries. I know that such contacts and collaborations are very fruitful.

I have no access to electronic information on the ICTP programmes on a regular basis. However, we receive all announcements by postal mail on a regular basis. Also I follow new developments via the website of the ICTP. I will be very happy if I could receive all information on TRIL programmes by email on a regular basis. Particularly, I would like to learn about visiting programmes of less than one month by email.

Science is even more attractive than before for young people in my country. I am
noticing an increasing interest with respect to the past.

I can say that the head of TRIL and the TRIL Office at ICTP make a great contribution to science and the scientific life of scientists from developing countries.
ICTP-TRIL provided me with the first opportunity to join a foreign research group at the leading level in laser sensing field. I learned a lot from this group. Since then, I have begun my international research activities and published papers in IEEE journals. I hope to get more opportunities to communicate with foreign scientists.

I have a close contact with the Italian host laboratory.

The main difficulty of my stay was language. I cannot speak Italian. It is better to provide the fellows in Italy with a short language-training course.

TRIL has a very good organizational structure. It provides the fellows who join the programme in ICTP with all kinds of convenience such as accommodation, finance and travel.

It will be better to re-establish the Chinese Chapter of ICTP.

Science is very attractive for young people in my country.

Please organize more international conferences and research activities on the opto-electronics field.
Hamit Yurtseven
Turkey

TRIL helped me very much to do research in a different area (liquid crystals). I had completed my Ph.D. at King’s College, London, in 1984 and joined the TRIL programme between 1988 and 1989. I was on my own in my research work. Unfortunately, I have not had regular contacts with ICTP and the Italian laboratories since then.

Living in Italy was a very good experience for me. I attended an Italian course for about a month during my stay there. I had no difficulty at all in Italy since my host Institution (II Università di Roma) helped me a lot.

My only experience abroad was to attend King’s College in London during my Ph.D. study (1979-1984). The TRIL Programme was good and well organized for those who wish to do good research work.

I feel that there is a decreasing interest in science with respect to my time 20 years ago.

I hope that the TRIL Programme continues at the ICTP over the years and opens new horizons to young people in their own research areas, just as I benefitted very much during my stay in Italy.
My area of research is surface science using different electron spectroscopic techniques (AES, XPS, LEED, SIMS). During 2002/2003 I visited the Synchrotron ELETTRA with a grant from the TRIL Programme. Prior to my visit to ELETTRA my research was performed with laboratory-based equipment. During my visit to ELETTRA I had the opportunity to work with the novel tools of the third generation synchrotrons. This was a very important and decisive step toward my objective of becoming a user of the synchrotron radiation facilities in the world.

Our country is far away from everywhere and there are few resources to fund travels and/or activities abroad. In this context all the activities of the ICTP are very important opportunities to participate in international events; these activities help us to meet our colleagues in the world and to follow the state of the art in our fields. As mentioned above, the TRIL Programme in particular helped me in getting a first-class training in the use of synchrotron radiation; this resulted in an important upgrade of all our research activities here in Argentina.

I do maintain close contacts with my colleagues at ELETTRA.

It is known that for us Argentines, Italy and Spain are like our second homes. So, besides my scientific activities, this visit was a very much appreciated opportunity to know one of these countries. I experienced only some difficulties with the accommodation (I received very little help from the corresponding office!) and some formalities (children’s school; how to obtain the “codice fiscale”, and a few things that are important for those who go for a long stay).

I did my postdoc in Switzerland, but this was something different, not comparable in my opinion with the TRIL Programme. In general I was very satisfied with the TRIL structure.

I am not on any information mailing list, so do not receive any kind of information about ICTP on a regular basis. In general I see print information posted in different places of my institution. Anytime I need to get some specific information I visit the ICTP-TRIL websites.

The interest in science fluctuates. The level of education in Argentina has seen an important decline in the last years. In spite of this, I see that the prestige of the main centers is still maintained. The interest of the young people for scientific careers, I
The ICTP experience: the TRIL programme

would say, has not declined. The big problem in our country is that a vast majority of the students end up involved in theoretical activities, not to speak of the massive emigration to first-world countries.
Almost 10 years ago, the TRIL programme was of great importance for the achievement of my Ph.D. degree in Brazil. The experiences I have acquired, as well as the experiments I did in Italy, were very helpful for my introduction to the area of photoelectron spectroscopy, for example.

The TRIL programme was of fundamental importance in my academic life. It provided me with lots of information and a considerable degree of scientific maturity.

The cultural impact of my stay in Italy was very positive. During my stay in Rome, I improved my skills in the Italian language and had the opportunity for closer contact with the Italian culture and people.

Science is still attractive to the young people. One of the main problems (at least in Brazil) is the lack of opportunities to study or improve their knowledge abroad and, especially, the complete absence of professional perspectives. Here in Brazil, lots of good young scientists are not interested either in the academia or in industries for political-economical reasons.
The TRIL Programme has enabled me to have access to some of the laboratory instruments (PECVD, Solar Simulator, etc.) that were not available in my home institution. The following articles have been submitted for publication on the basis of my work done under my TRIL Fellowship:


As pointed out earlier, the main difficulty that the TRIL has helped to overcome is the availability of laboratory facilities. This, however, does not address the problem at the end of the fellowship as my home institution has not yet been committed to acquiring some of the required instruments (PECVD) needed for a proper follow-up of the research on silicon heterojunction solar cells. This is indeed a crucial problem.

I am currently still in the host laboratory. I believe collaboration will continue at the end of my fellowship. We are already discussing the possibility of some members of the host research group visiting my home laboratory.

In Italy the language barrier was initially a problem, but it was quickly remedied by taking some Italian courses. Accommodation seems to be a bit expensive in this part of the country (Bologna). Regarding the police formalities, I am of the opinion that the procedure is a bit slow and time consuming. All attempts to invite my family members for a visit failed.

I have no experience with other laboratories abroad, but am however satisfied with the facilities available here at the IMM-CNR.

In my country, it seems that young people are no longer showing interest in science. This is particularly true for experimental fields.
TRIL was an excellent starting point for my post-graduate professional and academic career. Without it, I would certainly have had many more difficulties in achieving the present status. The main difficulties that TRIL helped me to overcome are hands-on science and contacts with state-of-the-art science; along with the state-of-the-art methodology of carrying out scientific work, contacts with world leading scientists (networking) is another avenue opened by the TRIL Fellowship.

I still have contacts with some Italian laboratories, including Elettra where I was working thanks to ICTP support.

The impact of my stay in Italy was positive in every sense: extremely friendly people, natural beauty of the country, impressive cultural heritage. The only drawback is the extremely complicated and time-consuming immigration and police formalities (I have heard that in the meantime the situation in this regard has gotten worse).

The level of competence of the TRIL personnel, the structure of the programme and the opportunities it offered are certainly comparable with the best of such programmes in the world.

There is a small decrease in interest towards science, but there are still very many highly talented and enthusiastic students.
TRIL helped my collaboration with international scientists in China, Italy, Germany and the US. My Italian colleagues were friendly and helpful. The major difficulty was bureaucracy, which is usually very slow in processing paperwork, and the excessive security procedures in the Italian laboratory (ENEA) where I did my work.

I have also worked in Germany and a number of institutions in the US, including the University of Maryland where I am a faculty member now. I think the TRIL structure works fine.

I don’t receive email about TRIL, but can find basic information on the ICTP website.

I think the Chinese Chapter of ICTP would be very useful, especially in the distribution of the news, so as to advertise the TRIL programme to Chinese scientists.
Jie Zheng  
China

The research experience I gained in Professor G. Righini’s group (in IFAC-CNR) is the impact of ICTP-TRIL on my past and present research and professional activities. The main difficulties in my research activity were getting research funds and finding a good research field. TRIL helped to overcome these difficulties because I found my research field from the Italian host laboratory (IFAC-CNR).

I have regular contact with Professor G. Righini (IFAC-CNR). He visited my laboratory in China twice (in 2003 and 2005). I have regular collaborations with his research group.

Italy is a great country. I like Italian culture. I did not meet with any difficulties when I was in Italy.

I had an experience also in Osaka University in Japan, supported by JSPS. I think that the TRIL structure is similar to JSPS, the difference being that TRIL supports only researchers who come from developing countries. For me, TRIL is better.

I think that science is still attractive to young people in China but I have noticed that there is a decreasing interest with respect to the past.

TRIL programmes have represented a valuable contribution to the professional career of many Chinese people (including me) and to our country’s development. Thanks for the TRIL programme! I hope that TRIL will continue to support young Chinese people to study in Italy.
Linjin Zheng  
China

Since leaving Italy, I have been working in the US, continuing my plasma physics research at the Institute for Fusion Studies, University of Texas, Austin. I remember the research experience at Trieste, which still has a great impact on my research work. I would like to extend my thanks to Professor Giuseppe Furlan and Professor Massimo Tessarotto for their encouragement and support for my research work at Trieste University. Although not easy to list specifically, the ICTP-TRIL programme is very helpful to me. I appreciate it very much.

Although I left Italy and have settled down in the US for more than eight years, I still have regular contacts and discussions with Professor Tessarotto at Trieste University. Although I have not paid a second visit to Italy, I am happy that Professor Tessarotto visited my institute last year and we met each other several times at various conferences.

Italy is a beautiful country. People there are wonderful. The stay in Italy has led me to read history books about the Roman Empire, the Renaissance, and Christianity.

I would say TRIL is a great programme.

I regret to say science is less attractive for young people, especially physics nowadays.

I hope ICTP can keep supporting plasma physics research, especially enhancing the computational plasma physics, which is important for ITER.
The main impact of ICTP-TRIL on my professional activities was to change my research interest from cosmic-ray physics to the radiation of cosmic rays at aviation altitudes and in space, and to provide me with opportunities to learn and develop new passive nuclear track detectors and methods which are useful in radiation measurement and research.

The main difficulties in my activity were funding and research direction. ICTP supported me with two years’ funding and an excellent advisor – Dr. Luigi Tommasino in ANPA – who paved the way for advanced studies. I still have regular contacts with Dr. Luigi Tommasino in ANPA.

I had experiences also in DIAS (Dublin Institute for Advanced Studies, Ireland) and in JSC (Johnson Space Center, Houston, USA). My research in the area of radiation measurement and analysis was started from ICTP and continued at DIAS and JSC. Now I work in JSC as the leading expert in space radiation measurement and research using CR-39 detectors, with the main interest in Linear Energy Transfer (LET) spectrum and charge spectrum for radiation field of cosmic rays.

The emphasis of my work in ICTP was to learn and develop new detectors and methods; in DIAS, it has been to develop and improve LET spectrum method and to accomplish the task of radiation measurement, especially LET spectrum for radiation field at aviation altitudes. Finally in JSC the emphasis of my work has been to measure and analyze space radiation for the purpose of safety for astronauts and space vehicles.
During my stay at CNR-Tempe (now CNR-IENI) under the TRIL Programme, I had learned much from those diligent Italian scientists, including their scientific knowledge, thinking methods, logical reasoning and independent ability as well as the love and pursuit of wisdom by intellectual means and moral self-discipline.

Now, I am a professor at the Institute of Metal Research, Chinese Academy of Sciences, CAS-IMR. I know my achievements are correlated with ICTP-TRIL, and hope that more young scientists from developing countries will benefit from the TRIL Programme. TRIL helped me with many aspects. Now it isn’t that difficult for me.

I have kept regular contacts with Dr. Valentino Lupinc, director of CNR-IENI, Milano, who was my supervisor when I was trained there five years ago. In the past four years, one person per year from both sides has visited each other under the CNR-CAS scientific cooperation programme “The Relationship between Microstructure, Processing and Mechanical Properties of High Temperature Materials”. Now, the above programme has finished successfully, and both sides wish to initiate a new cooperation plan.

The wonderful Italian culture and friendly people have made a strong impression on my mind even after five years. I hope to have another chance to be there again in the near future. Accommodation and language were my concern, but they were not big problems with the help of my friends from both Italian and Chinese sides.

Up to now, CNR-IENI (former CNR-Tempe) institute is the only foreign laboratory that I have visited.

Many young Chinese have benefited from the Chinese Chapter of ICTP. It is worth re-establishing it, especially for me who is from CAS-IMR, Shenyang.

With the rapid economic progress in China, our government has the ability to appropriate more funds to sciences and technologies, which play an important role in sustaining progress of Chinese economy. Under this situation, many young Chinese pay more attention on sciences and technologies, and devote themselves to these activities.
Pingheng Zhou

China

TRIL helped me to join the European science community and to have a chance to communicate and collaborate with them. I still have contacts with the Italian laboratory and ICTP.

I tried to make more Italian friends, and asked help from them to solve the difficulties I met.

I think it will be fruitful to re-establish the Chinese Chapter of ICTP.
The ICTP experience: the TRIL programme

Mahmoud Ziaei
Iran

In my classes every year I have used, and am still using, my experience and lessons learned during my stay at Trieste. MRI, especially, on which I did research at Rome University during 1983-1984, is an example that is very attractive to grasp students’ attention in my physics classes.

Thanks to TRIL I learned to be independent and submit papers on my own without the help of a supervisor. I also had good experience working with large research groups and cooperate effectively.

Unfortunately I have no contacts with ICTP anymore but would like to have more opportunities if they exist for senior scientists.

The Italian culture was interesting on its own. Although language was a barrier, I could get around it, as Italians were willing to help. Accommodation was a problem, especially with the first agent who was not truthful. However, the second agent, who was found by a colleague at Rome University, was really a gentleman and helped us a lot. I stayed all the rest of time in one of his apartments.

Medical assistance also was a problem as I did not exactly know the process and most clinics were private and were charging higher than normal fees, which I resisted at times. Obtaining a visa (for Iranians) was really difficult in those days.

On the whole I was happy with the laboratory and people who worked there, and had good relations throughout. I still remember their names, and have good memories of my stay in the Physics Department of the University of Rome.

I would like to get some information, especially about possible ICTP scholarships for senior scientists who may need financial assistance to spend some time in Italy.

I know science is very attractive for students in Iran but not so much in Canada.

I think that ICTP is doing a good job helping young scientists from developing countries to remain active.
I worked in the Department of Environmental Sciences, University of Venice, during September 2001. The scientific visit was supported by the ICTP in the framework of the TRIL Programme. The main achievements in the relevant research and my professional activities are:

1. Regional project “Study of Prespa lake using nuclear and related techniques” with the participation of Albanian, Greek and Macedonian scientists. The project was completed in 2003 and I have been responsible for the Albanian part (scientific and management aspects of the project).

2. Technical Report (in English and Albanian Languages) of the project (2003 and 2004);

3. Scientific Conference “Prespa–Ohrid lakes system; studies, results and problems” (July 2004; I have been co-chairman of the conference);

4. “Environmental Stable Isotopes and its Application in Geological and Hydrological Studies in Albania” (Presentation to the PIM-Confenece, Cluj Napoca, Romania, September 2003, Proceedings of the Conference);

5. “Environmental Isotopes of Hydrogen and Oxygen in the study of underground communication between Prespa and Ohrid lakes” (presentation to the BALWOIS Conference, Ohrid Makedonia, May 2004, Proceedings of the Conference);

6. “Determination, calibration and normalization of delta carbon dioxide using two standards” (Paper in the “Journal of Natural and Technical Sciences”, No. 2, 2005 Academy of Sciences, Tirana, Albania);

The main difficulties in our research activities are:

1. Very low budget of the Institute that cannot pay for the upgrading of the laboratory and for the analytical equipment;

2. A limited budget for the comparison of measurements with those from foreign laboratories; and

3. Very low budget to support the participation in the scientific activities outside of Albania (short scientific visits, conferences, seminars, workshops, etc.). We will be very grateful if TRIl will help us in overcoming these main difficulties.

We have regular contacts and collaborations with ICTP and Italian host laboratories and continue to get regular information about ICTP. As a result of the collaborations with the Italian laboratories (University of Venice and Geokarst Institute in Trieste), we have prepared a project in the framework of bilateral cooperation between the Italian
The ICTP experience: the TRIL programme


I evaluate my stay in Italy very positively in all aspects. I have visited the cultural and historical points of Venice, which is a very interesting and very beautiful city; also I have visited ICTP, which is a big scientific centre. During my scientific visit to Italy, I haven’t had any difficulties in language, accommodation, or police formalities because the colleagues of the host institutions (University of Venice, Department of Environmental Sciences and ICTP) arranged everything. I want to thank all my colleagues and my very good friends.

For training and later for a scientific visit, I have been to the Institute of Hydrology, in GSF in Munich, Germany, and for a scientific visit to the Nutrition Centre in Cambridge, United Kingdom, and for a scientific visit also to the University of Venice. My general opinion is that the laboratories of the European Community countries are very well equipped, with effectively organized structure and more or less the same scientific level.

My personal opinion is that in the last years, science has not been so attractive for younger generations. I think that the young people, actually, are more interested in getting a job with much more money as soon as possible. There are different reasons for this situation.
Participation in the TRIL Programme was a crucial point in my career. After finishing my masters degree I spent 20 months in the “Istituto sull’Inquinamento Atmosferico”-CNR in Rome working in a team dealing with neural network modeling and its application for monitoring and forecasting physical-chemical variables in the boundary layer, and the analysis of climatological observations at global, regional and local scales. Results of our work were published in the paper “Non-linear atmospheric stability indices by neural-network modeling” A. Pasini, C. Perrino and A. Zujic, Il Nuovo Cimento, 26C (60) (2003) 633-638, and were presented at two international conferences: International Conference on Fundamental and Applied Aspects of Physical Chemistry (Belgrade, September 26-28, 2002) and First Italian IGBP Conference (Paestum (Italy), November 14-16, 2002). I also had a chance to learn more about techniques used in this Institute for air-pollution monitoring in the urban environment and construction of an air-quality monitoring network. Based on those studies and in collaboration with my colleagues in Italy and in Serbia, I wrote a proposal for the project of establishing an Air Quality Monitoring System in the Serbian city of Kragujevac. We hope that this project will be realized in the near future with the help of the Ministry for Environment and Territory of the Italian Republic, and in collaboration with CNR and a group of some Italian and Serbian companies. In the meantime I am working on my Ph.D. thesis on air quality in the Belgrade Metropolitan area.

Living in a country that has a great scientific tradition but a small budget for science makes it very difficult to work and create something new, explore new areas of science and work with new technologies and be in touch with progress at the leading edge of science worldwide. The TRIL programme gave me a chance to work in another environment, with experts in that area, to learn a lot and achieve a lot. It helped me to define what exactly I want to do and how to apply in my country what I’ve learned there. It enabled me to establish collaboration with people from my host Institute and try to do something together here in Serbia.

I have regular contacts with people from my host Institute “Istituto sull’Inquinamento Atmosferico”, CNR, Rome. We worked together on the project for preliminary assessment of air pollution in the Serbian city of Pancevo (big industrial zone near Belgrade) funded by the Ministry for Environment and Territory of the Italian Republic. And we
hope that in the future we will work together on some similar projects, one of them being establishing air quality monitoring system in the Serbian city of Kragujevac.

Living in Italy for almost two years was a great experience for me. Learning a new language, meeting new people, getting to know a new mentality and way of life was a fantastic and unique life experience. Thanks to the people I worked with and my Italian friends, I managed to find good accommodation, had no language barrier and most of the time I felt at home. The only negative was all those police formalities considering a permesso di soggiorno, waiting for months to renew it and all that complicated procedure.

Unfortunately I haven’t got any other experience abroad so far, but I really hope to get that chance in the future, as I plan to go abroad again and do some work if given a chance.

Unfortunately interest for science in my country is drastically decreasing each year. In a country in transition where the economy is in the very bad state, funds for science are very poor as are the salaries of young researchers and conditions in which we are working. Many young people go abroad the moment they graduate and so each year it is more and more difficult to motivate young people to stay here and work in science.

I would like once again to thank you for the opportunity you gave me to participate in your programme. I think you should continue working on it and getting more and more people from developing countries to Italy to do research and create a chance to do something useful for their career, and apply what they learn to solving problems of their native countries. I wish you all the best.
Other positive features of TRIL, as seen by its Fellows, are the access that the Program provided to modern equipment, and, in several instances, the impetus that this exposure provided them to build or establish similar facilities in their own countries. Many Fellows assess the working conditions in Italian laboratories to be on par with those in other developed nations, sometimes rendered better by the social ease with which Italians take to collaborative work. For a number of Fellows, TRIL provided a turning point for the better. They rejoiced the access to outstanding scientists and equipment, freedom to pursue their work under the watch of a gentle guiding hand. What more does a motivated young scientist need?

- from the preface