

## Editorial in the ICTP Newsletter

Trieste  
March 3, 2009

Dear Reader:

Not so long ago, the Secretary-General of a distinguished Academy told me that there are two kinds of science: discovery-based science that is appropriate to advanced countries and the other suitable for developing countries. More recently, I was asked this: Why are you teaching high-level physics to Africans when the real needs in Africa are clean drinking water, better public health, literacy and freedom from famine? How wrong I was to have thought that such questions had been put to rest in the last 45 years of ICTP's existence!

No one disputes the importance of mitigating poverty, disease, illiteracy, famine and the like, or of the overwhelming need for creating better living standards. We at ICTP cannot tackle head-on any of these problems in their direct manifestations but can address one basic ingredient of a developed society: the culture of rigorous thinking about problems that face one's society and of solving them through creative applications of that thinking. ICTP is about instilling rigorous thinking and its application to problem solving; it is our tacit belief that nothing lasting can be built on a sloppy base even if one works on applied problems of climate change, industrial pollution, groundwater circulation, renewable energy or cancer therapies. The process of learning itself is often more important than what one learns, and there is nothing more rigorous or broader than physics and mathematics for training oneself in this arena. This is the opportunity that ICTP offers to as many talented people as possible. Our concern is quality and diversity at one and the same time: without diversity we lose our soul and without quality we lose substance.

The second point is that even a person from a small institution in a poor country should be able to work in the most advanced branches of physical sciences at some place in the world, as long as she is sufficiently talented and her desire deep. How can I, or anyone else, tell her that advanced research is a luxury for her and that she should be working only on a developmental project of immediate relevance? The province of doing things one loves does not belong to a privileged few. Reality will no doubt impose limitations but there must be at least one place in the world where the opportunities are not diminished by poor pedigree alone. That place is ICTP.

In my conversations with many young scientists, my exhortation has been essentially the same: stop being traumatized by words such as "development" and "networking" that the world is fond of using these days---especially the UN agencies: you cannot contribute to development if you have no intellectual stamina, or achieve much by networking if you bring no strengths of your own. I tell them to use their time at ICTP to build their inner strengths for working on the same footing as most others from any part of the world (there are always a gifted few that work on a different plane of neuronal connectivity, and must be left out of such comparisons).

As always, we would love to hear from you.

Sincerely,

K.R. Sreenivasan  
Director, ICTP