

# Setting new sights for the ICTP

**Katepalli Sreenivasan**, incoming director of the Abdus Salam International Centre for Theoretical Physics, outlines his visions and ambitions for the Trieste-based centre

Just as their powers begin to bloom, thousands of bright young scientists from less prosperous countries emigrate every year to more affluent parts of the world. This exodus of talent is not a total write-off. Some successful expatriates do contribute from abroad to causes in their home countries, where they are often a source of pride. However, on balance, the drain of youthful talent is damaging and hurts even populous countries such as China and India, which have no dearth of raw talent. This migration, which is largely an economic issue, will not cease unless the prevailing socio-economic imbalances correct themselves.

Many scientists would, in fact, prefer to remain in their own countries – if an exciting scientific environment could be created locally. Mozart's creative genius, after all, might be said to have depended on the Viennese infrastructure in music and opera. But even when individual centres of excellence are created – often at great cost – in developing nations, successful researchers working there are always under the tantalizing influence of the material superiority of the West. The ongoing challenge is to build a sustained, world-class intellectual infrastructure in developing countries and to inspire budding scientists to emulate successful scientists living there, rather than expatriates.

One solution that occurred to Abdus Salam – the Pakistani theorist who shared the 1979 Nobel Prize for Physics for unifying the weak and electromagnetic interactions – was to create the International Centre for Theoretical Physics (ICTP) in Trieste, Italy. Founded in 1964, the centre enables scientists from developing countries to come into contact with some of the best scientists in the world, who themselves might be visitors to the centre. An “associateship” programme also allows bright young scientists from developing countries to spend part of the year in the invigorating atmosphere of the centre, thus keeping in touch with peers and leaders in their fields, and increasing their exposure to larger communities.

The ICTP has met its goals with admirable success. Some 80 000 scientists from all over the world – about 4000 each year – have benefited from and contributed to the centre's programmes. These range from remedial courses to workshops on frontier topics, often led by scientists from developing countries. I myself have been a lecturer in two such programmes. Leading scientists from across the world continue to maintain strong ties with the ICTP. Several interna-



Let's stay together – inside the ICTP in Trieste.

tional institutions, such as the Third World Academy of Sciences, are also based around the ICTP.

## Tasks ahead

The 40th anniversary of the ICTP in 2004 will be a cause of much celebration. However, much more remains to be done. It is still the case that even in those developing countries with a strong scientific tradition, the average level of science is low. The fascination that science holds for the younger generations is eroding. Many countries have continued to lag behind in scientific sophistication. Worse still, some countries have shown a decided decline in basic sciences since the centre was founded.

My first task as director will be to ensure that the ICTP fosters first-rate science, both locally and elsewhere. In the process of discharging its primary functions, the centre can also promote understanding among nations, especially those isolated from – and suspicious of – one another. The ICTP is part of the larger world and cannot ignore what divides and endangers humanity.

Since 11 September 2001, it has become increasingly clear to everyone that the security of every nation depends on the goodwill and understanding of every other nation – small and large alike. The ICTP will continue to bridge scientific communities in different nations, divided though they might be by political and religious differences, in much the same way that it served to bridge the East and West during the Cold War.

Second, I wish to capitalize on the ICTP's excellent working relationships with Trieste's other scientific organizations and institutions, sharing resources and expertise in ways that make the system stronger than any of its individual components. For example, my own laboratory will be housed in the nearby ELETTRA synchrotron facility.

Third, I have to ensure that the ICTP remains financially sound for the foreseeable

future. With most of the \$25 m annual budget coming from the Italian government, we must ensure that Italy remains proud of the centre's contributions to science, especially in the developing world. Indeed, I wish to see the ICTP's hopes and mission become better known among Italian citizens.

Fourth, I will work hard to enhance the relationship between the centre and the two institutions with which it has a tripartite agreement – UNESCO and the International Atomic Energy Agency. Both bodies understand the special place of the ICTP and the need for it to maintain its academic freedom, as well as its universal and international appeal. UNESCO, in particular, provides enormous potential in terms of the access to its member states. I fully intend to capitalize on this feature.

## Keeping the spirit alive

The ICTP was founded in an era of immense political barriers. That bipolarity has now disappeared, technology has shrunk the world, and the high ideal of internationalism has lost some ground. It is, however, crucial to keep this spirit of idealism alive because therein lies our hope as one type of division replaces another and disparities in the world continue to multiply. For the centre itself, an important challenge is to replenish, in each new generation, a cadre of scientists who see meaning in giving selflessly to the ICTP's causes.

My goal then is to ensure that every task undertaken by the ICTP reflects the special nature of its mission. This needs continued commitment and dedication on the part of its 25 permanent scientific staff and 100 general staff, and an open awareness of the special needs of each developing country. I intend to work with the staff at every turn, and to capitalize on the unwavering goodwill of the centre's alumni around the globe.

Since the announcement of my appointment last year, I have received many enthusiastic messages from this broader ICTP community. Their unconditional encouragement allows me to begin my tenure with goodwill and hope.



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