Trieste – A Center for Excellence in International Science

One of the more impressive institutions for scientific research is the Trieste-based International Centre for Theoretical Physics (ICTP), founded in 1964 by the International Atomic Energy Agency with financial support from the Government of Italy and from local and regional authorities in this somewhat poorer part of the country. The Centre, which has been directed since its inception by Nobelist Abdus Salam, is a hive of activity throughout the year as workshops, seminars, training courses and conferences are held on a wide range of topics in physics. The Centre is also a place where physicists from all over the world, and especially from developing countries, spend a few weeks or months refreshing themselves, developing new techniques and concepts or, perhaps, catching up on the scientific literature in the Centre's well-stocked library.

In 1986 ICTP received over 3600 scientists from 109 countries (60% from the Third World), involving a total of 318 person-years. For example, in early November 1988, these included an engineering geologist from India who was planning an international conference on earthquake engineering, a senior Soviet seismologist who was taking a few weeks to lay the preparations for a workshop in his field, and an Argentinian geophysicist working on middle atmospheric circulation and advising on the plans for the new earth science centre described below.

In the early years ICTP concentrated on aspects of physics related to the IAEA mission, but its activities now extend to many other fields including astrophysics, applied mathematics, biophysics and geophysics. The Centre operates on an annual budget of some US\$7.5 million dollars provided largely by the Italian Government, Unesco and IAEA, with additional funds coming from many other countries. It is interesting to note that the overall cost in 1986 was about \$2,800 per scientist-month, as compared to \$2,900 in 1970, an enviable record indeed.

One of the most interesting aspects of the Centre is the growing number of networks, institutes and other organizations it has spawned or for which it has provided a model. These include the UN-sponsored International Centre for Genetic Engineering and Biotechnology, a Synchrotron Light Radiation Laboratory now being built, an International Centre for Applied Science (including minerals processing and materials science) and the Third World Academy of Sciences (TWAS).

As reported earlier in *Episodes* (September 1987), TWAS is an organization of eminent scientists from developing countries. Run from the ICTP complex on the outskirts of Trieste by Profs. M. Hassan and H. Dalafi and their colleagues under the overall direction of Prof. Salam, TWAS also organizes and sponsors a wide range of activities in many scientific fields, from conferences and lectures tours, to publications, research grants, prizes, fellowships and research projects. Many of the Academy's activities are run jointly with ICTP, such as the impressive service that now distributes some 50,000 books and journals each year to institutions in the Third World.

In Trieste a critical mass has clearly been achieved – a modest physical establishment, a collection of scientists with vision and ability, and the "seed" finances necessary to attract other funds required. Participants at many meetings at ICTP can witness the birth and anticipate confidently the exponential growth stages of new scientific projects, theoretical concepts, or organizational frameworks made in an environment where resources, human energy and experience can carry them forward to a healthy maturity. One example

is the new network to link organizations working to distribute books and journals to developing countries (see *News Report*, this issue), another is the international organization of women scientists formed recently at Trieste. Indeed, TWAS itself was a product of this same environment.

And now there is the good news for the earth sciences that the Italian Government working through the United Nations Industrial Development Organization is providing \$1.5 million for the preparatory stages of a new International Centre for Science and High Technology at Trieste. This will include three institutes, one of which will be for earth and environmental sciences. If this follows the dynamic pattern of growth shown by ICTP and TWAS, it could provide a powerful and effective mechanism for ensuring the worldwide development and application of the new International Geosphere-Biosphere Programme on Global Change, allowing Third World scientists to contribute more effectively to this and other new international efforts in the geosciences.

FORTHCOMING ARTICLES

Expert Systems in the Geosciences

Radon Hazards from Rocks

Geotraverses in Central and Eastern Europe

Precambrian Tidal Rhythmites

Strike-Slip Faults in Tibet

JUST RELEASED

IUGS Publication No. 24

THE CAMBRIAN SYSTEM IN EASTERN ASIA

by
W.T. CHANG

Correlation Chart and Explanatory Notes covering China, Korea, Vietnam, Cambodia, Thailand, Malaysia, and Burma. 6 figures plus 4 correlation charts in colour. 81 pages, 1988. ISBN 0-930423-13-5.

Price: \$18.00(US), including surface postage. For airmail add \$3(US) within North America and \$5(US) elsewhere. Payments are to be drawn on a Canadian or US bank and made payable to Episodes. Payment may also be made by Mastercard or Visa.

Order from:

Episodes
Room 177, 601 Booth Street
Ottawa, Ontario
CANADA K1A 0E8

Copies may also be purchased from the IUGS Secretariat, P.O. Box 3006, N-7001 Trondheim, Norway; and from the IUGS Liaison Office, 103 rue de Lille, 75007 Paris, France.