

Table 1. International Science Olympiad results for Indian teams in 2004

Subject	Medal tally	Rank*	No. of participating countries
Mathematics (6 participants)	4 Silver 2 Bronze	14	85
Physics (5 participants)	1 Gold 2 Silver 2 Bronze	11	71
Chemistry (4 participants)	1 Gold 1 Silver 2 Bronze	11	60
Biology (4 participants)	3 Silver 1 Bronze	10	40
Astronomy (5 participants)	4 Gold 1 Bronze	1	75

*The ranking is based on aggregate team score; all national ranks are unofficial as the Olympiads are individual events.

HBCSE in collaboration with the Nehru Science Center, Mumbai, of the National Council of Science Museums and is funded by DAE and Department of Space.

The International Astronomy Olympiad for the year 2004 was held in Ukraine during 2–8 October; 75 countries participated and the Indian team topped the contest. The Indian participants, Abhishekh Dang (Pune, Gold), Ved Gund (Pune, Gold), Saptarshi Bandopadhyay (Mumbai, Gold), Ashish Agarwal (Ghaziabad, Gold) and T. V. Raziman (Kerala, Bronze), have won totally four Gold medals and one Bronze medal. Two of the participants stood 2nd and 3rd in the overall ranking. In fact, India has been holding the first or the second rank since the year it started participating in IAO (1999).

India is one among the seven countries (China, USA, Korea, Taiwan, Ukraine, Russia, and India) with the distinction of having each one of the 19 students of the four teams winning a medal in the four

different olympiads in mathematics, physics, chemistry, and biology during 2004 (Table 1). Similarly, all the five contestants in the IAO have won a medal each this year (this has been the case since 1999).

A lot of organizational efforts are involved in identifying the contestants and preparing them for these events. These responsibilities are coordinated by HBCSE with the help of several other organizations. Scientists from a large number of institutions, viz. BARC, TIFR, IITs, IISc, IUCAA, various universities, colleges, etc. help the HBCSE in this purpose.

The Indian olympiad program consists of four stages:

Stage I – An examination held in November/December each year (for physics, chemistry and biology, it is called National Standard Examination) in which around 25,000 students appear at different centers across the country. About 250 students shortlisted in this stage appear for the next stage.

Stage II – The candidates need to face an examination on the pattern of International Science Olympiads. At this level, some 30–35 students are selected.

Stage III – The candidates selected at the previous stage undergo a rigorous training at HBCSE (during summer vacation). At the end of the training period, requisite numbers of candidates are selected for each subject.

Stage IV – Actual participation in the respective International Science Olympiads.

Cash awards and books serve as incentives for the meritorious students who qualify at each stage of this selection procedure. Additionally, the participants of International Science Olympiads in Mathematics, Physics, Chemistry, and Biology automatically qualify for the well-known Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship of DST, provided they continue to study science. The Physics and Chemistry Olympiads' participants are offered direct admission to Bhabha Atomic Research Centre training school provided they pursue under/postgraduate careers in science. However, past statistics show that many medallists actually chose professional courses after their school education, although most of them maintain a strong interest in pure sciences and have a desire to turn to them sometime after their basic professional degree.

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ICTP Science Prizes

The Ramanujan Prize for Young Mathematicians from Developing Countries

The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste has announced the creation of 'Ramanujan Prize for Young Mathematicians from Developing Countries'. The Prize is funded by the Niels Henrik Abel Memorial Fund.

The Prize will be awarded annually to a researcher who has conducted outstanding work in a developing country. (S)he should be less than 45 years of age on 31 December of the year of the award. Researchers working in any branch of mathematical sciences are eligible. The Prize carries a cash award of US\$ 10,000 and travel and subsistence allowance to visit ICTP for a meeting, where the prizewinner will be

required to deliver a lecture. The Prize will usually be awarded to one person, but may be shared equally among recipients who have contributed to the same body of work.

The Prize will be awarded by ICTP through a selection committee of five eminent mathematicians appointed in conjunction with the International Mathematical Union. The first winner will be announced

in 2005. **The deadline for receipt of nominations is 31 July 2005.**

Nominations may be sent to director@ictp.trieste.it, describing the work of the nominee in adequate detail. Two supporting letters should also be arranged. Further details can be found on the ICTP website: www.ictp.it/pages/mission/prizes.html.

Prizes for Leadership in Science and Public Life

ICTP has announced the establishment of five annual Prizes for Leadership in Science and Public Life. The Prizes are being funded by the Templeton Foundation. The goal is to recognize and encourage young scholar-leaders who wish to examine the interaction between Islamic culture and modern science. Each Prize carries a cash award of US\$ 20,000. Prospective candidates should have a doctorate degree

and be younger than 45 years of age at the end of the year of the award. Applications should be submitted in English within the following five prize categories:

- Abdus Salam Prize for Leadership in Islamic Thought and Physical Sciences.
- Ahmed Zewail Prize for Leadership in Islamic Thought and Biological Sciences.
- Ahmed Zewail Prize for Leadership in Islamic Thought and Chemical Sciences.
- ICTP Prize (two in number) for Leadership in Islamic Thought and Applied Sciences (Medicine, Agriculture, Engineering, Technology).

All applicants will be required to write an essay, less than 5000 words in length, describing how their proposed work has served to advance constructive interactions between Islamic thought and culture, and institutions of modern science and technology. The evaluation of applications

will focus on past performance and future promise to advance: (i) scholarly writings for peer communities in science, and (ii) writings for a wide public audience (as, for example, newspaper editorials). Applicants are encouraged to submit samples of published work both in their own field and also articles published for general audience. All candidates should arrange for two letters of support from persons who can speak authoritatively on their abilities. Nominations with adequate details are also welcome.

An international panel of distinguished judges will oversee the selection process. **The deadline for applications and nominations is 31 July 2005.** The first prize-winners will be selected in 2005. Applications and nominations may be sent to director@ictp.trieste.it. Further details can be found on the ICTP website: www.ictp.it/pages/mission/prizes.html.

MEETING REPORTS

Retceding glaciers in the Indian Himalayan region*

The Himalaya, the youngest and fragile mountain system of the earth, has direct influence on climate control, regional hydrology and environment of our subcontinent. About 17% of its mountain area is covered by glaciers. These glaciers are receding faster than those in other parts of the world. To develop a comprehensive study plan on causes and effects of glacier retreat on Himalayan environment and development, a Brainstorming Session was organized by the G.B. Pant Institute of Himalayan Environment and Development (GBPIHED), Almora. Inaugurating the session, Prodipto Ghosh, Secretary, Ministry of Environment and Forests, Govt. of India, highlighted that the issue of receding glaciers is not only a matter of academic interest, but also an integral life support system of North India through river linkages. Further, he stated that research should be conducted to compute the cost of environmental

services both upstream and downstream of the glaciers and find ways and means for compensatory mechanisms.

The discussions were carried out by different panels. Panel-I focused its discussions on retreat of the glaciers in the Himalaya. In his presentation, V. K. Raina stated that recession of glaciers in the Himalayas is not an abnormal phenomenon. It has been happening since the last glacial cycle. Citing examples of four glaciers namely, Machoi and Siachen glaciers in J&K, Gara glacier in Himachal Pradesh (HP) and Gangotri glacier in Uttaranchal, he presented the nature of retreat of these glaciers over time and concluded that whereas the glaciers in the Himalayas are retreating and their volume and size is shrinking, their general retreat rate (about 8–15 m per year), at present, is not what can be termed as abnormal when viewed from the perspective of geological history. It could be a normal cycle of nature, Raina said. Based on his study of ten Himalayan glaciers, Raina also observed that while melt-water release from the glaciers was affected by variation in mass balance, it was the winter snow precipitation that had direct impact on the annual melt-water

yield. He submitted that it would be premature to state that the recession of the glacier is due to global warming. On the other hand, Raina was of the view that the increase in the rate of decay of glaciers in recent times, could be due to decreasing snow precipitation. B. D. Acharya said that the Department of Science and Technology (DST), New Delhi had been coordinating a programme on glaciers over the last 20 years, but the impacts of global warming on glaciers were still inconclusive. He emphasized that the Himalayan glaciers needed to be studied independently with the help of modern tools such as remote sensing. Studies should also be taken up in the area of snow crystal formation and melting patterns to obtain quantitative run-off data, environmental impact of glacial retreat and its relation with global warming. S. Mukherjee emphasized the need of using authenticated scientific reports for media publications to avoid unnecessary sensationalizing of issues. While presenting his findings on glacier flow modelling, K. D. Sharma, stressed on the importance of monitoring weather conditions, water yield and wind speed in all glacier studies.

*A report on the Brainstorming Session on Retceding Glaciers in the Indian Himalayan Region: Environmental and Social Implications held at G. B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora on 11 September 2004.