

## The fun of holding Indian Science Congress *melas*

I was amused to read K. N. Ganeshaiyah's opinion<sup>1</sup>, regarding the holding of national and international science conferences, taking the example of the International Botanical Conference. Similarities do exist between *Kumbh mela* and the Indian Science Congress also.

The 87th session of Indian Science Congress was held at Pune from 3 to 7 January 2000 and hosted by University of Pune, Bharati Vidyapeeth and National Chemical Laboratory. R. A. Mashelkar, Director General CSIR, was the chief architect and planner of this New Millennium Science Congress in the capacity of General President of ISCA. He gave a clarion call to the nation to adopt a new *panchsheel*, a five-point programme comprising child-centred education, woman-centred family, human-centred development, knowledge-centred society, all leading to an 'Innovative India'. Let us hope our national and state governments adopt this *panchsheel* in right earnest to build a new India.

The Prime Minister of India, as usual, was the chief guest for the inaugural session and the University of Pune was turned into a virtual fortress. It took me two hours from the University gate to reach the main pandal after crossing many security checks and barriers. I am of the opinion that we must get rid of this ritual of inviting the Prime Minister to chair the Indian Science Congress at least in the new millennium. This will do a lot of good to Indian science in general, and

the delegates to the science congress, in particular.

The campus of the University of Pune, turned out to be a vast sea of humanity, creating all sorts of chaos for the delegates and the general public who came to visit the science and technology exhibition. Another attraction at the venue was the Kargil Exhibition put up by the Ministry of Defence which was open to the general public. The organizers may not have anticipated such a big crowd at the exhibition. It was a pathetic sight to see kids standing for hours in the queue waiting for their turn. Fortunately, there was no stampede as it happens in every *Kumbh mela* but there was total chaos.

The Science Congress at Pune was a high-tech affair. From the registration desk to the main pandal, information technology was introduced in full measure. However, it also caused unnecessary harassment. The attendance was quite poor in academic sessions but the response was good to the New Millennium Lectures organized in the main pandal.

The forum 'Science for School Students' did extremely well by organizing popular lectures by eminent scientists in the Chandrashekhar auditorium of IUCAA and a Children Science Congress sponsored by DST. Due to limited seating arrangements, many students were left in the lurch. There was so much enthusiasm to participate in these programmes that it led to gate crashing on all the days of Science Congress. A similar situation

prevailed in the 'Food Village' which could not cater to the needs of the delegates and the public at the venue. Most of the volunteers felt exhausted and impatient to demonstrate the exhibits. 'Kargil pandal' was a big attraction where one could see the armaments used by our brave soldiers during the Kargil encounter.

Arun Nigavekar, the Vice Chancellor of Pune University and faculty members and students were always ready to help the delegates. But the student volunteers deserve full marks for making the Science Congress a success. It is estimated that a budget of Rs 8–10 crores is required to organize such a mammoth Science Congress in India. Is it worth the price? My personal impression is positive and I recommend that Indian Science Congress be organized as *Vigyan mela* (to match our *Kumbh melas*) for the popularization of science and technology amongst Indian masses. We should have no pretensions that Indian Science Congress serves any other purpose for promotion of science and technology.

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1. Ganeshaiyah, K. N., *Curr. Sci.*, 1999, 77, 739–741.

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## Problems facing S&T in India

This has reference to the article on S&T priorities by G. Padmanaban (*Curr. Sci.*, 2000, 78, 381–382) in which he has reiterated several issues related to Indian S&T. The Indian science establishment is beset with several problems that have to be examined seriously and an in depth and a thorough overhauling implemented. While our success in certain areas like space technology cannot be sidelined, the fact remains that Indian contribution to science is still insignificant. And this is true not only of science as the West sees it,

but even of science that is of relevance to our country. This indicates, if anything, a serious malady in the S&T establishment.

In spite of the fear of repeating what has already been discussed perhaps several times, I would like to mention briefly some of the aspects that need careful examination.

(i) *Open discussion*: A large number of people, including laymen, bureaucrats, politicians and even some scientists, consider the investment in S&T as largely

wasteful and unaffordable for a developing country like India. However, it is a fact that no country in today's world can afford to neglect S&T and survive. It is therefore necessary that the problems in this sector, their solutions and priorities for funding S&T be discussed openly at the national level. Apart from research in frontline areas, the society requires research work to be done in relation to mundane problems.

(ii) *Promotion of excellence*: Any scientific establishment has to promote exce-

llence among its workers and not mediocrity. A scientist's quality is usually assessed based on his publications. But the number of publications alone cannot be an indication of a scientist's capability. One should see the impact of the paper and even of the journals. Certain areas of social importance may not have much potential for publication in reputed journals. In such cases, alternative methods of assessment have to be worked out.

A related problem is that of scientific ethics. While the number of cases of blatant violation of scientific ethics exposed in India is not very large compared to that in other countries, what is suppressed appears to be much more. Favouritism in every aspect, from selection of Ph D students and valuation of their theses to recruitment of researchers and assessment for promotion, often goes without even a whisper of protest. Scientists have to urgently and seriously address the issue of fudging of data and other misdemeanours.

(iii) *Working environment*: Many scientists often feel that the environment in

Indian research institutes is not very conducive to creative work. Money is *not* often the main constraint. Widespread complaints are more about time delays in obtaining materials or getting the work done, overly restrictive administrative practices, low priority given by government officials to matters related to research, and so on. The government should initiate positive steps to attract private funding for research. Regarding job promotions, in spite of the efforts taken by the CSIR in streamlining the assessment promotion procedures, there still exists considerable discontent. Maybe it is necessary to completely recast the system and have a series of discussions at various levels.

(iv) *Attracting talent*: Even premier institutions like the TIFR are finding it difficult to find good staff for their projects. It appears that the younger generation is moving away from science into commerce, business administration and other lucrative fields. C. Subramaniam had suggested that the old Science Talent Programme be resurrected. If selected candidates have to take up science as a

career, there has to be some assurance that they would get employment in the future. It may not be a bad idea to provide jobs for these candidates every year, of course, subject to the condition that they eventually qualify for the post. If we can have selected cadres in Administration, Police, Forest and even Engineering Services, why not for Science also?

I hope the scientific community will consider these suggestions. A committee consisting of senior and young scientists, university teachers, academicians, bureaucrats and management experts could be constituted to initiate discussions at various levels that would lead to a national consensus on these issues. In any case, it is high time something is done about the problems in the S&T sector if India is not to fall far behind the other developing countries.

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## Issues regarding S&T in India

The articles in *Current Science* (2000, 78) by P. Balaraman (pp. 365–366), K. N. Bharadwaj (p. 368), M. Mukul (pp. 368–369), and G. Padmanaban (pp. 381–382) raise the following issues for the *immediate attention* of organizations like DST, UGC, CSIR, ICAR, ICMR, universities and research institutes, industries and researchers themselves.

1. Facilities for research in various disciplines are governed by the quality of scientists recruited for the purpose. As long as equipments are properly used by scientists and students, their maintenance is usually assured by service contracts and funds from projects/institution itself.  
2. It is true that some scientists have denied to share their facilities with other users even when the equipment is almost idle due to various reasons. Joint authorship is necessary wherever intellectual interaction is involved.

3. Funding should be given to deserving scientists and not be based on mere 'contacts with right persons'.

4. Instrumentation centres in most institutions are in a bad state because qualified staff have not been appointed to design new instruments/equipments, and keep the older ones going much longer.

5. Fruitful cooperation between academia and industry can occur only if there are dedicated scientists and the industrialists are willing to use Indian technology for their products. Institutions/departments should circulate brochures mentioning their field of expertise and achievements. In the process, the academics should ensure that their academic commitments are not hindered. Institutional and personal ethics should be developed and fostered, defaulters should be dealt severely.

6. Committed teachers and scientists, and reasonable infrastructure will help to prevent brain drain.

7. Undue priorities and biased/favoured discriminatory funding without regard to quality achievements, and relevancy and just 'right contacts' will not nurture young creative minds.

8. The lack of quality teachers in various science branches in most institutions, has led to a decrease in the number of students taking up basic science for study.

9. Hence, the present system of education should be restructured with course-semester pattern and good teachers.

It is thus time for all those concerned to get together and work for rapid improvement.

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