New portal for scholarships, etc.

A portal detailing educational supports such as scholarships, fellowships, freeships and educational loans, etc. is launched recently by the Ministry of Human Resource Development (MHRD), Govt of India at the website **www.educationsupport.nic.in** to serve as a ready reference/single window source of information relating to scholarships, etc. available in India. First of its kind in India, the portal presents information on various types of incentives available from all sources such as educational institutions, universities, Ministries of Government of India, organizations, non-government sources and information about educational loans from various public and private sector banks. It also presents a number of external scholarships exclusively offered by MHRD for study abroad. It also deals with admission policy announcements, i.e. the facility of applying for scholarships online with the support of universities/institutions, etc. This facility enables applicants to know of the status of their applications for scholarships applied for also.

MEETING REPORT

Mid-year meeting of the Indian Academy of Sciences*

T. V. Ramakrishnan, President, Indian Academy of Sciences, Bangalore, and M. S. Thimmappa, Vice-Chancellor, Bangalore University inaugurated the opening session of the 16th mid-year meeting of the Academy at Central College, Bangalore. In their opening remarks, both appreciated the joint efforts of the Academy and Bangalore University over the years in hosting major events in science, with large participation from schools, colleges and the university. They noted that 50 years of discovery of the structure of DNA was celebrated in 2003 during the mid-year meeting of the Academy at the Bangalore University. This year, marking 100 years of Einstein's famous discoveries (International Year of Physics), the Academy again chose Bangalore University as the venue for a full session on 'Lectures in Physics'.

The opening session, held in the afternoon of 7 July 2005, was attended by a large number of school and college students and teachers, apart from fellows and associates of the Academy. N. Mukunda (IISc, Bangalore), N. Kumar (RRI, Bangalore), J. V. Narlikar (IUCAA, Pune) and S. R. Ramaswamy (IISc) delivered the public lectures. Mukunda opened the session with a lecture entitled 'Light, space and time'. In his opening remarks, Mukunda described the evolution of temperature–frequency relationship from the work of Kirchhoff (1859), Wien (1893–96), Planck (1899), Rayleigh/Planck and Rubens (1900) and finally Einstein (1905). He explained the story of $E = h\nu$, i.e. the idea of photon, the particle of light, and dealt with the opposition to this idea of the particle nature of light by well-known scientists of that time (Millikan, de Broglie, Planck and Bohr) and its acceptance through the Compton effect (1923–24) and also by Dirac (1927). This was followed by a discussion on Einstein's work of bringing space and time together, leading to the general relativity theory. Mukunda explained how the modification of the Newtonian mechanism yielded the famous equation, $E = mc^2$. He also explained how a compounded knowledge of mathematics, physics as well as philosophy was essential for this discovery.

The second lecture by Kumar was on Bose–Einstein condensation (BEC) during the period 1924–95, in which he dealt with the quantum mechanically indistinguishable nature of classically identical particles, the explanation of Bose (Bose, S. N., *Z. Phys.*, 1924, **26**, 178) on correct counting of the indistinguishables (explanation of blackbody radiation (1900–01) hypothesis by Planck, and the origin of particles with integral spins. Kumar further informed that in 1995, Cornell, Ketterle and Wieman cooled dilute alkali gas of ^{87}Rb atoms to nanokelvins in a trap, to obtain complete condensation, and thus created a near ideal BEC situation. Kumar termed this discovery to be of a new state of matter having implications in atom lasers, spectroscopy and interferometry.

Narlikar spoke about cosmology (understanding universe both in time and space) and explained the following: The first concept of cosmology was the Newtonian concept (1692), where the universe was considered as homogeneous, isotropic and static. The cosmological principle allows one to consider that the universe is same from all positions and directions when large galaxies are sampled. In 1917, Einstein applied the general theory of relativity and explained that distortion in the space around any matter is due to gravity and as a result the space derives a curvature. There has also been an approach to look at the universe where it is continuously expanding and the galaxies keep moving farther apart. This is the big-bang approach, where matter and energy that were densely situated together, exploded with 'a big bang', and the universe that resulted was hot and contained elementary particles. It started to expand and cool and organize to form various galaxies and stars. Narlikar explained the different cosmological theories starting from 1900 onwards and also the role of Einstein's cosmological constant and how it is revisited in modern cosmology. The present work in cosmology includes baryogenesis, dark matter, dark energy, etc. Narlikar concluded his talk with a message: 'Cosmology is still an open subject and there is need for some independent thinking'.

The last lecture of the evening was delivered by Ramaswamy, which was mainly

*A report on the 16th mid-year meeting of the Indian Academy of Sciences, Bangalore held during 7–9 July 2005 at Bangalore.