

that the limiting factor to development of bioinformatics is the lack of trained professionals. To overcome this, JNU has recently started a new diploma programme in the field of bioinformatics. There exists tremendous scope for people with varied backgrounds such as mathematics, physics, chemistry and biology to come together. Under the umbrella of bioinformatics they can help India with

new approaches to find meaning out of sequence data, analysis, location, with functional and computational studies, including molecular modelling.

With the tools obtained in the area of genomics and bioinformatics, especially in plant genome research in India, the country is moving towards being fully involved in applications of post-genome research in genetics, plant biotechnology

and agriculture. Lacking this, India may find itself technologically incapable of taking the next step in the genomic revolution.

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## MEETING REPORT

### Indian Geological Congress\*

At the 12th Indian Geological Congress (IGC), B. C. Bora, President IGC delivered an address on the 'Role of fossil fuels as future energy sources in India'. The keynote address by D. K. Chadha (Central Groundwater Board) was on 'Groundwater management in arid zones in India'. The depletion of mineral resources is a matter of great concern to earth scientists as indicated by the invited lecture on 'Volcanogenic massive sulphides (VMS) on the mid-oceanic ridges – Resources for the future?' by G. S. Roonwal (University of Delhi). The technical sessions of the IGC and the seminar on groundwater resources were held concurrently. *Profile of Presentations* (the abstract volume) with 175 titles was distributed to the registrants.

The Sixth IGC Foundation Lecture by P. N. Agrawal (University of Roorkee) on 'Seismological aspect of earthquake damage reduction', was followed by the invited lecture by R. S. Sharma (University of Rajasthan) on 'P-T-t evolution of orogenic belts: A case study of the Aravalli Mobile Belt'.

Papers at the technical sessions of IGC were presented on five broad themes. The presentation on petrology, mineralogy and geochemistry (23 titles) covered a

wide spectrum, including petrogenesis, migmatization of granulitic anorthosite complex and granites, petrology of carbon phyllite and limestone, and computer programs.

A large number of papers (32 titles) were to be presented in the session on mineral resources, minerals exploration, fossil fuels and mineral industries, but only a few could be orally presented, covering various types of mineral resources, strategies for exploration and entrepreneurship, and geotechnical studies. The scope of foreign investment and opening the gates to multinationals were debated at length.

The session on Precambrian geology and tectonics (16 titles) witnessed presentation on tectonic modelling of several areas. Stratigraphic position of ultramafic rocks in the Aravalli and the shear zone characters in Delhi and Aravalli rocks, the Asia-India collision using thermochronology, and papers on neotectonics and microtectonics were also discussed.

The session on Phanerozoic stratigraphy and palaeontology (7 titles) was essentially an 'oil-men show'. Papers on petroleum exploration, erection of basin stratigraphy of Bombay High and Assam regions and the stratigraphy, using megafossils and new species of Ostracode, were presented. The invited lecture on 'Petroleum systems in the Indian sedimentary basins: Stratigraphic and geochemical perspectives' by Kuldeep Chandra (KDMPIE-ONGC) was presented *in absentia* by Anil Bhandari (ONGC).

In the session on environmental geology and remote sensing (23 titles), effects

of mining, afforestation, watershed development using GIS techniques and assessment of groundwater pollution by remote sensing were presented.

The National seminar on groundwater resources was covered under four sessions having 71 titles. The presentations laid stress on the study of groundwater, its recharge techniques, improvement in quality and management of available groundwater resources in India. The modelling of fractures, fissures in hard rock areas for fruitful targeting of the sites for tube-wells and the electrical resistivity techniques in semi-arid and arid regions were discussed. The chemical quality and fluoride content in groundwater are of great concern. Techniques for defluoridation were discussed. Stress was laid on artificial recharges and management of groundwater in semi-arid and arid terrains.

A group discussion on the focal theme 'Emerging opportunities and geological curricula of the 21st century' anchored by V. K. S. Dave (Roorkee) was held, where a drastic change in the earth science education was discussed in light of the contemporary needs and developments, specially in applied geology and entrepreneurship. Introduction of geology as one of the optional subjects at the senior secondary school level was stressed by most of the participants.

Two excursions were also organized. One across Udaipur-Haldighati-Rajnagar section to familiarize the participants with Aravalli rocks and mechanized marble mining. The other was along Udai-pur-Ranakpur section to know about the

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\*A report on the 12th Convention of Indian Geological Congress and National Seminar on Groundwater Resources, held at Mohanlal Sukhadia University, Udaipur, during 8-12 February 2000. The keynote address, invited lectures, and profiles of presentations are available on: <http://www.mlsu.ac.in>