National Conference on Recent Developments in Geology, Mineral and Groundwater Resources of India – Ashish N. Dongre, Institute of Science, Aurangabad and Subhajyoti Das, Geological Society of India, Bangalore (Email: subhajyoti_das@hotmail.com)

The National Conference on ‘Recent developments in Geology, Mineral and Groundwater resources of India’ was organized jointly by the Post Graduate Department of Geology, Institute of Science, Aurangabad, and Gondwana Geological Society, Nagpur, on 11-12th February 2011 at Aurangabad. More than 125 delegates from all over India representing various scientific organizations, universities and institutes, participated in the conference deliberating on many topical issues of earth science. In all 68 papers including 10 keynote addresses from eminent expert, were discussed in oral and poster presentations. Theme wise the deliberations were organized in five technical sessions: 1) Petrology, mineralogy and geochemistry research in India, 2) Mineral exploration research in India, 3) Applications of remote sensing and GIS in earth science, 4) Groundwater resources, quality, development and management, and 5) Palaeo-biological research in India. Summaries of keynote addresses and highlights of the seminar are given below.

The inaugural session was presided over by Dr. (Mrs.) H. J. Wankhede, Director, Institute of Science, Aurangabad. Prof. D. B. Yedekar, Member, Maharashtra Public Service Commission, and Prof. N. J. Pawar, Vice Chancellor, Shivaji University, Kolhapur graced the occasion as Chief guests. Dr. S. M. Deshpande, Convenor, in his welcome address apprised the delegates about the background of the conference. The principal objective had been to bring together earth scientists to deliberate on recent developments on the subject. N. J. Pawar stated that the country needs technological developments for harnessing its natural resources to support the economic growth. This necessitates research in fundamental sciences. D. B. Yedekar stressed the value of rigorous field work in geological studies and investigations. K. K. Nair, President, Gondwana Geological Society (GGS), informed the audience about the activities of GGS in promoting earth science studies, The Society brings out 6-monthly Journals as also Special Publications on important findings of topical research. The Abstract Volume of the Conference containing 103 abstracts of research papers was also released by the dignitaries in the session. Dr. D. B. Malpe, Secretary, GGS, proposed the vote of thanks.

The first three technical sessions were held on the first day of the Conference. Prof. D. B. Yedekar spoke on a comprehensive model of tectonic evolution of Central Indian suture zone and its refinement due to addition of new data on geochronology and geochemistry. Prof. Somnath Dasgupta in his illuminating lecture informed on updated status of recorded tectonothermal events in two key Proterozoic mobile belts of India i.e. Aravalli-Delhi mobile belt (ADMB) in western India and the Eastern Ghats mobile belt (EGMB) in eastern India and its implication on development of Indian crustal architecture. He argued that large parts of the Indian subcontinent were affected by the tectonothermal events associated with the formation and dispersal of the supercontinent Columbia. Prof. Talat Ahmad discussed about mafic magmatism in the western Himalayas and Trans-Himalaya, their geochemical and isotopic characterization and tectonic setting. Dr. N. V. Chalapathi Rao narrated the recent advances on magmatism of kimberlites from Siddanpalli kimberlite cluster; lamproites from Krishna lamproite field; Behradh orangeite, Bastar craton and lamprophyres from Jharia area (and their entrained xenoliths). He explained the role of these small volume melts in unraveling the large-scale geodynamic evolution of the Indian lithosphere. Prof. Santosh Kumar described the field and microstructural features of enclaves and host rocks from felsic igneous terrains, which have been used to trace thermal history and magmatic processes in the evolution of magma chamber(s) and crustal growth. Dr. R. N. Singh described the role of thermal processes in the making of Indian continental lithosphere, and approaches for quantifying these processes.

Dr. M. K. Roy gave an appraisal of uranium potential of Satpura Gondwana basin, central India. He opined that thick pile of Gondwana sediments with other favourable factors points towards the potentiality of the basin for sandstone-hosted and/or fracture controlled uranium mineralization. Prof. Saibal Gupta elaborately described the chromite investigation in Tangarparha, Orissa. He pointed towards the successful integrated development and management, and 5) Groundwater resources, quality , sensing and GIS in earth science, 4) research in India, 3) Applications of remote
use of geological and geophysical methods for mineral exploration especially in the case of chromite investigation in Tangarparha.

The fourth and fifth technical sessions were held on the second day of the conference. N. J. Pawar in his address presented a model of groundwater investigation and development in basaltic terrain. Discussing the trends in groundwater development and management in India over the last four decades, Subhajyoti Das emphasized the need of paradigm shift from uncontrolled to disciplined groundwater development, and innovative solutions for its conservation and augmentation in order to overcome severe water scarcity in the near future. Dr. S. M. Hussain made a comparative study on the distribution of foraminifera and ostracoda in the inner shelf off Pulicat and Palar, Tamilnadu. Dr. J. M. Patel discussed about the environmental significance of trace fossils of the Mesozoic rocks of Kas hills, north-east Mainland Kachchh of western India.

The valedictory session was presided over by Prof. Somnath Dasgupta and Dr. M. K. Roy who summed up the issues deliberated in the conference. Speakers laid emphasis on earth science education and popularization. They were unanimous on the need for organizing such conferences and seminars on a yearly basis holding out scope for young workers to debate and exchange new ideas and views. Further, in such forums more and more involvement of the student community, especially the Post graduate students, was urged by conducting parallel sessions. Subhajyoti Das mentioned about the impending water crisis with all round set backs and underscored the need for involvement of people and stake holders in the groundwater governance for its equity and sustainability. Water use rights should be vested with the community rather than with the land owners having the sole proprietorship, as of now.

The conference was followed by one day field excursion to the meteoritic impact crater at Lonar on 13th February, 2011. V. K. Khadse from Geological Survey of India, Central Region, Nagpur, guided the participants during the field visit explaining the structural and petrological signatures of impact, and related field relations. More than 40 delegates participated in the field visit.