

NOTES

TRAINING COURSE ON INDUCTIVELY COUPLED PLASMA SPECTROMETRY

In the present day geological, chemical, environmental and archaeological research activities, the Inductively Coupled Plasma (ICP) Spectrometry is established as a cost-effective multi-element analytical technique. In order to update the knowledge in this technique, a three day training course on "Theory and Practice of Inductively Coupled Plasma Spectrometry - Optical Emission Spectrometry (OES) and Mass Spectrometry (MS)" was held at the National Institute of Oceanography(NIO), Goa, during 3-5 February 2003, under the joint auspices of the Geological Society of India (GSI) and the International Association of Geochemistry and Cosmochemistry (IAGC). 27 participants from different research and educational institutions and the industry participated in the course. The participants were research students, teachers and professionals from the states of Andhra Pradesh, Karnataka,

Gujarat, Maharashtra, Uttar Pradesh, Rajasthan, Goa, Tamil Nadu, Haryana and West Bengal.

Professor K.V. Subbarao, Indian Institute of Technology, Mumbai welcomed the participants and highlighted the background and objectives of the course. The course was inaugurated by Sri M.R. Nayak, Acting Director, NIO, who pointed out the need to understand the various tricky procedures involved in the determination of the elemental compositions of a variety of environmental, geological and biological materials .

Professor J.N. Walsh and Dr. S.L. James of Royal Holloway, University of London, ably and very successfully conducted the course with a well balanced lecture programme covering the following topics:

(1) Theory and practice of ICP spectrometry and its uses. (2) Basic theory of operation of the ICP. (3) Analytical



Course Participants and Faculty.

performance and instrument operation. (4) Manufacturers of instrumentation. (5) Analytical quality assurance and reference materials. (6) Sample preparation procedures - liquids, silicates, non-silicates and separation techniques. (7) Applications - Chemostratigraphy and Oil exploration, Zeolites, Archaeological studies and Environmental monitoring. Prof. Walsh with his vast practical experience in ICP developmental activities and special sample preparation techniques over the past 35 years, was the star attraction to clarify day to day practical problems in ICP Spectrometry posed by the participants. Perhaps the best part of the whole programme was the series of informal discussions and sharing of problems as well as knowledge and experiences between the participants and the course instructors.

Guest Speaker Sri L.S. Mumbasawala of IIT Bombay, brought out the salient aspects dealing with routine operation and maintenance of ICP-AES. Drs. Kapil Kuller and Ragesh Acharya of Perkin Elmer assisted by Sri G. Partiban of NIO gave a live demonstration of ICP-AES and also showed the usefulness of the powerful software

for multi-element analyses at very low levels. Participants had a tour of the modern analytical laboratory facilities of NIO, such as geochronology unit, CNS, particle size analyzer, XRD and ICP-MS.

Professor K.V. Subbarao (IIT) and Dr.V.K. Banakar (NIO) together planned and executed the whole programme with the support of Dr. B.P. Radhakrishna, President, Geological Society of India, Eric M. Galimov of IAGC, and Dr. Eric Desa, Director, NIO assisted by Dr. N.H. Hashimi and Dr. A.B. Valsangkar and their colleagues.

On behalf of the Geological Society and IAGC, Prof. P.S. Zacharias, Vice-Chancellor of Goa University and a well known chemist himself, gave away the certificates to all the participants during the valedictory function and highlighted the need for periodically running short courses of this type to update the knowledge and advances in the analytical tools and methodologies for the benefit of the research scholars as well as professionals.

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GROUP DISCUSSION ON ACTIVE TECTONICS IN WESTERN INDIA

A two-day group discussion on "Active Tectonics in Western India" was held on 20th and 21st March 2003 at the Department of Geology, Faculty of Science, M. S. University of Baroda, Vadodara under the sponsorship of the Seismicity Division, Department of Science and Technology (DST), New Delhi. The deliberations commenced without formal inauguration. Prof. R.V. Karanth, convener, in his introduction outlined the scope of the envisaged discussions.

The discussion took place in four different sessions, with the focus in each on (1) the Kachchh region, (2) the Gujarat Mainland, (3) the Saurashtra region and (4) on sea floor spreading and sea level changes. Experts from various organizations presented their views on the active tectonic aspects of different blocks in western India with special emphasis on Gujarat. The first presentation was by Dr. S. K. Biswas, Visiting Professor, IIT, Mumbai, wherein he talked about various tectono-structural features of western Indian subcontinent in general with an emphasis on Kachchh region. Some light was thrown on the Karakoram thrust and Chaman transcurrent fault and its effect on Kachchh rift basin. He emphasised on the strike-

slip tectonics playing a major role in the structural evolution. His talk was followed by a detailed presentation by R.V. Karanth on exposure scale fault-fold interactions enumerating and supporting the fact that a major structural inversion has taken place in the Kachchh basin. He stressed on the need to reinterpret several tectono-structural aspects in the light of the new data generated by different agencies. The next presentation was by B.K. Rastogi, NGRI, who gave detailed analysis of the 26th January 2001 earthquake and stressed on the causative fault to be blind in nature and not the one which can be related to Kachchh Mainland Fault. P. R. Reddy's (NGRI) talk revolved around the geophysical investigations of western Indian subcontinent.

R. K. Saxena and A. K. Saxena of Geological Survey of India, Jaipur, gave an account of the investigations carried out in Saurashtra and Kachchh after the series of earthquakes that struck the region. R. S. Dattatrayam, IMD, New Delhi dealt with the initiatives taken by the IMD to provide credible data/information about any earthquake taking place in the region. K.S. Rao, IIT, Mumbai gave an account of the usefulness of Synthetic Aperture Radar (SAR)