

CONFERENCE REPORT

5th International Seminar on Mineral Processing Technology (MPT-2004). Regional Research Laboratory, Bhubaneswar, Orissa, India, 19–21 February 2004

The Indian Institute of Mineral Engineers (IIME) organizes annually, during January/February, the International Seminar on Mineral Processing. The IIME, having members from various educational institutions, premier research and development laboratories and mineral-based industries, thus creates a platform for all the fraternity of IIME to meet regularly. The objective of the seminar is to facilitate dissemination of the latest techniques, new equipment and technological innovations related to various mineral-based industries among its members. In addition, various problems that the mineral and related industries are facing are discussed to enable the scientific fraternity of mineral engineers to find remedial solutions.

This year's 5th Seminar was held at the Regional Research Laboratory, Bhubaneswar, jointly with Indian Institute of Mineral Engineers, (19–21 February) under the chairmanship of Dr Vibhuti Narain Misra, Director, Regional Research Laboratory, Bhubaneswar (with support from Dr G.V. Rao, Deputy Director, Regional Research Laboratory, Bhubaneswar) as the Organizing Convener of this event. The programme was inaugurated by His Excellency Sri M.M. Rajendran, Governor of Orissa who highlighted the important role of mineral engineers in converting waste into wealth by adopting suitable state-of-the-art technologies to enable extraction from lean and low-grade ores and help the country to develop economically.

IIME also felicitates, during MPT seminars, distinguished persons for their valuable contributions to the Indian mineral industry. This year Prof. P.R. Khangoankar, Ex-Deputy Director, National Metallurgical Laboratory, and R.C., member of RRL, Bhubaneswar, and Sri K.S. Raju, Controller General, Indian Bureau of Mines, Nagpur, were felicitated by His Excellency Sri M.M. Rajendran, Governor of Orissa.

The Seminar was attended by 17 overseas delegates from Australia, Germany, Brazil, Turkey, Sweden, Iran, Egypt and Malaysia. Overall, approximately 220 delegates, representing a large number of research and development scientists, engineers, technocrats, entrepreneurs and academics attended the Seminar. During the three-day seminar, 17 invited lectures were delivered in the Plenary and in Special invited sessions from eminent persons in the fields of characterization, beneficiation, environment, bio-technology and the application of genetic algorithms in mineral processing. A special technical session was organized to highlight significant contributions by

Indian research, development and academic institutions. Topics such as the demonstration of a bioreactor plant at the Hutti mines for bio-processing of refractory gold concentrates, the possible utilization of waste chromite overburden as a future nickel resource, the purification of industrial effluents by electro-flotation and a genetic algorithm-based optimization applied to an industrial grinding operation, were presented.

Apart from the invited lectures, 100 technical papers covering characterization, industrial process development for ferrous and non-ferrous minerals and coal preparation, bio-beneficiation, modelling and waste and environment management, were presented in 12 technical sessions, which were conducted in three parallel sessions.

A special session on the interaction between research and industry was also organized to enable industry representatives to highlight problems in their plant and research and development needs in various mineral and related areas, before the fraternity of mineral engineers.

Some of the significant overseas presentations dealt, for instance, with: pre-concentration by sensor-based sorting in mineral processing; pelleting flocculation for the improvement of the dewatering properties in separation of the fines (Germany); CSIRO research activities on iron ore; sustainability in resource industries (Australia); application of Reichert Spiral/MGS for treating chromite fines (Turkey); reflectance measurements of coal and industrial minerals; problems of Ca^{2+} ion interference in desliming; flotation of iron ore (Brazil); and research into the interface between industrial needs and scientific demands (Sweden).

The application of a Coronastat Electrostatic separator with three electrode combination for the improved separation of conducting minerals; the bio-processing of refractory gold ores, iron ore slimes and metals from ocean nodules; the *in situ* leaching of metals from the underground copper mines; the application of a rotating wheel air classifier for fly ash classification; technological upgrades of iron ore slime beneficiation systems; and studies of semi-autogenous grinding circuit control at NMDC.

Special presentations on the recovery of granular sillimanite from beach sands, radiological impact assessment and management plan of uranium mining project, bio-technology for beneficiation of complex sulphide ores and the role of mineral processing fraternity in the development of metallurgical industries were made by eminent persons during the seminars.

The Seminar Proceedings (828 pages), edited by G.V. Rao and V.N. Misra, and published by Ms Allied Publisher, New Delhi (ISBN number 81-7764-599-4) were made available to all delegates, in addition to a CD containing all the papers of the Proceedings volume and souvenir.

G.V. Rao
Regional Research Laboratory
Bhubaneswar, Orissa, India