

—Conference Reports—

PHILADELPHIA PERMANENT MAGNETS MEETING '93 **MARCH 25, 1993, JENKINTOWN, PA, USA**

The annual gathering of the Philadelphia Permanent Magnets Meeting was hosted by SPS Technologies and was co-sponsored by the Magnetics Chapter of the Philadelphia Section of the IEEE along with YBM Technologies, Pennsylvania University and Widener University. The meeting featured four speakers: S. Constantinitis (Arnold Engineering), S. Trout (MolyCorp.), V. Panchanathan (General Motors) and Lin Li (University of Pennsylvania). Their talks covered a host of topics ranging from a technical discussion of bonded magnets currently under development by Arnold Engineering to GM's innovative Magnaquench permanent magnet process to recent theoretical studies conducted at the University of Pennsylvania into the microstructure of rare earth sintered permanent magnets. A discussion of the cost and processing issues experienced by MolyCorp in extracting rare earth metals was also presented.

(Source: *IEEE Magnetics Society Newsletter*, April 1993).

MINERALS ENGINEERING '93 CONFERENCE **AUGUST 25–27, CAPE TOWN, SOUTH AFRICA**

For the last 12 years, the Universities of Stellenbosch and Cape Town have hosted an annual symposium to discuss research topics in mineral processing. Since 1987, this meeting has been held under the auspices of the Western Cape Branch of the South African Institute of Mining and Metallurgy, and has enjoyed considerable national and international support. In 1993, in place of the usual Symposium, the Branch and the Universities collaborated with CSM Associates Ltd. and *Mineral Processing* journal in organising the international *Minerals Engineering '93 Conference* in Cape Town.

About 170 participants from 12 countries attended the conference held at the Cape Sun Hotel situated in the centre of Cape Town, the main city in the Cape Province, an area which is known for its beauty, friendly people and excellent wines. The conference and associated exhibition were well organised. The annual Symposium in the Western Cape, as mentioned previously, is usually a great meeting place for mineral processors, both academic and industrial mainly from South Africa. This meeting was no exception with major difference, however, in the fact that it was truly an international event and it was good to see many new faces particularly from America, Australia, England and Canada.

Around 36 papers and 35 posters were presented at the Conference, further 8 papers and 3 posters being presented in special Symposium featuring environmental aspects in minerals engineering. Overall, the papers were of high

standard and if accepted after being refereed will be published in three special volumes of the *Minerals Engineering* journal, vol. 7, early 1994.

P. King, head of the Comminution Centre at the University of Utah, USA delivered the keynote address on comminution and liberation of minerals. He referred to major advances in comminution and especially the modelling of liberation of minerals in refractory ores. During the morning session of the first day various papers on comminution were presented which included new milling technologies and developments of control systems. In the afternoon session the emphasis was placed on various gravity concentration techniques. The whole of day two was used for a wide variety of topics on gold metallurgy. These included research papers featuring carbon, resin, leaching, chemical and biological methods and various other unit operations in gold metallurgy. On the last day, the papers on froth flotation, magnetic separation and modelling techniques were presented. This session was parallel with day one of Symposium on Environmental Engineering.

There were three presentations on magnetic separation. J. Svoboda's paper dealt with the effect of magnetic field strength on the efficiency of magnetic separation operations. In his presentation he explained the importance of magnetic field strength manipulation on the efficiency of magnetic separation and how this can positively and negatively influence ones's production. In his presentation, J.H.P. Watson, University of Southampton, gave an overview of the current status of superconducting magnetic separation techniques in the minerals industry, especially those in the UK and USA. In the last paper, namely on magnetic separation of refractory ores and industrial minerals by OGMS, H.D. Wasmuth from Germany explained the many new concepts that have been presented in the field of magnetic separation over the last few years. He explained the use of the new PERMOS(R) type magnetic separator which is characterised by a special orientation of magnetised heavy-duty magnet blocks. Conceptual design of OGMS separators was described and examples and proposals for their commercial applications in beneficiation plants for refractory ores were also outlined.

In general, it was a very useful conference and the proceedings will be published in three special volumes of *Minerals Engineering* 7 in 1994. B. Wills, the editor of the journal can be contacted at the Camborne School of Mines, Redruth, Cornwall, England, in this regard.

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