



# SOHN

*International*  
**SYMPOSIUM**

*on Advanced Processing of Metals and Materials:  
Principles, Technologies and Industrial Practice*

Incorporating the 4th International Symposium on Sulfide Smelting

**August 27-31, 2006**  
**Catamaran Resort**  
**San Diego, California, USA**

## CALL FOR PAPERS

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# **A Message from the Symposium Chair**

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This symposium is in honor of the distinguished work and lifetime achievements of Professor H.Y. Sohn. Professor Sohn is renowned for his impact in various fields such as nonferrous, ferrous and nanoscale materials processing; in many processing routes including pyrometallurgy, hydrometallurgy, chemical vapor synthesis and processing, and recycling; and in several investigation techniques such as experimental measurements, physical modeling and simulation.

Reflecting this rich activity of Professor Sohn that has been documented in more than 300 publications and acknowledged with numerous prestigious awards, the scope of this symposium is based on the three equally important topical areas of principles, technologies and industrial practice.

It will include, but is not limited to:

- nonferrous metal extraction, processing and sulfide smelting (including light metals, PGMs and Ferro alloys);
- iron and steel production;
- mineral processing;
- chemical and metallurgical process reactors;
- refractory materials;
- recycling, waste treatment, soil remediation and biotechnologies;
- chemistry of power and energy generation;
- composite, hybrid, polymeric, ceramic materials and nanomaterials;
- value addition and advanced materials;
- legal, management, and environmental issues.

You are kindly invited to submit an abstract and attend this informative symposium. We look forward to meeting you in San Diego.

On behalf of the organizing committees,



Dr. Florian Kongoli  
Symposium Chair

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# Symposium Topics

## **Thermo and Physicochemical Principles in Pyrometallurgical, Aqueous (Hydrometallurgical) and Electrochemical Processes**

- Reaction kinetics, thermodynamics, minor element behavior, chemical and transport properties of slags, metals, steels, moulds fluxes, gases, aqueous solutions, etc.
- Fluid-solid reaction engineering with applications in the reduction of oxide and sulfide minerals, mineral leaching, oxidation of carbonaceous materials and sulfide minerals (roasting)
- Sulfur dioxide streams treatment with application in new processes for reduction to elemental sulfur
- Heat and mass transfer
- Chemistry of power and energy generation (various combustion, gasification processes, oil shale and tar sand combustion, etc.)
- Solvent extraction
- Mineral processing
- Experimental techniques: existing and new developments
- Process modeling and simulation (computational fluid dynamic modeling, etc.)
- Refractory materials, degradation, control and optimization
- Products quality and cleanness (metal, steels, etc.)
- Material processing: composite, hybrid, polymeric, ceramic and nanomaterials
- Chemical synthesis of metallic and ceramic nanopowders

## **New, Improved and Existing Technologies in Pyrometallurgical, Aqueous (Hydrometallurgical) and Electrochemical Processes**

- Metals and materials extraction and processing
- Chemical and metallurgical process reactors: control operations and new designs
- Recycling, waste treatment, soil remediation and biotechnologies
- Waste processing and water treatment plants
- Solvent extraction process equipments
- Mineral processing technologies
- Advances in refractory technologies and their industrial application

- Environmental issues and technologies in metals and materials processing
- Technologically and environmentally undesirable minor components in product and waste streams
- Power and energy generation
- Products quality and cleanness (metals, steels, mattes, etc.)
- Value addition and advance materials
- Existing and new ways to produce new composite, polymeric or hybrid materials with upper qualities

### **Industrial Practice in Pyrometallurgical, Aqueous (Hydrometallurgical) and Electrochemical Processes**

- Plant operations and industrial practice (nonferrous, iron and steel making, etc.)
- Feed morphology and composition in various processes such as iron ore sintering and nickel/copper, lead/zinc and aluminum/magnesium smelting and processing
- Process control and optimization
- Process modeling, simulation and automation
- Process parameters in smelting furnaces, converters, electrical furnaces, refining vessels, iron sintering, blast furnace, BOF, combustion of gasification chambers, etc.
- Products quality and cleanness (metal, steels, mattes, etc.)
- New designs
- Industrial application of new and improved refractory technologies
- Mineral processing

### **International Symposium on Sulfide Smelting 2006**

- Pyrometallurgical production of primary metals such as Cu, Ni, Pb, Zn, PGM, etc. from sulfide concentrates
- Fundamentals of sulfide flash and bath smelting (reaction kinetics, thermo-dynamics, minor element behavior; chemical and transport properties of slags, mattes, metals, fluxes, gases, etc.; fluid-solid reactions, etc.)
- Feed preparation processes, equipments
- Roasting, smelting, converting and refining processes and equipments
- Smelter gas handling and acid plants processes and equipments
- Smelter dusts and fugitive emissions
- Environmental issues and policies related to sulfide smelting
- Furnace designs and refractory
- Furnace operating practices

- Control and optimization
- New smelter and expansion/capital projects
- New and improved technologies on direct production of metals
- The impacts of the current boom on basic metals prices and the predicted future of sulfide smelting operations
- Alternative ways of producing metals from sulfide concentrates

## **Legal, Management, and Environmental Issues in Minerals, Metals and Materials Extraction and Processing**

- Patents
- Copyrights
- Intellectual properties, contracts, confidentiality and litigation
- Technology transfer - legal and management issues
- Merging and/or buyout of industrial complexes and companies in various countries with different legal and political systems
- Price fluctuation in raw materials, coke, scrap and metals
- Effect of globalization on the production volumes and rate of minerals, metals and materials, etc.

## **Abstract Instructions**

*Abstract Instructions*

### **Abstract Submission Deadline: November 15, 2005**

Prospective authors must submit a 250-word abstract electronically through the TMS Conference Management System (CMS-Plus) at <http://cmsplus.tms.org> by November 15, 2005.

Additional information on submitting an abstract is available online at CMS-Plus or by contacting Christina Raabe, TMS technical programming manager, at (724) 776-9000, ext. 212, or e-mail [raabe@tms.org](mailto:raabe@tms.org).

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German Society for Mining, Metallurgy, Resource and Environmental Technology (GDMB)  
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**Independent Journals and Publishers:**

Canadian Mining Journal  
European Journal of Mineral Processing and Environmental Protection  
Ferrous Metals Journal  
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Journal of Technical Electronic Materials  
Magnesium Monthly Review  
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# **Symposium Activities**

## **New Technology Special Sessions and Open Forum Discussions**

Special sessions are planned to present current and new technologies in non-ferrous (Cu, Ni, Pb, Zn, Al, Mg) and iron and steel making (direct smelting, etc.). These sessions will be followed by open forum discussions, allowing attendees to ask questions and discuss with presenters the use, benefits and advantages of these technologies.

## **Industrial Tours**

Tours being planned include a nonferrous smelter, and iron- and steel-making facilities.

## **Trade Show**

To maximize networking opportunities, a trade show is being organized for industrial companies, end-product users, entrepreneurs, industry associations, and legal, management and financial institutions, among others.

## **Short Courses**

Intensive short courses related to the symposium topics are being planned. This is an ideal opportunity to learn about the latest developments in a particular field.

## **Social Program**

Various unique social functions are being planned for attendees and their guests, including a quasi-karaoke evening and a special boat trip.

**Look for more information to come in your mailbox and on the Web site, [www.tms.org/Sohn2006.html](http://www.tms.org/Sohn2006.html), as these activities take shape.**

## About the Venue

The Sohn International Symposium will be held at the Catamaran Resort in San Diego. While there, enjoy striking sunsets, secluded sandy beaches, and the sights and sounds of nature all in one place. Each of the Catamaran's 315 rooms and suites are spacious and include a balcony or patio. Mission Bay, the world's largest aquatic park, is at your doorstep and the waves of the Pacific Ocean are just 100 yards away. The Catamaran tower commands a view from the shores of La Jolla to Old Mexico with spectacular views of Mission Bay and the San Diego skyline. Sea World, the world-famous San Diego Zoo, and the San Diego International Airport are just minutes away.

For more details, visit [www.catamaranresort.com](http://www.catamaranresort.com).



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