Extraction & Processing Division: Activities and Updates

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BACKGROUND

The Extraction & Processing Division (EPD), one of five TMS technical divisions, has more than 800 members, most of whom reside outside of the United States. The main focus of the EPD is the sustainable extraction and processing of minerals and metals from mined ores, concentrates, and recycled materials using pyrometallurgical, hydrometallurgical, and/or electrochemical processes. The technical, engineering, environmental, and economic principles of such processes are the focus of division activities.

The EPD also addresses further processing of non-ferrous metals such as copper, nickel, cobalt, precious metals, lead, zinc, and tin and their products by techniques such as refining, purification, alloying, solidification, thermomechanical treatment, and surface coating into finished and semifinished products.

The division utilizes six technical committees and a council of supporting positions to accomplish its objectives. The technical committees include Energy (joint with the Light Metals Division), Hydrometallurgy and Electrometallurgy, Materials

Characterization, Process Technology and Modeling (joint with the Materials Processing & Manufacturing Division), Pyrometallurgy, and Recycling Recycling and Environmental Technologies (joint with the Light Metals Division).

ANNUAL MEETING ACTIVITIES

Symposia

In general the EPD seeks to support efforts brought forward by members that provide benefits to members. One of the primary areas of support for its

Extraction & Processing Division Sponsored Symposia

Symposium	Organizers
3rd International Symposium on High Temperature Metallurgical Processing	Jiann-Yang Hwang, Tao Jiang, Patrick Masset, Onuralp Yucel, Rafael Padilla, Guifeng Zhou
Battery Recycling	Gregory K. Krumdick, Linda Gaines
CFD Modeling and Simulation in Materials Processing	Laurentiu Nastac, Lifeng Zhang, Brian G. Thomas, Adrian Sabau, Nagy El-Kaddah, Adam C. Powell, Hervé Combeau
Characterization of Minerals, Metals, and Materials	Jiann-Yang Hwang, Sergio Montero, Chenguang Bai, John Carpenter, Donato Firrao, Byoung-Gon Kim, Mingdong Cai
Electrometallurgy 2012	Michael L. Free, Georges Houlachi, Antoine Allanore, Michael Moats, Edouard Asselin, Shijie Wang, James Yurko
Energy Technologies and Carbon Dioxide Management	Maria Salazar-Villalpando, Neale R. Neelameggham, Donna P. Guillen, Subodh Das, Ramana Reddy, Animesh Jha, Soobhankar Pati, Mark Jolly, Lakshmanan Vaikuntam
International Smelting Technology Symposium (Incorporating the 6th Advances in Sulfide Smelting Symposium)	Jerome P. Downey, Thomas P. Battle, Jesse White
Materials Processing Fundamentals	Lifeng Zhang, Antoine Allanore, Cong Wang
Materials Research in Microgravity	Robert W. Hyers, Hani Henein, Valdis Bojarevics, James Patton Downey, Douglas M. Matson, Achim Seidel, Daniela Voss
Production, Recovery and Recycling of Rare Earth Metals	Lifeng Zhang, Joseph A. Pomykala, Oliver Gutfleisch
Recycling General Sessions	Joseph A. Pomykala
Solar Cell Silicon	Arjan Ciftja, Gabriella Tranell, Gregory J. Hildeman, Shadia Jamil Ikhamyies
T.T. Chen Honorary Symposium on Hydrometallurgy, Electrometallurgy and Materials Characterization	Shijie Wang, J.E. Dutrizac, Michael Free, J.Y. Hwang, Daniel Kim

members is in organizing symposia. At the TMS 2012 Annual Meeting, the EPD sponsored 13 symposia consisting of 637 presentations.

Several symposia were held in conjunction with other TMS divisions and two were co-sponsored by other societies (The Metallurgy and Materials Society of the Canadian Institute of Mining, Metallurgy and Petroleum, and the South African Institute of Mining and Metallurgy). A summary of the recent symposia and organizers is given in Table I.

Short Courses

Several short courses were sponsored by the EPD to expand the industrial knowledge base of annual meeting attendees. Those courses, and their organizers, were:

- Electrowinning and Electrorefining of Copper and Zinc, by Mike Moats, Edouard Asselin, Georges Houlachi
- Process Energy Modeling Spreadsheets and Beyond, by Art Morris, David Robertson, and Eric Grimsey
- The Estimation of Slag

Properties, by Ken Mills

Two of the short courses (Electrowinning and Electrorefining, and Estimation of Slag Properties) were held in conjunction with topical symposia (viz. Electrometallurgy 2012, and International Smelting Technology Symposium). Process Energy Modeling Spreadsheets and Beyond ran for its second time.

Awards

The EPD also sponsors several awards and scholarships each year. In 2012 these included:

- EPD Distinguished Lecturer: Theo Lehner of Boliden Mineral, Sweden
- EPD Distinguished Service Award: T.T. Chen of CANMET-MMSL in Ottawa, Canada
- EPD Technology Award: Jim Hwang, Xiang Sun, and Xiaodi Huang of Michigan Tech, USA
- EPD Science Award: James Miller, Richard B. Diver, Eric N. Coker, Andrea Ambrosini, Daniel E. Dedrick, Mark D. Allendorf, Anthony H. McDaniel, Gary L. Kellogg,

Roy E. Hogan, Ken S. Chen, and Ellen B. Stechel, all from Sandia National Labs, and Nathan P. Siegel, Bucknell University

- EPD Young Leaders: John Carpenter of Los Alamos National Lab and Pati Soobhankar of Metal Oxygen Separation Technologies Inc.
- EPD Scholarship: Ashley Carter of Montana Tech

At the TMS society level, Antoine Allanore and Jim Yurko received the 2012 TMS Vittorio DeNora Prize. Congratulations to all of the EPD award winners!

The EPD web page can be found on the TMS website (www.tms.org), login required with your TMS membership number.

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