



“You are among friends.”

Extraction 2018 conference co-chairs Boyd Davis, Michael Moats, and Shijie Wang used this phrase to conclude their welcome letter in the conference program. It was a prescient choice, in that those words also capture the collegial spirit that resonated through nearly every aspect of the event. Held August 26–29, 2018, in Ottawa, Ontario, Canada, Extraction 2018 could be viewed as something of an experiment. For the first time, three leading metallurgical societies—the Metallurgy and Materials Society (MetSoc) of the Canadian Institute of Mining, Metallurgy & Petroleum (CIM), the Society for Mining, Metallurgy & Exploration (SME), and TMS—joined forces to organize a global conference focused exclusively on extractive metallurgy.

Onsite at the Westin Ottawa, there was every indication that this new approach to gathering the extractive metallurgy community was successful. Session rooms were packed, social events were at capacity, and attendees took advantage of the many opportunities for informal networking and business development. The metrics gathered in the weeks after the meeting confirmed those perceptions.

Nearly 840 professionals and students representing more than 40 nations attended Extraction 2018. More than 330 oral presentations were delivered during 77 technical sessions, and 55 posters were showcased during the course of the meeting. Beyond the quantity of the programming and events, responses to a survey of meeting attendees revealed a high level of satisfaction with the

quality of the meeting. Fifty percent of the survey respondents rated Extraction 2018 as excellent, while another 43 percent described it as good. When asked if they would be interested in future installments of Extraction, 92 percent of the respondents answered with a resounding yes.

Business, Technology, and a Little History

An intention of Extraction 2018 was to provide a forum where professionals representing both the technical and



The Extraction 2018 conference co-chairs welcome attendees to the Conference Banquet. Pictured (from left) are: Shijie Wang, Rio Tinto Kennecott Utah Copper Corp. and representing TMS; Boyd Davis, Kingston Process Metallurgy and representing MetSoc; and Michael Moats, Missouri University of Science and Technology and representing SME.



Larry Seeley, Seeley Group Ltd., fields a question after his Hydrometallurgy Keynote, "Critical Metals: The Foundation of Our Society's Essential Technologies." Well-attended sessions such as this were the rule at Extraction 2018.

business aspects of the global extractive metallurgy community could meet to develop a deeper understanding of how issues of common concern could be more effectively addressed. To provide the marketplace context, the conference kicked off on Sunday afternoon, August 26, with a special symposium, Extractive Metallurgy Markets and Economics. Session presentations were organized to mirror the trajectory of a mining project, starting with an overview, delivered by Mark Selby, RNC Minerals, of the funding challenges faced by junior mining projects in the current economic climate. Luisa Moreno, Tahuti Global, followed with a very straightforward perspective on what investors are looking for as part of their decision-making process. Effective information gathering and its impact on the value calculation for a technical pilot



The Extractive Metallurgy Markets and Economics symposium kicked off the meeting with thought-provoking discussion from a broad representation of business and industry experts. Pictured are (from left) Michael Samis, Ernst & Young; Tang Bin, China NERIN; Jay Hemenway, Ocean Partners; Luisa Moreno, Tahuti Global; Yao Suping, China NERIN; Boyd Davis, session chair; and Mark Selby, RNC Minerals.

project (Michael Samis, Ernst & Young) and insights into the complexities of commodity trading (Jay Hemenway, Ocean Partners), rounded out the discussion. Yao Suping and Tang Bin, both from China NERIN, complemented these talks with a case-study focused presentation on how Chinese copper smelters are addressing resource and geographic considerations to ensure profitability.

At the conclusion of the symposium, meeting attendees gathered for an all-conference plenary that explored the legacy of extractive metallurgy. Jeremy Mouat, a historian from the University of Alberta discussed how the advent of industrialized warfare with World War I propelled the advancement of modern metallurgical practice. He subsequently traced the evolution of the field in response to challenges presented throughout the 20th century. Peter Warrian, University of Toronto, then looked ahead to the future of the mining industry in a digital economy.

The first official day of Extraction 2018 concluded with an Opening Reception that gave attendees their first glimpse at the services and opportunities offered by the companies on display in the Exhibit Hall.

The idea for Extraction 2018 was born out of the recognition that MetSoc, SME, and TMS were on schedule to collectively offer at least four important recurring symposia to a common membership community in the same year. To best serve that community, Extraction 2018 was developed to house these meetings, as well as new programming, in one convenient conference. Starting on Monday, August 27, that concept was put into action when technical programming began in earnest.

The largest contributor to the program was Hydrometallurgy 2018, a leading international symposium series organized on a revolving basis by MetSoc, SME, and TMS every four years. Within the hydrometallurgy topic area, MetSoc offered its popular Gordon Ritcey Symposium, while also organizing a new symposium, Processing of Critical Materials. TMS likewise brought the 7th installment of its well-regarded International Symposium on Advances in Sulfide Smelting, which occurs every six years, to the meeting. TMS and MetSoc also co-organized the Peter Hayes Symposium on



The Sunday evening all-conference plenary session examined the history and future of extractive metallurgy.

Pyrometallurgical Processing, and SME contributed a new symposium, Sulfide Flotation.

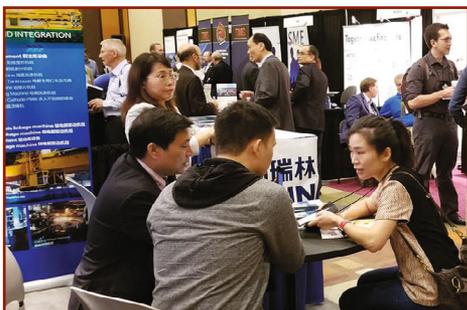
Attendees had the opportunity to supplement what they learned in the session rooms with a first-hand view of technologies on optional plant and refinery tours, one of which was conducted as an innovative real-time video experience.

Looking Ahead and Some Ways to Look Back

Based on the enthusiastic attendance and positive feedback received on Extraction 2018, the leadership of the three organizing societies are in active discussion regarding potential next steps for the meeting. In the meantime, visit www.extractionmeeting.org to sign up

for news and updates as details become clear. To view a selection of recorded presentations from Extraction 2018, visit MetSoc's Live Learning Center at www.metsoc.org. Viewing photos taken at the event will provide a sense of the activity and excitement generated by the meeting. Photos are available in the Extraction 2018 album on the TMS Flickr account at www.flickr.com/photos/tmsevents/albums.

Finally, in the February 2019 issue of *JOM: The Magazine*, be sure to read "The World Needs Metallurgical Process Engineers" by Peter C. Hayes, based on his keynote address delivered at a joint session of the 7th International Symposium on Advances in Sulfide Smelting and the Peter Hayes Symposium on Pyrometallurgical Processing held at Extraction 2018.



Breaks and networking sessions in the Exhibit Hall gave attendees the opportunity to cultivate valuable business connections.



A panel discussion following the keynote talk, "The Changing World of Metallurgical Education," delivered by Peter C. Hayes, explored themes such as technical knowledge gaps, retaining knowledge in an organization, industry/academic collaboration, and attracting and keeping people in the field. Read the article, "The World Needs Metallurgical Process Engineers" based on Hayes' talk and informed by the panel discussion in the February 2019 issue of *JOM: The Magazine*. Pictured from left are: Hayes; Christina Meskers, Umicore and session chair; Sari Muinonen, Glencore; Ken Coley, McMaster University; Maurits van Camp, Umicore; Mario Leobbus, Arubis; Bart Blanpain, Leuven University.

An Evening to Remember

A highlight of Extraction 2018 was the conference banquet and reception hosted in the magnificent Grand Hall of the Canadian Museum of History. Surrounded by art and architecture celebrating the culture of Canada's First Peoples, attendees enjoyed good food, good company, and an eclectic evening program. Distinguished members from each organizing society were honored during an awards ceremony, while a good-natured trivia contest kept the evening light and engaging.



Although sold out, the Extraction 2018 Conference Banquet was still somewhat dwarfed by the grandeur of its setting in the Grand Hall.



Michael Moats, Missouri University of Science and Technology (center), received the TMS/SME/AIME James Douglas Gold Medal from Barbara Arnold, 2018 SME Medal from Barbara Arnold, 2018 SME President, and Kevin Hemker, 2018 TMS President, at the banquet awards ceremony.



Peter C. Hayes, University of Queensland (left), received the TMS Extraction & Processing Division (EPD) Distinguished Service Award from Cindy Belt, EPD Chair, at the awards ceremony.



James J. Robinson, TMS Executive Director (standing at podium), thanked and congratulated the organizers and legion of volunteers who were responsible for making Extraction 2018 a success. Also pictured (from left) are Boyd Davis, Extraction 2018 co-chair representing MetSoc; David Kanagy, SME Executive Director; and Brigitte Farah, MetSoc Managing Director.

