INTERNATIONAL REPORT

The 2013 Materials Science &Technology Conference & Exhibition (MS&T'13)

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The Materials Science & Technology (MS&T'13) Conference & Exhibition took place at the Palais des Congrès de Montréal, Montréal, Canada from October 27 to 31. Montréal, originally called "City of Mary", is named after Mount Royal, the triple-peaked hill located in the heart of the city. Today Montréal remains an important center of industrial, commerce, finance, culture, tourism, and world affairs of Canada. In the downtown and the Old Port area, many attractive historic buildings are still in their original form, creating architectural contrast with modern designs. Located in Montréal's downtown, the Palais des Congrès is trendy, spacious, and welcoming. It is in the vicinity of the city's business center, Chinatown, and Old Montréal. The Palais can be reached within 10 min from 4500 hotel rooms which are directly linked via the underground pedestrian network. The attendees enjoyed the state-of-the-art convention center as well as the amenities throughout the week.

The MS&T'13 Program Coordinating Committee included the chair Roumiana Petrova (FASM) and members Dongming Zhu (NASA Glenn Research Center), Kester Clarke and Tom Lienert (Los Alamos National Laboratory), Priti Wanjara (National Research Council Canada), Judy Schneider (Mississippi State University), James Dante (Southwest Research Institute), and Brian Chambers (Shell Global Solutions US). The meeting committee completed an outstanding job of assembling a rich scientific program, a large-scale exhibit, and a number of enjoyable social programs. The Conference was successfully organized, with a total of more than 3300 attendees.

MS&T'13 Conference was the leading forum addressing structure, properties, processing, performance, and applications across the materials community. The conference was organized by five leading societies: the American Ceramic Society (ACerS), Association for Iron & Steel Technology (AIST), ASM International, the Minerals, Metals & Materials Society (TMS), and the Metallurgy and Materials Society of CIM (MetSoc). These organizing societies provided MS&T'13 with 75 symposia organized into 11 themes: (1) Biomaterials (3 symposia); (2) Ceramics and Glass Materials (6 symposia); (3) Electronic and Magnetic Materials (3 symposia); (4) Energy Issues (7 symposia); (5) Fundamental and Characterization (17 symposia); (6) Iron and Steel (2 symposia); (7) Materials-–Environment Interactions (5 symposia); (8) Materials Performance (6 symposia); (9) Nanomaterials (7 symposia); (10) Processing and Product Manufacturing (13 symposia); and (11) Special Topics (6 topics). There were over 2000 presentations that covered both parallel oral sessions and poster presentations.

Monday morning featured the conference plenary session entitled "Advanced Materials and Manufacturing for Extreme Environments". Three prominent speakers, one each from the US Government, Industry and Academia, gave their expert views on "Hypersonic Flight: The Final Frontier of Aeronautics" (Kevin G. Bowcutt, Senior Fellow, Chief Scientist of Hypersonics, The Boeing Company); "The Co-Design of Experiment and Theory at the Mesoscale: a MaRIE perspective" (John Sarrao, Associate Director for Theory, Simulation, and Computation, Los Alamos National Laboratory); and "Materials in Turbine Engine Environments" (Tresa M. Pollock, FASM, TMS Fellow, ALCOA Professor, University of California, Santa Barbara).

A number of memorable plenary talks took place at the meeting. The ACerS lectures included the Frontiers of Science and Society – Rustum Roy Lecture "Affordable Healthcare? Role of Bio-Ceramic Technology, Socio-Economic, and Ethical Issues" by Larry Hench (Florida Institute of Technology); the ACerS/NICE Arthur L. Friedberg memorial lecture "Engineered Structural Ceramic Materials: Novel Methods for increasing Toughness, Wear Resistance and Thermal Shock" by Greg E. Hilmas (Missouri University of Science and Technology); the Edward Orton Jr. Memorial lecture "Griffith Cracks at the Nanoscale" by Sheldon M. Wiederhorn (National Institute of Standards and Technology); Basic Science Division's Robert B. Sosman Award and Lecture "Structure and functions of Ferroic Domain Walls" by Nava Setter (École Polytechnique Fèdèrale De Lausanne, Switzerland); AIST Adolph Martens Memorial Steel Lecture "Widmanstätten Ferrite: Fat, Old Plates in Meteorites and Fresh, Skinny Plates in Rolled Steels. What do they have in common?" by John J. Jonas (McGill University, Canada); and the ASM Alpha Sigma Mu Lecture "Reflections on Microscopy & Analysis: From Viewing the Small World to leading on a Larger Stage" by David B. Williams (FASM, the Ohio State University).

Three short courses were offered during the meeting. These courses included: "Additive Manufacturing" by Howard Kuhn (The Ex One Company), "The Fundamentals of Aluminum Alloys" by Kevin Anderson (Mercury Marine), and "Electroceramics Basics: Applications and Devices" by R. K. Pandey (Texas State University). Two industrial tours included McGill University Metals Processing Centre, and National Research Council of Canada's Aerospace Manufacturing.

MS&T'13 also scheduled a series of student activities to ensure that these young people have opportunities to learn leadership skills, to learn about career development, to mingle with other well-established scientists and with each other, and to be recognized among their peers. These activities included student speaking contest, student service project, undergraduate and graduate student poster contests, student networking mixer, AIST student plant tour, AIST Steel to Students Reception, ACerS student tour, Mug Drop Contest,

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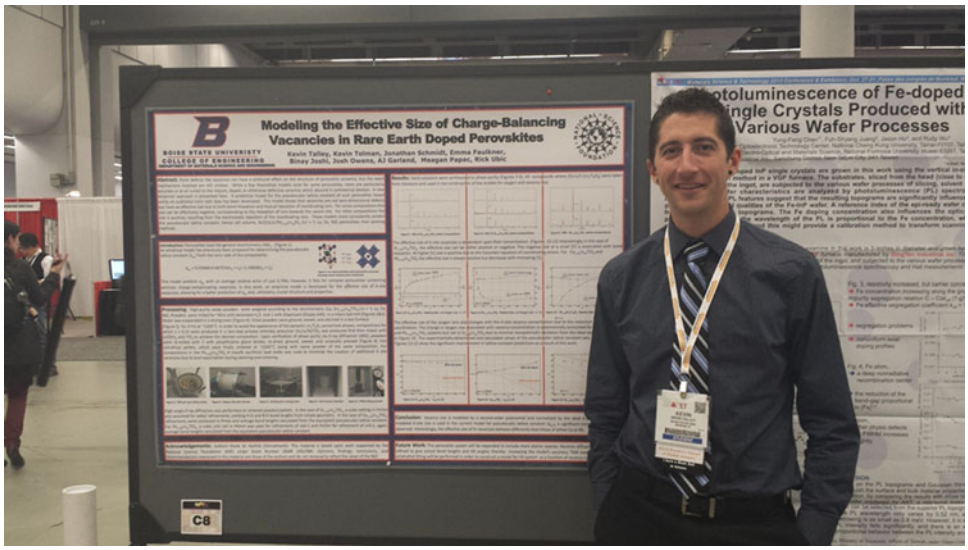


Photo. 1 A scene from the MS&T'13 Poster Session. Kelvin R. Talley from Boise State University showcased his poster 'Modeling the Effective Size of Charge-Balancing Vacancies in Rare Earth Doped Perovskites'.



Photo. 2 A scene from the Exhibit Hall during the MS&T'13 Meeting.

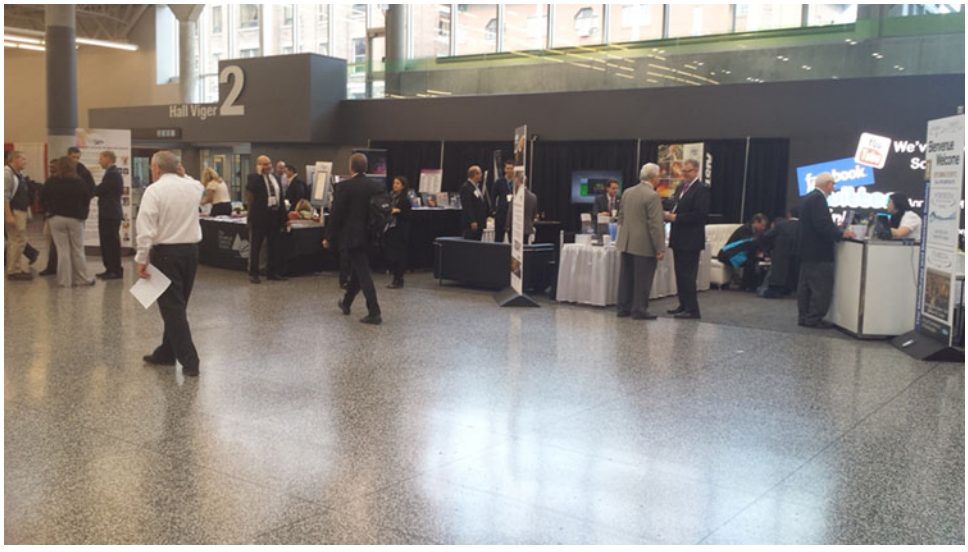


Photo. 3 Exhibit Booths of three of the MS&T organizing members: ACerS, ASM and TMS.

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Ceramic Disc Golf Contest, MetSoc of CIM Student Mixer, and student awards ceremony.

The large-scale exhibit is an important part of the MS&T Conference that compliments the scientific program. This year, there were more than 120 international exhibitors displaying their latest products and services. Exhibitors included analytical equipment manufacturers, materials producers, book and journal publishers, database and software producers, scientific societies, scientific consultants, and sponsoring companies. The exhibit hall was a popular place to meet up with old friends, old colleagues, and meet new people. The general poster session also took place at the exhibit hall.

Other conference events included the pre-function welcome reception, the ACerS Annual Membership Meeting, the ACerS Annual Honors and Awards Banquet, ASM Annual Business Meeting, ASM leadership Awards Luncheon, ASM Anniversary Gala, ASM Awards dinner, Women in Materials Science and Engineering Reception, MS&T Plenary speaker reception, MetSoc of CIM Annual General Meeting and Awards Banquet, ASM Canada Council Canadian hospitality Suite, MetSoc of CIM Hydrometallurgy Luncheon, and MS&T Young professional Reception. The exhibitors also held a happy hour reception. Member lounges were also available for ACerS, AIST, ASM, and TMS societies in the Convention Center. Each morning authors' coffee was available for authors and session chairs of the program of the day. Various universities also held alumni receptions. These universities included Alfred University, Purdue University, Alpha Sigma Mu, Michigan Tech University, and Penn State University.

Despite the relatively cold and mostly rainy weather, attendees enjoyed the many meeting events. In the future, attendees are invited to attend the 2014 MS&T Conference and Exhibit which will take place in Pittsburgh, PA, from October 7 to 11.

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