“Going for the Gold in Materials Technology”

Nearly 4,000 business leaders, engineers, scientists and other materials professionals travel from around the globe to attend the TMS Annual Meeting & Exhibition each year.

Amid the aura of athletic achievements at the 21st Winter Games in nearby Vancouver, British Columbia, the stars of materials technology also will shine in Seattle at TMS 2010.

This is a golden opportunity to shine in the global materials technology field.

TMS 2010 offers compelling symposia presentations, outstanding technical exchanges, career-enhancing short courses, cutting-edge products and services, and countless opportunities to network with fellow professionals.

Register at www.tms.org/TMS2010 through January 15, 2010 for a discounted fee!

Registration Includes:

1. Technical & Poster Sessions
2. Exhibition
3. President’s Welcoming Reception in the Exhibit Hall
4. Symposia-Related Networking Receptions
5. Hosted Exhibit Hall Reception
6. Young Leaders Tutorial Lecture
7. Women in Science Breakfast Lecture
8. Student Poster Contest
9. Student Materials Bowl

A Collected Proceedings CD containing all TMS 2010 presentations is available free of charge for all full conference registrants including TMS members, senior members, recent graduates, nonmember authors, nonmembers and exhibitors. This valuable resource offers endless use for future research and educational purposes.

Visit www.tms.org/TMS2010 for full conference details!
MEETING FEATURES

Networking Receptions offer the ideal blend of casual conversation and intellectual exchange. Meet and greet colleagues who share your passion for your field of interest and set the tone for your ideal conference experience.

› President’s Welcoming Reception and Poster Session
› Light Metals
› Biological Materials Science
› Characterization of Minerals, Metals and Materials
› Computational Thermodynamics and Kinetics
› Global Innovations in Manufacturing of Aerospace Materials: The 11th MPMD Global Innovations Symposium

› Lead Free Solders and Emerging Interconnect and Packaging Technologies
› Ultrafine Grained Materials – Sixth International Symposium
› Magnesium
› Aluminum Alloys Fabrication, Characterization and Applications

Special Lectures

Register for these Lectures, as well as related Short Courses, Workshops and Tutorials, with the online registration form on the TMS 2010 Web site at: www.tms.org/TMS2010

› Aluminum Plenary Session
› Young Leaders Tutorial Luncheon Lecture • “Energy Materials – Past, Present, and Future” by Xingbo Liu, professor of mechanical & aerospace engineering, West Virginia University, USA
› Institute of Metals/Robert Franklin Mehl Lecture • “Nature-Inspired Structural Materials” by Robert Ritchie, Chua Distinguished Professor of Engineering, University of California, USA
› Women in Science Breakfast Lecture • “ADVANCing Women in Engineering” by Eve A. Riskin, professor of electrical engineering and director of the ADVANCE Center for Institutional Change, University of Washington, Seattle, USA
› William Hume-Rothery Award Lecture • Speaker: Didier deFontaine, Professor Emeritus, University of California, USA
› Extraction & Processing/Materials Processing & Manufacturing Joint Division Luncheon Lecture
  “Titanium: Its Attributes, Characteristics and Applications” by Rod Boyer, Boeing Commercial Airplanes, Seattle, Washington, USA
› Extraction & Processing Division Distinguished Lecture • Speaker: J. Brent Hiskey, Associate Dean, University of Arizona, USA
› Light Metals Division Luncheon Lecture

Short Courses

› Process Modeling: Spreadsheets and Beyond – Computational Techniques for Making and Using Material and Heat Balances
› Shut Down and Restart of Potlines
› Materials in Nuclear Power Plant Construction
› Managing Smelter Operations in Turbulent Times – Cost Optimization

Tutorial

› Nanoscale Computational Materials Science

Workshops

› Sixth TMS Lead Free Solder and Technology Workshop
› Furnace Systems and Technology Workshop

“Register online at www.tms.org/TMS2010

“This is the international meeting where research and development can be presented to the broadest scientific and most technically knowledgeable audience anywhere in the aluminum world. Authors will have the opportunity to be recognized internationally as an expert in the field and will get the opportunity to interact and network with other specialists and professionals within their lines of work, as well as with suppliers of services and technologies.”

—Ketil A. Rye
Alcoa Mosjoen, Norway and Electrode Technology for Aluminum Production symposium co-organizer
TMS 2010 TECHNICAL PROGRAM

Aluminum and Magnesium
The TMS Annual Meeting is the “home” for the light metals community. This program brings together representatives from the world’s largest light metals companies and research organizations to discuss the latest developments in the field.

- Alumina & Bauxite
- Aluminum Alloys: Fabrication, Characterization and Applications
- Aluminum Rolling
- Aluminum Reduction Technology
- Cast Shop for Aluminum Production
- Electrode Technology for Aluminum Production
- Inspection Systems for Aluminum Processing
- Aluminum Strip Casting
- Magnesium Technology 2010
- General Abstracts: Light Metals Division
- General Poster Session

Advanced Characterization and Modeling
The TMS Annual Meeting has increasingly become the programming venue of choice for topics that address characterization and modeling from both the computational and experimental perspectives. Eleven symposia are planned, including an honorary symposium for Vasek Vitek.

- Three-Dimensional Materials Science VI
- Characterization of Minerals, Metals and Materials
- Computational Thermodynamics and Kinetics
- Neutron and X-Ray Studies of Advanced Materials III
- The Vasek Vitek Symposium on Crystal Defects, Computational Materials Science and Applications
- Stochastic Methods in Materials Research
- Failure of Small-Scale Structures
- Heterogeneous Nucleation and Initial Microstructure Evolution in Alloys and Colloids
- Hume-Rothery Symposium: Configurational Thermodynamics of Materials
- Thermo-Mechanical Response of Molecular Solids: Multi-Resolution Theory, Simulations, and Experiments
- Solid-State Interfaces: Toward an Atomistic-Scale Understanding of Structure, Properties, and Behavior through Theory and Experiment

Electronic Materials
Symposia in this traditional area of TMS Annual Meeting emphasis will address electronic packaging considerations as well as coatings and phase stability, phase transformations, and reactive phase formation.

- General Abstracts: Electronic, Magnetic and Photonic Materials Division
- General Poster Sessions
- 3D Packaging
- Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials IX
- Coatings for Structural, Biological, and Electronic Applications
- Pb-free Solders and Emerging Interconnect and Packaging Technologies

High Performance Structural Materials
This year’s program recognizes the aerospace focus of our Seattle venue by including symposia on a number of high performance materials technologies. One feature is the 11th MPMD Global Innovations Symposium on shaping and forming of aerospace materials.

- Global Innovations in Manufacturing of Aerospace Materials: The 11th MPMD Global Innovations Symposium
- Cost-Affordable Titanium III
- Advances in Composite, Cellular and Natural Materials
- Biological Materials Science Symposium
- General Abstracts: Structural Materials Division
- General Poster Sessions
- Refractory Metals 2010
Materials and Society
Programming in Materials and Society continues to expand for the TMS 2010 Annual Meeting. As the first society in the materials field to establish a Materials and Society programming theme, TMS continues to lead in this vital area.

- Solar Cell Silicon: Production and Recycling
- Advanced Materials and Fuels Enabling Fusion-Fission Hybrid Reactor Systems
- Alternative Energy Resources for Metals & Materials Production Symposium
- Modeling of Multi-Scale Phenomena for Batteries
- Mechanical Performance for Current and Next-Generation Nuclear Reactors
- Nuclear Energy: Processes & Policies
- Energy Conservation in Metals
- Carbon Dioxide and Other Greenhouse Gas Reduction Metallurgy – 2010
- Carbon Management for Minerals, Metals, Materials and Manufacturing Industries
- “Sustainable” Materials Processing and Production
- Recycling General Sessions
- General Poster Sessions

Materials Processing and Production
Advances in technology associated with the extraction and processing of materials, including high-temperature processing, will receive extensive coverage. Also featured is an honorary symposium for Jim Evans.

- Jim Evans Honorary Symposium
- Materials Processing Fundamentals
- Processing Materials for Properties
- Electrometallurgy - General Session
- Hydrometallurgy - General Session
- International Symposium on High-Temperature Metallurgical Processing
- General Abstracts: Materials Processing and Manufacturing Division
- General Poster Sessions

Nanoscale and Amorphous Materials
Recurring symposia in nanomaterials, ultrafine grained materials, bulk metallic glasses, and nanomechanical behavior have established the TMS Annual Meeting as the “must attend” conference.

- 2010 Functional and Structural Nanomaterials: Fabrication, Properties, Applications and Implications
- Surface Engineering for Amorphous-, Nanocrystalline-, and Bio-materials
- Bulk Metallic Glasses VII
- Ultrafine Grained Materials – Sixth International Symposium
- Modeling, Simulation, and Theory of Nanomechanical Materials Behavior
- Polymer Nanocomposite
REGISTRATION

Register online at www.tms.org/TMS2010 by January 15, 2010 for significant savings!

Select the secure online form or download the portable document format (PDF) and mail or fax your registration with payment.

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*Organizations registering five or more attendees for TMS 2010 receive a discounted rate of $415 per registrant — a savings of $160-$410 each. Fax all registration forms together to TMS customer service fax number: 1-724-776-3770 before January 15, 2010. Please write the word “Corporate” at the top of each form.

Advance registrants should pick up registration packets on the 4th floor South Lobby of the Washington State Convention & Trade Center during registration hours.

Registration Policy

All attendees and meeting participants (authors, exhibitors, etc.) must register for the meeting. Badges must be worn for admission to technical sessions, the exhibition and social functions. The registration desk opens on Sunday, February 14 at 11 a.m. For the desk hours for the week, visit www.tms.org/TMS2010 and click on the Registration button.

Questions About Advance Registration?
Contact TMS Meeting Services: 1-724-776-9000, ext 243 or 1-800-759-4TMS (U.S. and Canada only); or email: mtgserv@tms.org.

The TMS 2010 Exhibition offers another venue for networking and perusing the latest technology and services in the materials science field. Visit www.tms.org/TMS2010/exhibit for current listings of vendors.

Exhibit Hours:
Monday – Noon to 6:30 p.m. (President's Welcoming Reception at 5 p.m.)
Tuesday • 10:30 a.m. to 6 p.m.
Wednesday • 10:30 a.m. to 3 p.m.
**HOUSING**

**Hotel Reservation Reduced Rate Deadline is January 21, 2010!**

Visit [www.tms.org/TMS2010](http://www.tms.org/TMS2010), click on Housing and Travel, then follow the Travel Planners link.

Reservations are processed on a first-come, first-served basis.

As the official headquarters hotel, the Sheraton Seattle Hotel & Towers will be the location of many conference events including TMS committee meetings, short courses, student events, the TMS/AIME Awards Banquet and guest hospitality.

TMS has contracted a block of rooms at the Sheraton Seattle Hotel & Towers and at other overflow hotels to ensure attendees are able to obtain housing at reduced rates. TMS has assumed a financial liability for any and all rooms in the block that are not reserved, so you are asked to reserve your room at one of the hotels listed to limit financial liability for the overall success of the meeting. **In addition, you will enjoy both considerable savings and convenient access to meeting events when you book within the TMS room block.** Thank you for your cooperation.

Situated in the city's vibrant core, the Sheraton Seattle Hotel & Towers provides a gateway to the diverse sights and sounds of the Pacific Northwest. Simply step out of the hotel's front doors to find gourmet food, exciting entertainment, world-class shopping and most of all, the Washington State Convention & Trade Center, where TMS will host the technical sessions and exhibition.

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**STUDENT EVENTS**

TMS 2010 is also a forum for encouraging the development of our materials science and engineering students as they progress toward their professional careers and find their place as future Society leaders committed to moving the materials world forward.

To inspire our student attendees to achieve success, TMS 2010 features a number of events designed to captivate and educate young minds.

**Sunday, February 14**

**Orientation** • Learn the activities schedule and meet fellow student attendees.

**Materials Bowl** • Student teams earn the right to take home the traveling trophy after conquering three rounds of intense, materials science-based questions.

**Student Mixer** • Put on your dancing shoes to meet and mingle with peers in an informal atmosphere.

**Tuesday, February 16**

**Resumé Skills Workshop** • Learn how to market what you know and have done as a materials science student.

**Student Career Forum** • Organized by the TMS Young Leader Committee, this session will feature speakers hailing from a variety of materials science backgrounds and career stages who discuss how to navigate a career path to ultimate goals.

Visit the Student Activities page on the TMS 2010 Web site: [www.tms.org/TMS2010](http://www.tms.org/TMS2010) for updates on these and any other events.

“**This symposium is important to Materials Science and Engineering because it provides a wealth of new technology knowledge needed for the advancement of this field. It is important to society because it enhances, through knowledge and new discoveries, different supporting sectors that make life on Earth safer and more sustainable.**”

—Carlos Enrique Suarez
Hatch Associates Inc. and Alumina and Bauxite symposium co-organizer