Experience the Next Generation of Material Science Catalogs


Now Invent...Reinvented!
DEAR FRIENDS AND COLLEAGUES,
Welcome to the 145th installment of the TMS Annual Meeting & Exhibition! We are pleased to have so many of our colleagues from around the world gathered in one place for this important week of technical exchange, professional growth, and networking.

TECHNICAL EXCHANGE
Over the next several days, you’ll have ample opportunity to learn about the latest developments in your field and related fields. I encourage you to take in as much as you can, but, with nearly 3,300 presentations to choose from, you may want to take advantage of the scheduling tools available through the TMS2016 Mobile App or the TMS Personal Conference Scheduler. (See page 9 for more information on how to use these tools.) A full listing of technical program offerings begins on page 61.

NETWORKING
Don’t be content to merely listen to presentations, however. Be sure to engage in frequent conversations with your fellow attendees—the kind of face-to-face interaction you can only find at a meeting like TMS2016. A number of designated networking receptions and events are planned throughout the week to facilitate these more casual interactions, starting with the Opening Celebration for all attendees on Sunday night. You can view a complete list of networking and social events beginning on page 30.

GLOBAL SHOWCASE
Make sure you carve out adequate time in your schedule to visit the TMS2016 Exhibit Hall, an international showcase of products, services, and publications from companies specializing in minerals, metals, and materials. The exhibit celebrates its 30th anniversary in 2016. Come and see what’s been bringing companies back for 30 years.

GET INVOLVED
If you want to take the next step in your relationship with TMS—and become one of the volunteers who shapes the programming, publications, and activities of this society—attend one of the TMS technical committee meetings being held this week. Dates, times, and locations for these meetings can be found in the Calendar of Events beginning on page 11. We will also be holding a special session this year called TMS 101: Fundamentals of TMS. This half-hour presentation on Sunday evening offers an excellent introduction to the society and the opportunities available to you if you want to become more involved. Learn more about this session on page 19.

In short, make the most of this week with your colleagues. We are so glad you’ve joined us here in Music City!

Sincerely,

Patrice E.A. Turchi
2015 TMS President
MEETING INFORMATION

MUSIC CITY CENTER

EXHIBIT FLOORPLAN
See Page 43.
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**Improved profitability for each electrolytic cell**

*SGL LANCELOT® for in-situ profile measurements*

SGL Group – The Carbon Company, together with the leading aluminum smelting technology providers developed a tool to measure cathode surfaces and side ledge profile of the smelting pot in operational conditions.

*SGL LANCELOT® and it’s unique features allows high precision measurements inside melting aluminum bath. Surface analysis is used for wear measurement of cathodes to check it’s performance as well to find indicators of potential failure. Side ledge analysis gives instant feedback about impact of process parameters changes on ledge thickness.*

For further details please contact lancelot@sglgroup.com

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Cathodes
SGL CARBON GmbH
www.sglgroup.com/cathodes

**Broad Base. Best Solutions.**
REGISTRATION & MEETING LOGISTICS

REGISTRATION
Your full-meeting registration badge provides you access to:
• All technical sessions
• A three-day pass to the TMS2016 Exhibition
• TMS Opening Celebration
• President’s Welcoming Reception and Happy Hour Reception (located in the Exhibit Hall)
• Lunch in the Exhibit Hall on Wednesday
• Admission to the awards ceremony portion of the 2016 TMS—AIME Awards Banquet
• General Poster Sessions and Receptions
• TMS Materials Bowl Competition
• Technical Division Student Poster displays
• Admission to select social and networking events
• Online access to the complete collected proceedings of TMS2016

All attendees and meeting participants (presenters, exhibitors, etc.) must register for the meeting. Badges must be worn for admission to technical sessions, the exhibition hall, social functions, and other events.

TICKETS FOR EVENTS
Certain receptions, luncheons, and other activities at TMS2016 require attendees to purchase a ticket in order to attend. If you purchased tickets in advance for one of these events, your ticket will be attached to your name badge. If you would like to add a ticketed event to your registration, please inquire at the registration area.

NATIONAL CONFERENCE CENTER AND THE OMNI HOTEL
One of the best ways to keep your bearings during your time in Nashville is to download two apps:

1) The TMS2016 Mobile Application. The TMS2016 App will help you keep maps of the conference facilities and a schedule of your selected events in your pocket at all times. Search “TMS Annual Meeting” on the App Store or the Google Play™ Store to download.

2) Music City Center Mobile Application. This app is a detailed directional guide for getting around the convention center using your current location in the building (or, if location services are not enabled on your device, you can type in your location). Search “Music City Center” on the App Store or the Google Play™ Store to download.

Maps of the Music City Center and the Omni Nashville Hotel are also printed in this program beginning on page 4.

Navigating Downtown Nashville
The Music City Circuit—Nashville’s clean diesel hybrid downtown bus system—is free for visitors to ride. The Green Circuit takes you between the Gulch and Riverfront Park. The Blue Circuit runs south to north serving key destinations in downtown Music City. For circuit maps and schedule, visit http://nashvillemta.org/Nashville-MTA-Music-City-Circuit.asp

NOTE ABOUT TIME
All times printed in this program refer to Central Standard Time.

Notice Regarding Technical Program Cancellations
Changing the times of presentations is disruptive to the program and may cause delegates to miss valuable presentations. So, we have asked symposium organizers and session chairs not to adjust presentation times in the event that a speaker is unable to deliver his or her talk due to international travel and/or visa issues resulting in late cancellation or “no show.”
Internet Access
The Music City Center offers free wireless internet in all public areas. No login or password is needed for access.

Charging Stations
Recharge your mobile phones and tablets at the complimentary charging stations located in the Exhibit Hall.

Business Center—UPS Store #6425
A UPS Store offering a number of business services is located on the 2nd Level of the Music City Center. Hours of operation are Monday through Friday, 9:00 a.m. to 5:00 p.m. (Closed Saturday and Sunday) For more information, visit www.theupsstorelocal.com/6425.

Refreshments
Hot and iced coffee, espresso drinks, donuts, muffins, oatmeal, and bagels are available for purchase at the Dunkin Donuts on the first level of the Music City Center. Hours of operation are Monday through Friday, 6:00 a.m. to 7:00 p.m. and weekends, 6:00 a.m. to 6:00 p.m.

For your convenience, on Monday and Tuesday there will be concession stands selling lunch options on Level 3 of the Music City Center. On Monday these will be available on the concourse outside of Hall A and on Tuesday they will be available in the TMS Exhibit Hall (Hall B).

Get to know TMS!

TMS Membership Cafe

Located in the Exhibit Hall Concourse on Level 3 of the Music City Convention Center (near Registration)

The TMS Membership Café provides attendees with a comfortable spot to regroup, meet with colleagues, and learn about the benefits of TMS membership. By registering for TMS2016 at the full conference rate, you become an official member of the TMS family. Come to the Membership Café to learn all about what TMS has to offer.
**ROOMS FOR NURSING MOTHERS**
Designated rooms are available at the Music City Center and at the Omni Nashville Hotel for nursing mothers. To access these private rooms, contact TMS Meeting Services at the TMS Membership Café.

**STAY INFORMED**
The following tools will help you to stay informed of any last-minute schedule changes and news from conference events.

**TMS2016 MOBILE APP**
A lightweight alternative to the at-meeting program you are currently holding, the TMS2016 mobile application can serve as your compact, hand-held guide to the meeting. This free conference tool is available on the App Store and the Google Play™ Store. To download the App, search “TMS Annual Meeting” in your respective device store.

The App’s features include:
- Latest programming schedule
- Complete abstracts
- Ability to build your personal schedule and download to your device
- Speaker information
- Exhibit map
- Exhibitors and sponsors
- Venue information
- Access to TMS2016 News

The App is also linked to the TMS Personal Conference Scheduler, so if you already created a schedule with that program, you can view it through the App.

**TMS2016 NEWS:**
**YOUR MEETING NEWSLETTER**
Want to stay informed of everything that’s happening at the TMS 2016 Annual Meeting & Exhibition? TMS2016 News, a daily newsletter reporting conference activities and events, will be published each morning, Sunday through Thursday, during the conference. You can access the newsletter through the TMS2016 app at any time, through the TMS2016 website, or by clicking on the link in the notification e-mail we’ll send each morning.

Each issue will provide a reminder of the big events planned for the day, as well as recaps and photos from events happening around the meeting. So before you start your day at TMS2016, sit down with a cup of coffee and skim TMS2016 News so that you don’t miss a thing! (Not sure where to find a cup of coffee? The newsletter can tell you that, too.)

**TWEET YOUR OWN UPDATES**
Keep each other updated on meeting activities, interesting talks, and tips on the best local restaurants. Use #MyTMS2016 to tweet your observations to @TMSSociety.

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**TMS2016 APP DASHBOARD**

- Get the full TMS2016 schedule including technical sessions/ presentations, socials, business meetings, and exhibition.
- Find updates and information about special events, Collected Proceedings, venue maps, and general TMS2016 information.
- Discover any major changes or important advisories (you can also opt to receive notification pop-ups).
- Provide feedback about the TMS2016 mobile application, select sessions, and provide comments.
- View a complete list of exhibiting companies, exhibit hall map, and schedule appointments.
- Explore the names of other TMS2016 attendees and send messages.
- Access saved sessions you want to attend, exhibitors you wish to visit, notes, and more.
- Need transportation, restaurant options, or the nearest pharmacy? See what’s nearby.
- Keep up with the latest TMS2016 news!
BADGES
All attendees must wear registration badges at all times during the meeting to ensure admission to events included in the paid fee such as technical sessions, exhibition, and receptions. “Exhibit Only” badges only provide admittance to the show floor for events in the exhibit hall. “Exhibit Only” attendees may not attend technical sessions.

GUEST SESSION ACCESS
Each full-conference attendee is permitted up to two guests for one session at which they are presenting. This does not include colleagues or exhibitors. This access is intended for family members who wish to listen to one talk presented by their relative. No one under the age of 18 is permitted to attend. Please provide the names of the guests who will be attending your presentations at the registration desk.

GUEST FUNCTION TICKETS
You may purchase additional tickets to social functions for your guests at registration.

REFUND POLICY
The deadline for all refunds was January 8, 2016. No refunds will be issued at the meeting. Fees and tickets are nonrefundable. TMS is not responsible for “no show” presenters. Presenters are scheduled and advertised in good faith based on the presenter’s proposal to be included in the program.

ANTI-HARASSMENT POLICY
TMS policy prohibits conduct that is disrespectful, unprofessional, or harassing as related to any number of factors including, but not limited to, religion, ethnicity, gender, national origin or ancestry, physical or mental disability, physical appearance, medical condition, partner status, age, sexual orientation, military and veteran status, or any other characteristic protected by relevant federal, state, or local law or ordinance or regulation. Failure to comply with this policy could lead to censure from the TMS Board of Directors, potential legal action, or other actions. Anyone who witnesses prohibited conduct or who is the target of prohibited verbal or physical conduct should notify a TMS staff member as soon as possible following the incident. It is the duty of the individual reporting the prohibited conduct to make a timely and accurate complaint so that the issue can be resolved swiftly.

PHOTOGRAPHY AND RECORDING POLICY
TMS reserves the right to all audio and video reproductions of presentations at TMS-sponsored meetings. By registering for this meeting, all attendees acknowledge that they may be photographed by TMS personnel while at events, and that those photos may be used for promotional purposes, in and on TMS publications and websites, and on social media sites.

Any recording of sessions (audio, video, still photography, etc.) intended for personal use, distribution, publication, or copyright without the express written consent of TMS and the individual authors is strictly prohibited. No photos are to be taken of any presenter’s slides. Attendees violating this policy may be asked to leave the session or the meeting without refund.

ANTITRUST COMPLIANCE POLICY
TMS complies with the antitrust laws of the United States. Attendees are encouraged to consult with their own corporate counsel for further guidance in complying with U.S. and foreign antitrust laws and regulations.

AMERICANS WITH DISABILITIES ACT
TMS strongly supports the federal Americans with Disabilities Act (ADA) which prohibits discrimination against, and promotes public accessibility for, those with disabilities. In support of, and in compliance with ADA, we ask those requiring specific equipment or services to contact TMS Meeting Services at the TMS Membership Café.

CELL PHONE USE
In consideration of attendees and presenters, TMS kindly requests that you minimize disturbances by setting all cell phones and other devices on “silent” while in meeting rooms.

RECYCLING
Discard badges and programs after the meeting in the bins located in the Registration area.

Join TMS in reducing, reusing and recycling.
### Saturday, February 13

**Committee and Business Meetings**

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Registration Item Writers Workshop and Committee Meeting</td>
<td>2/13/16</td>
<td>9:00 AM to 5:00 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
<td>R</td>
</tr>
<tr>
<td>TMS Financial Planning Committee Meeting</td>
<td>2/13/16</td>
<td>2:00 PM to 5:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>R</td>
</tr>
<tr>
<td>Professional Registration Committee Dinner</td>
<td>2/13/16</td>
<td>6:00 PM to 8:00 PM</td>
<td>Offsite</td>
<td>Restaurant TBD</td>
<td>R</td>
</tr>
</tbody>
</table>

### Sunday, February 14

**All-Conference Events**

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>2/14/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall (L3)</td>
<td>O</td>
</tr>
<tr>
<td>TMS Membership Cafe</td>
<td>2/14/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Programming Support Desk</td>
<td>2/14/16</td>
<td>12:00 PM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Set up for Poster Session I, &quot;Meet the Candidate&quot; Interactive Session, and Young Professional and Student Poster Sessions</td>
<td>2/14/16</td>
<td>4:30 PM to 6:00 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>TMS 101: Fundamentals of TMS</td>
<td>2/14/16</td>
<td>5:00 PM to 5:30 PM</td>
<td>MCC</td>
<td>Davidson Ballroom A</td>
<td>O</td>
</tr>
<tr>
<td>TMS2016 Opening Celebration</td>
<td>2/14/16</td>
<td>5:00 PM to 6:30 PM</td>
<td>MCC</td>
<td>Davidson Ballroom A</td>
<td>O</td>
</tr>
</tbody>
</table>

**Exhibition**

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibit Move In</td>
<td>2/14/16</td>
<td>8:00 AM to 5:00 PM</td>
<td>MCC</td>
<td>Hall B</td>
<td>R</td>
</tr>
</tbody>
</table>

**Professional Development & Special Lectures**

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF Grant Proposal Writing Workshop</td>
<td>2/14/16</td>
<td>8:30 AM to 12:00 PM</td>
<td>MCC</td>
<td>206A</td>
<td>T</td>
</tr>
<tr>
<td>Energy Management in the Materials Industry Workshop</td>
<td>2/14/16</td>
<td>8:30 AM to 12:30 PM</td>
<td>MCC</td>
<td>206B</td>
<td>T</td>
</tr>
<tr>
<td>12th Annual Lead-Free Solders and Interconnect Technology Workshop</td>
<td>2/14/16</td>
<td>8:30 AM to 4:30 PM</td>
<td>MCC</td>
<td>201A</td>
<td>T</td>
</tr>
<tr>
<td>Multiphysics Materials Simulations using the Open Source MOOSE Framework Workshop</td>
<td>2/14/16</td>
<td>8:30 AM to 4:30 PM</td>
<td>MCC</td>
<td>201B</td>
<td>T</td>
</tr>
<tr>
<td>Effects and Control of Impurities Along the Aluminum Value Chain Course</td>
<td>2/14/16</td>
<td>8:30 AM to 4:30 PM</td>
<td>MCC</td>
<td>203B</td>
<td>T</td>
</tr>
<tr>
<td>Avizo 3D Analysis Software for Materials Science</td>
<td>2/14/16</td>
<td>1:00 PM to 4:30 PM</td>
<td>MCC</td>
<td>205A</td>
<td>T</td>
</tr>
<tr>
<td>Explore CES Software Tools for Materials Related Critical Decision-Making in Industry, Research and Education Workshop</td>
<td>2/14/16</td>
<td>1:00 PM to 4:30 PM</td>
<td>MCC</td>
<td>206A</td>
<td>T</td>
</tr>
<tr>
<td>Practical Methods of “In-Plant” Testing of Carbon Anodes Used in Aluminum Smelting Workshop</td>
<td>2/14/16</td>
<td>1:00 PM to 4:30 PM</td>
<td>MCC</td>
<td>202A</td>
<td>T</td>
</tr>
<tr>
<td>Additive Manufacturing Materials and Processes Workshop</td>
<td>2/14/16</td>
<td>1:00 PM to 5:30 PM</td>
<td>MCC</td>
<td>204</td>
<td>T</td>
</tr>
</tbody>
</table>
### CALENDAR OF EVENTS
As of January 21, 2016

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Functions</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Materials Bowl Competition</td>
<td>2/14/16</td>
<td>12:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>Davidson Ballroom B</td>
<td>O</td>
</tr>
<tr>
<td>- Elimination Rounds</td>
<td>2/14/16</td>
<td>12:00 PM to 4:00 PM</td>
<td>MCC</td>
<td>Davidson Ballroom B</td>
<td>O</td>
</tr>
<tr>
<td>- Championship Round</td>
<td>2/14/16</td>
<td>6:30 PM to 7:00 PM</td>
<td>MCC</td>
<td>Davidson Ballroom B</td>
<td>O</td>
</tr>
<tr>
<td>Student Networking Mixer</td>
<td>2/14/16</td>
<td>7:00 PM to 9:00 PM</td>
<td>MCC</td>
<td>Davidson Ballroom C</td>
<td>O</td>
</tr>
<tr>
<td><strong>Committee &amp; Business Meetings</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Board Member Orientation</td>
<td>2/14/16</td>
<td>8:30 AM to 10:00 AM</td>
<td>Omni</td>
<td>Music Row 5</td>
<td>I</td>
</tr>
<tr>
<td>TMS Board of Directors Meeting</td>
<td>2/14/16</td>
<td>10:00 AM to 12:00 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
<td>I</td>
</tr>
<tr>
<td>Recycling and Environmental Technologies Committee Meeting</td>
<td>2/14/16</td>
<td>12:00 PM to 1:30 PM</td>
<td>Omni</td>
<td>Cumberland 1</td>
<td>O</td>
</tr>
<tr>
<td>Accreditation Committee Meeting</td>
<td>2/14/16</td>
<td>12:30 PM to 2:30 PM</td>
<td>Omni</td>
<td>Cumberland 3</td>
<td>O</td>
</tr>
<tr>
<td>Magnesium Committee Meeting</td>
<td>2/14/16</td>
<td>1:30 PM to 3:00 PM</td>
<td>MCC</td>
<td>205B</td>
<td>O</td>
</tr>
<tr>
<td>TMS Nominating Committee Meeting</td>
<td>2/14/16</td>
<td>1:30 PM to 3:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
</tr>
<tr>
<td>Aluminum Committee Meeting</td>
<td>2/14/16</td>
<td>2:00 PM to 4:00 PM</td>
<td>MCC</td>
<td>205C</td>
<td>O</td>
</tr>
<tr>
<td>Materials Characterization Committee Meeting</td>
<td>2/14/16</td>
<td>2:30 PM to 4:00 PM</td>
<td>Omni</td>
<td>Legends D</td>
<td>O</td>
</tr>
<tr>
<td>ABET Refresher Training</td>
<td>2/14/16</td>
<td>3:00 PM to 5:00 PM</td>
<td>Omni</td>
<td>Cumberland 5</td>
<td>O</td>
</tr>
<tr>
<td>PRICM-9 International Organizing Committee Meeting</td>
<td>2/14/16</td>
<td>3:00 PM to 5:00 PM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
<td>I</td>
</tr>
<tr>
<td>Public &amp; Governmental Affairs Committee Meeting</td>
<td>2/14/16</td>
<td>3:30 PM to 5:00 PM</td>
<td>Omni</td>
<td>Cumberland 3</td>
<td>O</td>
</tr>
<tr>
<td>Hydrometallurgy and Electrometallurgy Committee Meeting</td>
<td>2/14/16</td>
<td>4:00 PM to 5:00 PM</td>
<td>Omni</td>
<td>Music Row 4</td>
<td>O</td>
</tr>
<tr>
<td>Nanomaterials Committee Meeting</td>
<td>2/14/16</td>
<td>4:00 PM to 5:00 PM</td>
<td>Omni</td>
<td>Cumberland 6</td>
<td>O</td>
</tr>
<tr>
<td>TMS Program Committee Meeting</td>
<td>2/14/16</td>
<td>4:00 PM to 6:00 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
<td>I</td>
</tr>
<tr>
<td>Diversity Committee Meeting</td>
<td>2/14/16</td>
<td>4:30 PM to 6:00 PM</td>
<td>Omni</td>
<td>Legends B</td>
<td>O</td>
</tr>
<tr>
<td>JOM Advisor Orientation</td>
<td>2/14/16</td>
<td>5:00 PM to 6:00 PM</td>
<td>Omni</td>
<td>Cumberland 4</td>
<td>I</td>
</tr>
<tr>
<td>Nanomechanical Materials Behavior Committee Meeting</td>
<td>2/14/16</td>
<td>5:45 PM to 6:45 PM</td>
<td>Omni</td>
<td>Legends E</td>
<td>O</td>
</tr>
<tr>
<td>Process Technology and Modeling Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>Omni</td>
<td>Cumberland 3</td>
<td>O</td>
</tr>
<tr>
<td>Thin Films and Interfaces Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
<td>O</td>
</tr>
<tr>
<td>Pyrometallurgy Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>Omni</td>
<td>Legends F</td>
<td>O</td>
</tr>
<tr>
<td>Materials Innovation Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 7:30 PM</td>
<td>Omni</td>
<td>Cumberland 2</td>
<td>O</td>
</tr>
<tr>
<td>Content Development and Dissemination Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 8:00 PM</td>
<td>Omni</td>
<td>Music Row 4</td>
<td>I</td>
</tr>
<tr>
<td>Professional Development Committee Meeting</td>
<td>2/14/16</td>
<td>6:00 PM to 8:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
</tr>
<tr>
<td>Mechanical Behavior of Materials Committee Meeting</td>
<td>2/14/16</td>
<td>7:00 PM to 8:30 PM</td>
<td>Omni</td>
<td>Legends E</td>
<td>O</td>
</tr>
<tr>
<td>Alloy Phases Committee Meeting</td>
<td>2/14/16</td>
<td>7:30 PM to 9:00 PM</td>
<td>Omni</td>
<td>Cumberland 6</td>
<td>O</td>
</tr>
<tr>
<td>Phase Transformation Committee Meeting</td>
<td>2/14/16</td>
<td>7:30 PM to 9:00 PM</td>
<td>Omni</td>
<td>Cumberland 1</td>
<td>O</td>
</tr>
</tbody>
</table>

Legend:
- MCC - Music City Center
- Omni - Omni Nashville Downtown Hotel
- O - Open to all attendees
- R - Restrictions Apply
- I - Invitation Only
- T - Ticketed Event, Pre-registration required
### Monday, February 15

#### All-Conference Events

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>2/15/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Programming Support Desk</td>
<td>2/15/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Presenters' Coffee</td>
<td>2/15/16</td>
<td>7:00 AM to 8:00 AM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>TMS Membership Cafe</td>
<td>2/15/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Set up for Poster Session I, &quot;Meet the Candidate&quot; Interactive Session, and Young Professional and Student Poster Sessions</td>
<td>2/15/16</td>
<td>7:00 AM to 8:30 AM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>Technical Programming</td>
<td>2/15/16</td>
<td>8:30 AM to 5:30 PM</td>
<td>See Technical Program section for complete schedule and locations</td>
<td>O</td>
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</tr>
<tr>
<td>Poster Session I and &quot;Meet the Candidate&quot; Interactive Session Gallery</td>
<td>2/15/16</td>
<td>8:30 AM to 6:30 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>Morning Break</td>
<td>2/15/16</td>
<td>9:50 AM to 10:30 AM</td>
<td>MCC</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Lunch Concession Stands (Cash Sales)</td>
<td>2/15/16</td>
<td>12:00 PM to 2:00 PM</td>
<td>MCC</td>
<td>Hall A Concourse</td>
<td>O</td>
</tr>
<tr>
<td>Afternoon Break</td>
<td>2/15/16</td>
<td>3:20 PM to 4:00 PM</td>
<td>MCC</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Young Professional Technical Division Poster Contest</td>
<td>2/15/16</td>
<td>5:00 PM to 6:30 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>Technical Division Student Poster Contest (Judging)</td>
<td>2/15/16</td>
<td>5:00 PM to 6:30 PM</td>
<td>MCC</td>
<td>Hall C</td>
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</tr>
<tr>
<td>Young Professional Meet the Candidate Interactive Session</td>
<td>2/15/16</td>
<td>6:30 PM to 8:30 PM</td>
<td>MCC</td>
<td>Hall C</td>
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</tr>
<tr>
<td>Poster Session I Presentations and Reception</td>
<td>2/15/16</td>
<td>6:30 PM to 8:30 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
</tbody>
</table>

#### Exhibition

- **TMS 2016 Exhibition**: 2/15/16 | 2:00 PM to 6:30 PM | MCC | Hall B | O
- **TMS Foundation Silent Auction**: 2/15/16 | 2:00 PM to 6:30 PM | MCC | Hall B | O
- **President’s Welcoming Reception**: 2/15/16 | 5:00 PM to 6:30 PM | MCC | Hall B | O

#### Professional Development & Special Lectures

- **Meet-a-Mentor**: 2/15/16 | 4:30 PM to 6:00 PM | Omni | Legends D | R

#### Social Functions

- **Women in Materials Science & Engineering Breakfast**: 2/15/16 | 7:00 AM to 8:00 AM | MCC | Davidson Ballroom C1-C2 | T
- **SMD Luncheon**: 2/15/16 | 12:00 PM to 2:00 PM | Omni | Legends E&F | T
- **TMS Partner Society Reception**: 2/15/16 | 4:30 PM to 5:30 PM | Omni | Mockingbird 4 | I
- **Young Professionals Reception**: 2/15/16 | 6:00 PM to 7:00 PM | Omni | Legends B | O
- **Christopher W. Bale Honorary Dinner**: 2/15/16 | 6:30 PM to 9:00 PM | Omni | Legends E&F | T
- **Gary Purdy Honorary Dinner**: 2/15/16 | 6:30 PM to 9:00 PM | Omni | Legends C | T
- **President’s Invitational Dinner**: 2/15/16 | 6:30 PM to 9:30 PM | Offsite | City Winery | I
### Committee & Business Meetings

<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
<th>Time</th>
<th>Facility</th>
<th>Room</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgical and Materials Transactions A Board of Review</td>
<td>2/15/16</td>
<td>7:00 AM to 8:00 AM</td>
<td>Omni</td>
<td>Legends C</td>
<td>I</td>
</tr>
<tr>
<td>Past AIME Trustees Meeting</td>
<td>2/15/16</td>
<td>7:00 AM to 9:00 AM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
<td>I</td>
</tr>
<tr>
<td>Membership &amp; Student Development Committee Meeting</td>
<td>2/15/16</td>
<td>8:30 AM to 9:45 AM</td>
<td>Omni</td>
<td>Music Row 4</td>
<td>R</td>
</tr>
<tr>
<td>TMS Executive Committee Meeting</td>
<td>2/15/16</td>
<td>10:00 AM to 11:00 AM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
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<tr>
<td>TMS Past Presidents Meeting</td>
<td>2/15/16</td>
<td>11:30 AM to 1:00 PM</td>
<td>Omni</td>
<td>Legends A</td>
<td>I</td>
</tr>
<tr>
<td>Superalloys 2016 Program Committee Meeting</td>
<td>2/15/16</td>
<td>12:00 PM to 2:00 PM</td>
<td>Omni</td>
<td>Music Row 4</td>
<td>I</td>
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<tr>
<td>Powder Materials Committee Meeting</td>
<td>2/15/16</td>
<td>12:30 PM to 2:00 PM</td>
<td>MCC</td>
<td>203B</td>
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<tr>
<td>Integrated Computational Materials Engineering Committee Meeting</td>
<td>2/15/16</td>
<td>12:15 PM to 1:45 PM</td>
<td>Omni</td>
<td>Legends B</td>
<td>O</td>
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<tr>
<td>Ad Hoc International Affairs Committee Meeting</td>
<td>2/15/16</td>
<td>3:00 PM to 4:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
</tr>
<tr>
<td>Superalloys 2016 Organizing Committee Meeting</td>
<td>2/15/16</td>
<td>5:00 PM to 7:00 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
<td>I</td>
</tr>
<tr>
<td>Advanced Characterization, Testing and Simulation Committee Meeting</td>
<td>2/15/16</td>
<td>5:45 PM to 6:45 PM</td>
<td>MCC</td>
<td>103B</td>
<td>O</td>
</tr>
<tr>
<td>Composite Materials Committee Meeting</td>
<td>2/15/16</td>
<td>5:45 PM to 6:45 PM</td>
<td>MCC</td>
<td>110A</td>
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<tr>
<td>Biomaterials Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>207A</td>
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<tr>
<td>Energy Conversion and Storage Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>104D</td>
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<tr>
<td>Nuclear Materials Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>101B</td>
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<tr>
<td>Solidification Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>105A</td>
<td>O</td>
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<tr>
<td>Surface Engineering Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:00 PM</td>
<td>MCC</td>
<td>101D</td>
<td>O</td>
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<tr>
<td>Chemistry and Physics of Materials Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 7:30 PM</td>
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<td>108</td>
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<tr>
<td>Materials &amp; Society Committee Meeting</td>
<td>2/15/16</td>
<td>6:00 PM to 8:00 PM</td>
<td>MCC, Ticketed Event</td>
<td>Pre-registration required</td>
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<tr>
<td>Additive Manufacturing Bridge Committee Meeting</td>
<td>2/15/16</td>
<td>7:00 PM to 8:00 PM</td>
<td>MCC</td>
<td>205B</td>
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<tr>
<td>Magnetic Materials Committee Meeting</td>
<td>2/15/16</td>
<td>7:00 PM to 8:00 PM</td>
<td>MCC</td>
<td>209C</td>
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### Tuesday, February 16

<table>
<thead>
<tr>
<th>Function</th>
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<tbody>
<tr>
<td>Registration</td>
<td>2/16/16</td>
<td>7:00 AM to 5:30 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Programming Support Desk</td>
<td>2/16/16</td>
<td>7:00 AM to 6:00 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Presenters' Coffee</td>
<td>2/16/16</td>
<td>7:00 AM to 8:00 AM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>TMS Membership Cafe</td>
<td>2/16/16</td>
<td>7:00 AM to 5:30 PM</td>
<td>MCC</td>
<td>Exhibit Hall Concourse (L3)</td>
<td>O</td>
</tr>
<tr>
<td>Poster Session I and &quot;Meet the Candidate&quot; Interactive Session Gallery</td>
<td>2/16/16</td>
<td>8:30 AM to 12:00 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
</tr>
<tr>
<td>Technical Programming</td>
<td>2/16/16</td>
<td>8:30 AM to 5:30 PM</td>
<td>MCC</td>
<td>See Technical Program section for complete schedule and locations</td>
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</tr>
<tr>
<td>Morning Break</td>
<td>2/16/16</td>
<td>9:50 AM to 10:30 AM</td>
<td>MCC</td>
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<tr>
<td>Poster Session I Dismantle</td>
<td>2/16/16</td>
<td>12:00 PM to 2:00 PM</td>
<td>MCC</td>
<td>Hall C</td>
<td>O</td>
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<tr>
<td>Afternoon Break</td>
<td>2/16/16</td>
<td>3:20 PM to 4:00 PM</td>
<td>MCC</td>
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<tr>
<td>Poster Session II set-up</td>
<td>2/16/16</td>
<td>4:30 PM to 6:00 PM</td>
<td>MCC</td>
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# CALENDAR OF EVENTS
As of January 21, 2016

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<tr>
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<th>Room</th>
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<tbody>
<tr>
<td><strong>Exhibition</strong></td>
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<tr>
<td>TMS2016 Exhibition</td>
<td>2/16/16</td>
<td>10:00 AM to 5:30 PM</td>
<td>MCC</td>
<td>Hall B</td>
<td>O</td>
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<tr>
<td>TMS Foundation Silent Auction</td>
<td>2/16/16</td>
<td>10:00 AM to 5:30 PM</td>
<td>MCC</td>
<td>Hall B</td>
<td>O</td>
</tr>
<tr>
<td>Lunch Concession Stands (Cash Sales)</td>
<td>2/16/16</td>
<td>12:00 PM to 2:00 PM</td>
<td>MCC</td>
<td>Hall B</td>
<td>O</td>
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<tr>
<td>Happy Hour Reception</td>
<td>2/16/16</td>
<td>4:30 PM to 5:30 PM</td>
<td>MCC</td>
<td>Hall B</td>
<td>O</td>
</tr>
<tr>
<td><strong>Professional Development &amp; Special Lectures</strong></td>
<td></td>
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<tr>
<td>Young Professional Tutorial Luncheon</td>
<td>2/16/16</td>
<td>12:00 PM to 12:45 PM</td>
<td>Omni</td>
<td>Legends D</td>
<td>T</td>
</tr>
<tr>
<td>Young Professional Tutorial Lecture</td>
<td>2/16/16</td>
<td>12:45 PM to 2:00 PM</td>
<td>Omni</td>
<td>Legends D</td>
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<tr>
<td><strong>Student Events</strong></td>
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<tr>
<td>Student Career Forum</td>
<td>2/16/16</td>
<td>2:15 PM to 4:15 PM</td>
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<td>Legends B</td>
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<td><strong>Social Functions</strong></td>
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<tr>
<td>EPD/MPMD Luncheon</td>
<td>2/16/16</td>
<td>12:00 PM to 2:00 PM</td>
<td>Omni</td>
<td>Legends E&amp;F</td>
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<tr>
<td>TMS-AIME Awards Reception</td>
<td>2/16/16</td>
<td>6:00 PM to 6:30 PM</td>
<td>MCC</td>
<td>Davidson Ballroom Foyer</td>
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<tr>
<td>TMS-AIME Awards Ceremony</td>
<td>2/16/16</td>
<td>6:30 PM to 7:45 PM</td>
<td>MCC</td>
<td>Davidson Ballroom B</td>
<td>O</td>
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<tr>
<td>TMS-AIME Awards Banquet</td>
<td>2/16/16</td>
<td>7:45 PM to 9:30 PM</td>
<td>MCC</td>
<td>Davidson Ballroom A</td>
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</tr>
<tr>
<td><strong>Committee &amp; Business Meetings</strong></td>
<td></td>
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<tr>
<td><em>Metallurgical and Materials Transactions B Board of Review</em></td>
<td>2/16/16</td>
<td>7:00 AM to 8:00 AM</td>
<td>Omni</td>
<td>Music Row 4</td>
<td>I</td>
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<tr>
<td>Electronic Packaging and Interconnection Materials Committee Meeting</td>
<td>2/16/16</td>
<td>7:00 AM to 8:00 AM</td>
<td>Omni</td>
<td>Legends B</td>
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<tr>
<td>Fellows Award Committee Meeting</td>
<td>2/16/16</td>
<td>7:30 AM to 8:30 AM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
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</tr>
<tr>
<td>Young Professionals Committee Meeting</td>
<td>2/16/16</td>
<td>8:15 AM to 9:45 AM</td>
<td>Omni</td>
<td>Legends D</td>
<td>O</td>
</tr>
<tr>
<td>Honors &amp; Professional Recognition Committee Meeting</td>
<td>2/16/16</td>
<td>8:30 AM to 9:30 AM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
<td>R</td>
</tr>
<tr>
<td>Pan American Congress Organizing Committee Meeting</td>
<td>2/16/16</td>
<td>9:00 AM to 10:30 AM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
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<tr>
<td>TMS-CSM 2017 Energy Materials Conference Discussion</td>
<td>2/16/16</td>
<td>10:30 AM to 11:30 AM</td>
<td>Omni</td>
<td>Music Row 5</td>
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<tr>
<td>TMS-CSM Leadership Meeting</td>
<td>2/16/16</td>
<td>11:30 AM to 1:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
<td>I</td>
</tr>
<tr>
<td>Education Committee Meeting</td>
<td>2/16/16</td>
<td>12:30 PM to 2:00 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
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<tr>
<td>TMS-SMM Leadership Meeting</td>
<td>2/16/16</td>
<td>2:00 PM to 3:00 PM</td>
<td>Omni</td>
<td>Music Row 6</td>
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<td>Titanium Committee Meeting</td>
<td>2/16/16</td>
<td>5:00 PM to 6:00 PM</td>
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<td>Music Row 4</td>
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<tr>
<td>Shaping and Forming Committee Meeting</td>
<td>2/16/16</td>
<td>5:00 PM to 6:30 PM</td>
<td>Omni</td>
<td>Music Row 5</td>
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<tr>
<td>Energy Committee Meeting</td>
<td>2/16/16</td>
<td>5:30 PM to 6:30 PM</td>
<td>Omni</td>
<td>Mockingbird 4</td>
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<tr>
<td>Corrosion and Environmental Effects Committee Meeting</td>
<td>2/16/16</td>
<td>5:30 PM to 6:30 PM</td>
<td>MCC</td>
<td>104E</td>
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<tr>
<td>Refractory Metals &amp; Materials Committee Meeting</td>
<td>2/16/16</td>
<td>5:30 PM to 6:30 PM</td>
<td>MCC</td>
<td>106B</td>
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<tr>
<td>Computational Materials Science &amp; Engineering Committee Meeting</td>
<td>2/16/16</td>
<td>5:45 PM to 6:45 PM</td>
<td>MCC</td>
<td>207D</td>
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<tr>
<td>High Temperature Alloys Committee Meeting</td>
<td>2/16/16</td>
<td>5:45 PM to 7:15 PM</td>
<td>MCC</td>
<td>105B</td>
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</tr>
</tbody>
</table>

- **MCC** - Music City Center
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- **O** - Open to all attendees
- **R** - Restrictions Apply
- **I** - Invitation Only
- **T** - Ticketed Event, Pre-registration required

**www.tms.org/TMS2016** 15
<table>
<thead>
<tr>
<th>Function</th>
<th>Date</th>
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<th>Room</th>
<th>Access</th>
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<tbody>
<tr>
<td><strong>Wednesday, February 17</strong></td>
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<tr>
<td>All-Conference Events</td>
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</tr>
<tr>
<td>Registration</td>
<td>2/17/16</td>
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**Access:**
- **O** - Open to all attendees
- **R** - Restrictions Apply
- **I** - Invitation Only
- **T** - Ticketed Event, Pre-registration required

**Facility & Room:**
- **MCC** - Music City Center
- **Omni** - Omni Nashville Downtown Hotel

**Date:**
- 2/17/16 - February 17, 2016
- 2/18/16 - February 18, 2016
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**Alumina Technology**

Advanced refinery solutions tailored to your bauxite quality

Drawing on more than 100 years of Bayer process development, design and operating experience, our proven technology solutions are supported by a unique set of training, commissioning and support services. For inquiries: antonio.pucci@riotinto.com

*Rio Tinto Alcan Yarwun Alumina Refinery — Queensland, Australia*

*High Temperature Digestion, Commissioned in 2004 and expanded in 2012*
Nanovea began designing and manufacturing instruments after years of experience in providing solutions for profilometry, mechanical and tribology applications. Firmly aligned with its vision, Nanovea aims to simplify advanced measurement technology to stimulate materials engineering for the common good. Ease of use, advanced automation and the dedication to superior accuracy are the driving forces behind Nanovea's full range of Profilometers, Mechanical Testers and Tribometers. Unlike other manufacturers, Nanovea also provides Laboratory & consulting services. Thus, clients are given access to years of experience in finding solutions to improve quality control and materials development. Nanovea offers many critically important tests including surface roughness, nanoindentation, scratch and wear testing among many others. Nanovea's instruments can be found internationally in distinguished educational and industrial organizations ranging from automotive to cosmetic, biotechnology to medical devices to microelectronics and space applications. Thousands of clients rely on Nanovea for accurate solutions, technically superior instruments, experienced assistance and comprehensive laboratory services.
**TMS 101: Fundamentals of TMS**

*Date: Sunday, February 14, 2016*  
*Time: 5:00 p.m. to 5:30 p.m.*  
*Location: Music City Center, 208A*  
*Sponsored by the TMS Professional Development Committee*

Want to get more involved in TMS, but don’t know where to start? Attend **TMS 101: Fundamentals of TMS**. This half-hour presentation will provide a brief overview of how TMS works and a concise, practical explanation of how you can get more involved in the society’s activities. Led by experienced TMS volunteers, TMS 101 will help you to take advantage of the many networking and professional development opportunities within the organization.

This session is open to all TMS2016 attendees but will be especially valuable to new members, international members, and graduate students.

All participants are invited to continue networking at the TMS2016 Opening Celebration immediately following this session. Here, you will be encouraged to further discuss opportunities to participate in TMS activities, such as joining a TMS technical committee or contributing to programming and publications.

Presenters:

**Jeffrey W. Fergus,**  
Associate Dean,  
Auburn University

**Clarissa Yablinsky,**  
Scientist, Los Alamos National Laboratory

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**TMS2016 Light Metals Keynote Session**

**Pushing Boundaries—Innovative Thinking in Light Metals Production**

*Date: Monday, February 15, 2016*  
*Time: 8:30 a.m. to 10:30 a.m.*  
*Location: Music City Center, Room 202*

Presenters:

**“Aluminum: Modern, Innovative, Attractive”**  
*Martin Iffert,*  
CEO, Trimet Aluminium SE

**“Lightweighting: What is the Future for the Automotive Industry?”**  
*Stephane Delalande,*  
Deputy Scientific Director, PSA Peugeot Citroën
FEATURED SESSIONS

MAGNESIUM TECHNOLOGY KEYNOTE SESSION
Date: Monday, February 15, 2016
Time: 8:30 a.m. to 2:30 p.m.
Location: Music City Center, Room 204

This year, the Magnesium Technology Symposium will open with a special keynote session, featuring the following presentations:

“Challenges for Implementation of Magnesium into More Applications”
Karl Kainer, Helmholtz-Zentrum Geesthacht, Germany

“Development of Magnesium Alloys for High Speed Trains in China”
Eric Nyberg, Pacific Northwest National Laboratory, USA

“Korea’s R&D Activities Towards the Application of Wrought Mg Alloys”
Nack J. Kim, POSTECH, Korea South

“Mg Alloys Strengthened by Complex Phases”
Alok Singh, National Institute for Materials Science, Japan

“Developments in High Magnesium-Content Bulk Metallic Glasses and Future Possibilities”
Kevin Laws, University of New South Wales, Australia

“A Perspective: Potential Growth in the Global Magnesium Industry – Where is our Research Leading Us?”
Martyn Alderman, Magnesium Elektron, Great Britain

REWAS 2016 PLENARY SESSION:

REWAS Materials Matter: Deriving Value from Resource Recovery at Multiple Materials Scales
Date: Tuesday, February 16, 2016
Time: 8:30 a.m. to Noon
Location: Music City Center, Room 104B

This special plenary session will be a highlight of the REWAS2016 technical program. REWAS is a trans-disciplinary conference—held as part of the TMS 2016 Annual Meeting & Exhibition—where materials professionals can exchange ideas with those in other research fields and stakeholders to synergistically define the way toward a resource-efficient industry and society.

The following invited speakers will deliver their presentations and participate in panel discussions with the audience.

“Gold’s Evolving Role in the Circular Economy”
Trevor Keel, Consultant to the World Gold Council

“Automotive Recycling Innovations in Aluminum”
Sil Colalancia, Novelis

“Digitalizing the Circular Economy -System-Integrated-Material-Production”
Markus Reuter, Helmholtz Institute Freiberg for Resource Technology, and 2016 TMS Extraction & Processing Division Distinguished Lecturer

“Industrial Symbiosis and Materials Management: Physical Resource Sharing Among Proximate Firms”
Marian Chertow, Yale School of Forestry & Environmental Studies

“Water at the Heart of the Circular Economy”
Edwin Piñero, Veolia North America

“Environmental Impacts of Additive Manufacturing”
William P. Flanagan, General Electric Company

REWAS2016 CO-SPONSORING SOCIETIES

Mining and Materials Processing Institute of Japan (MMIJ)
Gesellschaft der Metallurgen und Bergleute (GDMB)
Federation of European Materials Societies (FEMS)
Southern African Institute of Mining & Metallurgy (SAIMM)
The Metallurgy and Materials Society of the Canadian Institute of Mining, Metallurgy and Petroleum (MetSoc of CIM)
2016 BLADESMITHING SYMPOSIUM

KEYNOTE PRESENTATION

Date: Tuesday, February 16, 2016
Time: 8:35 a.m.
Location: Music City Center, Room 104A

“Connections: Superplasticity, Damascus Steels, Laminates, the Giza Pyramid, and Carbon Dating”
Jeffrey Wadsworth, Battelle

In the mid-1970’s, a race was underway to develop superplasticity in steels. This keynote presentation will describe how that research program led to a series of investigations into historical materials starting with Damascus Steels. The archaeometallurgy of swords and knives will be discussed starting with the early development of wood, bone, horn, and stone knives and evolving to the present time where modern Bladesmiths use an astonishing range of sophisticated materials and manufacturing methods.

ABOUT THE BLADESMITHING SYMPOSIUM

The 2016 Bladesmithing Symposium builds upon the phenomenal success of the Bladesmithing Competition held at TMS2015 last year and serves as a bridge to the next Bladesmithing Competition planned for TMS2017 in San Diego, California. Students and student teams will present their work associated with or inspired by the 2015 Bladesmithing Competition.

MATERIALS INNOVATION

KEYNOTE SESSION:

Multidisciplinary Materials Design Optimization Under Uncertainty

Date: Wednesday, February 17, 2016
Time: 8:30 a.m.
Location: Music City Center, Room 207B

This special keynote session is organized by the TMS Materials Innovation Committee and will feature the following presentations:

“Morphing the Design Box: New Design Paradigms Enabled by Additive Manufacturing”
Rick Barto, Lockheed Martin

“Model-Based Materials Definitions for Design and Structural Analysis”
David Furrer, Pratt & Whitney

“Statistical Rigor Versus Statistical Confidence in the Optimal Design of Materials”
Michael McKerns, California Institute of Technology

“A Set-Based Approach for Hierarchical Materials Design”
Carolyn Seepersad, University of Texas at Austin

TMS Member Benefits

Watch your mailbox every month for your print subscription to JOM, the member journal of TMS.

Access Metallurgical and Materials Transactions, the Journal of Electronic Materials, and more than 20 additional journals online by logging in to members.tms.org.

Receive discounts from TMS’s publishing partner, John Wiley & Sons, on publications, including textbooks and proceedings.

Receive discounts on registration fees for select upcoming meetings sponsored by TMS. Go to www.tms.org/Meetings to see a list of upcoming TMS events.
TMS2016 Acta Materialia Symposium

Date: Wednesday, February 17, 2016
Time: 3:30 p.m.
Location: Music City Center Room 103C

This special symposium will honor two TMS members who will be accepting their prestigious Acta Materialia Awards at the TMS 2016 Annual Meeting & Exhibition. The session will include presentations by the award recipients:

“Structural Control for Enhanced Functional Materials”
Sungho Jin,
University of California, San Diego
Recipient of the 2016 Acta Materialia Gold Medal

“Even ‘Green’ Technologies Create Environmental Impact: A Case Study Perspective”
Julie Schoenung,
University of California, Irvine
Recipient of the 2016 Acta Materialia Hollomon Materials & Society Award

Symposium Sponsored by:

Defined Cooling of Hot Bath Material

For the Primary Aluminium Smelting Process

- Cooling from 850 °C down to below 100 °C
- Reduction of HF emission
- Clean and environmentally safe conveying and cooling

Volunteer with TMS

Get Involved: Visit volunteer.tms.org.
TMS2017 welcomes two co-located international conferences, both included with your TMS2017 registration.

**3rd Pan American Materials Congress**
Hosted by TMS in cooperation with 7 materials societies spanning North and South America.

**Energy Materials 2017**
Organized by TMS and the Chinese Society for Metals

Join your colleagues from nearly 70 nations at the meeting that the global minerals, metals, and materials community calls home.

**Call for Papers opens in May 2016.**
HONORARY SYMPOSIA

Each year, the TMS Technical Divisions honor accomplished individuals with high-quality honorary symposia, inviting leaders in the honorees’ fields to discuss progress and recent developments on important topics. The following honorary symposia are planned for the TMS 2016 Annual Meeting & Exhibition:

**ADVANCED MAGNETIC MATERIALS**

A Functional Materials Division Symposium in Honor of Michael E. McHenry

Dates: Monday, February 15 to Thursday, February 18
Location: Music City Center, Room 209C

This symposium will discuss recent developments in the processing, characterization, property evaluation, and product development of advanced magnetic materials. The contributions of Michael E. McHenry will be highlighted, and the current status and recent advances in relevant research areas will be discussed.

**FRONTIERS IN SOLIDIFICATION**

A Materials Processing & Manufacturing Division Symposium in Honor of Michel Rappaz

Dates: Monday, February 15 to Wednesday, February 17
Location: Music City Center, Room 105A

This symposium follows the now well-established symposium series “Frontiers in Solidification.” It is intended to present the latest results of modeling of solidification microstructures, such as solid-liquid interfaces and their anisotropies, nucleation phenomena, morphological instabilities, dendrites, eutectics, peritectics, fluid flow effects, segregation, and defects.

**PHASE TRANSFORMATIONS IN MULTI-COMPONENT SYSTEMS**

A Materials Processing & Manufacturing Division Symposium Honoring Gary R. Purdy

Dates: Monday, February 15 to Wednesday, February 17
Location: Music City Center, Room 110B

The modern materials for automotive, energy, and construction applications upon which modern societies depend, all rely on the understanding of phase transformations in alloy systems. It is to this area that Gary R. Purdy has made seminal contributions over a dedicated period of more than 50 years. This symposium is dedicated to Purdy on the occasion of his 80th birthday.
Christopher Bale has devoted his entire career to the development of “FactSage,” which is one of the thermodynamic software/database packages used widely in high-temperature processes, and to the education of the industrial and academic communities in the applications of thermodynamic calculations to industrial high-temperature processes. This symposium will be a prestigious event, attracting industrial and academic leaders in the field of high-temperature processes, stimulating discussion, and facilitating industry networking.

**SPECIAL LECTURES**

**MONDAY, FEBRUARY 15**

**2016 WILLIAM HUME-ROTHERY AWARD LECTURE**

**Date:** Monday, February 15, 8:40 a.m.

**Location:** Music City Center, Room 107A

*Presented as part of the Hume-Rothery Award Symposium: Thermodynamics of Materials*

**Speaker:** Brent Fultz, Rawn Professor of Materials Science and Applied Physics, California Institute of Technology

**Lecture Title:** “The Origin of Entropy in Materials”

**About the Topic:** Most of the entropy of materials comes from vibrations of atoms—vibrational entropy is typically an order-of-magnitude larger than other sources, such as configurational entropy. Historically, differences in vibrational entropy between different phases have been subtle and troublesome to assess. Some trends and rules emerged over the years, such as how the formation of short, stiff bonds tends to reduce the vibrational entropy. The situation at high temperatures is complicated, but arguably more important for materials processing. At elevated temperatures, the harmonic and quasiharmonic approximations are unreliable. All materials have phonon-phonon interactions at high temperatures because interatomic potentials are not perfectly harmonic. Metals also have electron-phonon interactions, and magnon-phonon interactions are important for iron, for example. For less-complicated materials, it is exciting that we can now measure or calculate accurately the different parts of entropy at elevated temperatures, even when the material is far from a harmonic solid.
**SPECIAL LECTURES**

**STRUCTURAL MATERIALS DIVISION LUNCHEON LECTURE**

**Date:** Monday, February 15, Noon to 2:00 p.m.
**Location:** Omni Nashville Hotel, Legends E&F

**Speaker:** Michael J. Mills, Taine G. McDougal Professor of Engineering, The Ohio State University

**Lecture Title:** “Importance of Advanced Characterization Techniques for Understanding of Deformation Behavior in Structural Materials”

**About the Topic:** The international initiative on Integrated Computational Materials Engineering holds great promise for accelerating the insertion of new materials in high performance structural applications. Achieving this aim relies upon the fidelity of materials models and their ability to capture the connectivity between processing, microstructure and performance. This presentation will focus on advancements in our ability to characterize deformation mechanisms at finer length-scales—from atomic to grain-level behavior. For instance, in the Ni-base superalloys, a surprising variety of governing mechanisms are observed as a function of microstructure and deformation condition. In particular, at elevated temperature, the strain rate and temperature dependence of deformation depends on the onset of several deformation mechanisms that are distinct from the “classic” APB shearing process that dominates at lower temperature. Using electron-microscopy-based techniques, new insights into the governing deformation mechanisms in several important structural materials are being developed. Another example to be discussed are the high-temperature shape-memory alloys for which the interplay between dislocation plasticity and martensitic transformation determines the macroscopic behavior that is highly desirable for new actuator applications. The important role played by characterization in motivating modeling at several important length-scales (including atomistic, phase field and crystal plasticity) will also be discussed.

* This lecture is open to all meeting attendees, but only those who purchased tickets in advance will receive a catered lunch.

**FEDERATION OF EUROPEAN MATERIALS SOCIETIES (FEMS) INTERNATIONAL SCHOLAR**

**Date:** Monday, February 15, 2:00 p.m.
**Location:** Music City Center, Room 213

**Presented as part of the Fatigue in Materials: Fundamentals, Multiscale Modeling and Prevention Symposium**

**Speaker:** Henry Proudhon, Centre des Matériaux, Mines ParisTech

**Lecture Title:** “Finite Element Simulations of Short Fatigue Crack Propagation in Three Dimensional Microstructures Obtained by X-ray Tomography”

**About the Topic:** Combining in situ fatigue loading with absorption and diffraction contrast tomography, unique data sets can now be obtained to study the effect of the local microstructure on the very first stages of fatigue crack propagation. Crystal plasticity finite element simulations can now advantageously take experimental data as input to study the physical mechanisms at work. Two situations will be presented. First, the initiation of fatigue cracks on second phase particles in a commercial Al-Cu-Li alloy via 3D finite element calculations are compared to experimental observations. A criterion to assess if the crack will grow crystallographically is proposed. Second, the growth of a short fatigue crack in a beta-titanium polycrystalline sample imaged by X-ray tomography is simulated. The model uses a damage indicator to assess the local crack growth rate and direction; remeshing routines are used to achieve propagation over several grains and the results are compared to the tomographic experiment.
**TUESDAY, FEBRUARY 15**

**EXTRACTION & PROCESSING DIVISION DISTINGUISHED LECTURER**

**Date:** Tuesday, February 16, 2016, 9:30 a.m.  
**Location:** Music City Center, Room 104B  
**Part of the REWAS 2016 Plenary Session:**  
**Materials Matter: Deriving Value from Resource Recovery at Multiple Materials Scales**

**Speaker:** Markus A. Reuter,  
Director, Helmholtz Institute Freiberg for Resource Technology, Helmholtz-Zentrum Dresden-Rossendorf

**Lecture Title:** “Digitalizing the Circular Economy—System-Integrated-Material-Production”

**About the Topic:** Metals have always been a pillar of society—presently more so than ever, as they are key to enabling our sustainability aspirations. The complex Web of Metals (WoM) is the crucial basis for enabling a sustainable Circular Economy (CE) society. Digitalization and quantification of the WoM—or Internet-of-Metallurgical-Things (IoMT)—are keys to driving CE innovation. Examples of specialized technology and flow sheet needs are presented with consideration given to a “whole of chain” or Systems-Integrated-Metal-Production (SIMP) approach.

**EXTRACTION & PROCESSING DIVISION/MATERIALS PROCESSING & MANUFACTURING DIVISION JOINT LUNCHEON LECTURE**

**Date:** Tuesday, February 16, Noon to 2:00 p.m.  
**Location:** Omni Nashville Hotel, Legends E&F

**Speaker:** David L. Bourell,  
Temple Foundation Professor, The University of Texas at Austin

**Lecture Title:** “Additive Manufacturing or 3D Printing: Origins, Applications and Future Possibilities”

**Young Professional Tutorial Luncheon Lecture**

**Date:** Tuesday, February 16  
**Luncheon:** Noon to 12:45 p.m. (Tickets must be purchased in advance)  
**Lecture:** 12:45 p.m. to 2:00 p.m. (Open to all meeting attendees)

**Location:** Omni Nashville Hotel, Legends D

**Speaker:** Elif Ertekin, University of Illinois

**Lecture Title:** “Introducing Innovations in Teaching While Staying on the Research Track”

**About the Topic:** Drawing from personal experiences, Ertekin will present a discussion on how she learned (and continues to learn) to introduce innovations in the classroom while staying on the research track. She will give some examples of what worked (and what didn’t) and how it is possible not only to achieve balance, but also how to use one to improve the other.

(Young Professional Tutorial Luncheon Lecture continued on page 28.)
SPECIAL LECTURES

Speaker: Michael D. Sangid, School of Aeronautics and Astronautics, Purdue University

Lecture Title: “Accentuating the ‘I’ in ICME”

About the Topic: Integrated Computational Materials Engineering (ICME) is quietly revolutionizing materials science. The coordinated efforts of national ICME initiatives aim to deliver the required infrastructure and training to accelerate innovation, discovery, development, validation, and use of advanced materials and manufacturing processes as an integral part of next-generation multidisciplinary design with a focus on designing for affordability. A primary barrier to the widespread deployment of ICME efforts is the integration of these practices within the design systems, structural analysis, and manufacturing communities. We are past the days of doing research and throwing it over the wall. This luncheon will serve as an open discussion on opportunities to share our materials knowledge, research, and tools with a wider audience, including engineers from other disciplines representing design, structures, manufacturing, and optimization.

WEDNESDAY, FEBRUARY 17

Light Metals Division Luncheon Lecture*

Date: Wednesday, February 17, Noon to 2:00 p.m.
Location: Omni Nashville Hotel, Legends E&F

Speaker: Gregory R. Wittbecker, Vice President–Industry Analysis, Alcoa Global Primary Products

Lecture Title: “2016 Aluminum Fundamentals: A Producer’s View”

*This lecture is open to all meeting attendees, but only those who purchased tickets in advance will receive a catered lunch.

THURSDAY, FEBRUARY 18

Japan Institute of Metals International Scholar

Date: Thursday, February 18, 9:40 a.m.
Location: Music City Center, Room 107

Presented as part of the Phase Transformations and Microstructural Evolution Symposium

Speaker: Motomichi Koyama, Department of Mechanical Engineering, Kyushu University

Lecture Title: “Effective Utilization of ε-Martensite in Fe-High Mn Austenitic Steels: Aspects of Deformation-Induced Reverse Transformation”

About the Topic: ε-martensite in high Mn austenitic steels has been reported to cause brittle cracking, deteriorating mechanical properties. However, in some specific conditions, ε-martensite plays crucial roles on improvement of low-cycle fatigue resistance, uniform elongation, and yield/tensile strength. A key phenomenon to positively utilize ε-martensite is deformation-induced reverse transformation from ε-martensite to austenite. For instance, reversible deformation-induced ε-martensitic transformation like twinning/detwinning suppresses damage accumulation during low-cycle fatigue, drastically improves fatigue life. Furthermore, reversely-transformable pre-existing ε-martensite increases yield/tensile strength without any deterioration of elongation. These phenomena can be interpreted by thermodynamics and crystallographic similarity to mechanical twinning.
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We look forward to meeting you at TMS 2016, booth 508!
SUNDAY, FEBRUARY 14

**TMS2016 MATERIALS BOWL**

**Date:** Sunday, February 14  
**Elimination Rounds:** Noon to 4:00 p.m.  
**Championship Round:** 6:30 p.m. to 7:00 p.m.  
**Location:** Music City Center, Davidson Ballroom B  
*Open to all attendees*

Celebrating its 10th Anniversary! Even if you aren’t competing in this materials-themed quiz-show competition, you are welcome to attend the elimination rounds or the final championship round. Play along to test your knowledge of minerals, metals, and materials science and engineering or to cheer on your favorite school.

**TMS2016 OPENING CELEBRATION**

**Date:** Sunday, February 14  
**Time:** 5:00 p.m. to 6:30 p.m.  
**Location:** Music City Center, Davidson Ballroom A  
*Open to all attendees*

Kick off the TMS 2016 Annual Meeting & Exhibition with this social networking event. Refreshments will be provided.

**STUDENT NETWORKING MIXER**

**Date:** Sunday, February 14  
**Time:** 7:00 p.m. to 9:00 p.m.  
**Location:** Music City Center, Davidson Ballroom C  
*Open to all attendees*

Take a break and have some fun at this informal social event. Students will have the opportunity to interact with each other and with professionals in a relaxed setting. Refreshments will be provided.

MONDAY, FEBRUARY 15

**WOMEN IN MATERIALS SCIENCE & ENGINEERING BREAKFAST**

**Date:** Monday, February 15  
**Time:** 7:00 a.m. to 8:00 a.m.  
**Location:** Music City Center, Davidson Ballroom C1-C2  
*Tickets Required*

**Organized by the TMS Diversity Committee,**
this annual event offers an opportunity for TMS members to network and discuss issues specific to women in the science and engineering professions. For 2016, this event includes a hot breakfast buffet, thanks to sponsor Rio Tinto.

**MEET A MENTOR**

**Date:** Monday, February 15  
**Time:** 4:30 p.m. to 6:00 p.m.  
**Location:** Omni Nashville Hotel, Legends D  
*Pre-Registration Required*

This event matches mentors and mentees for scheduled meetings in an informal atmosphere.
**President’s Welcoming Reception**

**Date:** Monday, February 15  
**Time:** 5:00 p.m. to 6:30 p.m.  
**Location:** Music City Center, Hall B  
All attendees are invited to meet in the exhibit hall for appetizers, beverages, and networking with exhibitors and other colleagues. Music will be provided by Craig Duncan & Friends, a Nashville-based trio that plays traditional Tennessee and authentic bluegrass music.

**Young Professional Happy Hour Reception**

**Date:** Monday, February 15  
**Time:** 6:00 p.m. to 7:00 p.m.  
**Location:** Omni Nashville Hotel, Legends B  
This reception provides young professionals the opportunity to network with more experienced TMS members in a relaxed, social atmosphere.

**“Meet the Candidate” Interactive Session**

**Date:** Monday, February 15  
**Time:** 6:30 p.m. to 8:30 p.m.  
**Location:** Music City Center, Hall C  
Graduate students, postdocs, and early career professionals display their qualifications—not just their current research—at a special poster session sponsored by the TMS Young Professional Committee. This event allows young professionals to network with employers looking for high-caliber personnel for positions in national laboratories, academia, and industry.

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**TUESDAY, MARCH 17**

**Student Career Forum**

**Date:** Tuesday, February 16  
**Time:** 2:30 p.m. to 4:30 p.m.  
**Location:** Omni Nashville Hotel, Legends B  
Organized by the TMS Young Professional Committee, this session will feature speakers from various stages of their careers and diverse materials science backgrounds to discuss how to navigate a successful career path in the fields of minerals, metals, and materials.

**Exhibit Hall Happy Hour**

**Date:** Tuesday, February 16  
**Time:** 4:30 p.m. to 5:30 p.m.  
**Location:** Music City Center, Hall B  
All attendees are invited to gather in the exhibit hall for appetizers, beverages, and networking with exhibitors and other colleagues.
The 2016 TMS-AIME Awards Ceremony and Banquet will be an elegant event, designed to honor the significant professional achievements of members of the minerals, metals, and materials communities. The ceremony includes presentations of awards from both TMS and the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME), of which TMS is a member society. Additional awards, including two from Acta Materialia, will also be presented to TMS members during this ceremony.

The evening will consist of three parts. First, award recipients and their guests will be welcomed at a cocktail reception. Following the reception, participants will be seated for the awards ceremony, where individual recipients will be honored for their accomplishments. A photographer will be on hand to capture these moments. After the ceremony, those participants who have purchased banquet tickets will proceed to the adjacent ballroom for an elegant dinner and live music entertainment.

Banquet Entertainment
Following dinner, attendees will be treated to a performance by Jon Randall and Jessi Alexander, a pair of singer/songwriters from Nashville, Tennessee.

Jon Randall earned a Grammy award as part of Emmylou Harris's band, the Nash Ramblers, and has since released four studio albums. As a songwriter, Randall has had songs cut by some of Nashville's top artists including Brad Paisley and Alison Krauss who recorded the Grammy-nominated song "Whiskey Lullaby" in 2005. Randall has toured and recorded for Lyle Lovett, Patty Loveless, Mary Chapin Carpenter, Trisha Yearwood, Earl Scruggs, and Kid Rock among others. He recently co-wrote the two-week No. 1 "Drink on It" for Blake Shelton and "Am I the Only One" for Dierks Bentley.

Jessi Alexander released her debut album, Honeysuckle Sweet, in 2005. Today, she is one of Nashville’s most prolific and successful songwriters. She has continued to dominate the charts with cuts including Reba McEntire’s “When Love Gets A Hold Of You” and Blake Shelton's hits “Drink On It” (which spent two weeks at #1) and “Mine Would Be You” (which spent three weeks at #1).

Installation of the 2016 TMS President
Stanley M. Howard

During the 2016 TMS-AIME Awards Banquet, TMS will install Stanley M. Howard, professor of materials and metallurgical engineering at the South Dakota School of Mines and Technology (SDSM&T), as the society’s 2016 president. Howard has served on the TMS Executive Board, TMS Board of Directors as the TMS Financial Planning Officer, and currently serves on the TMS Foundation Board of Trustees. He received his B.S. and Ph.D. in metallurgical engineering from the Colorado School of Mines and is a licensed professional engineer.
TMS has been Howard’s professional society home throughout his career. He became a member as a student and has served TMS on many committees including Nominating, Professional Registration, Audit, Retirement, Waste Minimization and Recycling, Education, Physical Chemistry of Extractive Processes, Student Affairs, and EPD Publications. He has also served on the Board of Directors of Alpha Sigma Mu, the EPD Scholarship Selection Committee, and the AIME’s Hoover Award Selection Committee.

Howard has held leadership and service positions at his university, including chair of the Department of Materials and Metallurgical Engineering, Faculty Senate Chair and Chair of the Faculty, and Material Advantage Advisor. He is a recipient of the AIME Mineral Industry Education Award and the SDSM&T Presidential Award for Outstanding Service; former president of Group V Metals, a technology services and licensing company; and a volunteer in numerous community organizations. Howard has received visiting faculty appointments to Oak Ridge National Laboratory, Stanford Research Laboratory, and Kerr-McGee Technical Center; served as a technical auditor on the Yucca Mountain Nuclear Waste Repository; holds patents on beryllium replacement alloys; and has provided technical consultation for industrial firms, universities, and governmental agencies.

2016 TMS – AIME Awards Ceremony Presenters

The ceremony will be hosted by James J. Robinson, TMS executive director, and will include comments from Patrice Turchi, 2015 TMS president, and, Stanley Howard, 2016 TMS president. In addition, some of the society’s most esteemed members present the awards:

- Garry Warren, president of AIME, and Michele Lawrie-Munro, executive director of AIME, will present the AIME Awards.
- Carolyn Hansson, University of Waterloo, and George “Rusty” Gray III, Los Alamos National Laboratory, will present the Acta Materialia Awards.
- Julie Christodoulou, Office of Naval Research, will present the Student and Mid-Career Awards.
- Iver Anderson, Iowa State University, will present the TMS Elite Awards.
- Jeffrey Wadsworth, Battelle Memorial Institute, will present the TMS Fellow Awards.
2016 TMS – AIME AWARDS CEREMONY

AIME AWARDS
AIME Honorary Membership
Siegfried Hecker
Director, Los Alamos National Laboratory
AIME—EPD James Douglas Gold Medal
Daniel Kappes
President, Kappes, Cassidy & Associates
AIME Robert Lansing Hardy Award
Edouard Asselin
Professor, University of British Columbia
AIME Champion H. Mathewson Award
Laura Bartlett
Assistant Professor, Texas State University
Dieter Isheim
Research Assistant Professor, Northwestern University
Julia Medvedeva
Associate Professor, Missouri University of Science and Technology
Nadezhda Medvedeva
Leading Researcher, Institute of Solid State Chemistry
AIME Awards
AIME–EPD James Douglas Gold Medal
Sungho Jin
Professor Emeritus, University of California, San Diego
Acta Materialia Hollomon Materials & Society Award
Julie Schoenung
Professor, University of California, Davis
Extraction & Processing Division (EPD) Awards
Distinguished Lecturer
Markus Reuter
Director and Professor, Helmholtz-Zentrum Dresden-Rossendorf, Helmholtz Institute Freiberg for Resource Technology
Pyrometallurgy Best Paper Award
Nikolaos Tzouganatos
Paul Scherrer Institute
Mark Dell’Amico
Consultant
Christian Wieckert
Project Leader, Paul Scherrer Institute
Jim Hinkley
Senior Research Scientist, Paul Scherrer Institute
Science Award
Metallurgical and Materials Transctions A
Mahmoud Abdellatif,
Materials Science—Beamline Scientist, SESAME
Andrea Lausi
Head MCX Beamline, Elettra-Sincrotrone Trieste
Jasper R. Plaisier
Researcher MCX Beamline, Elettra-Sincrotrone Trieste
Paolo Scardi
Professor, University of Trento
FUNCTIONAL MATERIALS DIVISION (FMD) AWARDS
John Bardeen Award
Ilesanmi Adesida
Professor, University of Illinois
Distinguished Scientist/Engineer Award
Nikhilesh Chawla
Professor, Arizona State University
Vincent Harris
Distinguished Professor and W.L. Smith Chair, Northeastern University
LIGHT METALS DIVISION (LMD) AWARDS
Light Metals Award
Nan Zhang
Student, Clemson University
Fadi Abu-Farha
Assistant Professor, Clemson University
Yuqing Feng
Senior Research Scientist, CSIRO
Distinguished Service Award
Stephen Lindsay
Manager, Process Technology, Alcoa Inc.
Technology Award
Ray Peterson
Technology Director, Real Alloy
Energy Best Paper Award - Professional
Lejun Zhou
Lecturer, Central South University
Wanlin Wang
Director, Central South University
Kechao Zhou
Central South University
Energy Best Paper Award - Student
Zuotai Zhang
Professor, Peking University
Yongqi Sun
Student, Peking University
JOM Best Paper Award
David Wong
Project Manager, University of Auckland
Pascal Lavoie
Chief Engineer, University of Auckland
Paul Fraser
Research Fellow, CSIRO Oceans and Atmosphere
Jooil Kim
Scripps Institution of Oceanography
Light Metals Subject Award - Alumina & Bauxite
Peter-Hans ter Weer
Director, TWS Services & Advice BV
Light Metals Subject Award - Aluminum Reduction Technology
Zhao ZhiBin
Student, Northeastern University
Yuqing Feng
Senior Research Scientist, CSIRO
Bing-liang Gao
Professor, Northeastern University
Zhao-wen Wang
Professor, Northeastern University
Zhong-ning Shi
Professor, Northeastern University
Xianwei Hu
Associate Professor, Northeastern University
Shuai Xu
Kunming University of Science and Technology
Dachun Liu
Kunming University of Science and Technology
Light Metals Subject Award - Electrode Technology for Aluminum Production
Robert Fritszch
Student, Norwegian University of Science and Technology
Mark Kennedy
Chief Technology Officer, Proval Partners SA
Shahin Akbarnejad
Ph.D. Fellow, Royal Institute of Technology
Magnesium Technology Best Paper Award - Application
Piotr Korczak
Assistant, Institute of Non-Ferrous Metals
Bartłomiej Plonka
Head of the Light Metals Processing Plant, Institute of Non-Ferrous Metals
Marek Nowak
Head of the Laboratory of Corrosion and Surface Engineering, Institute of Non-Ferrous Metals
Krzysztof Remsak
Engineering and Technical Specialist, Institute of Non-Ferrous Metals
Sonia Boczkal
Lecturer, Institute of Non-Ferrous Metals
Magnesium Technology Best Paper Award- Fundamental Research
Taisuke Sasaki
Researcher, National Institute for Materials Science
Tilak Bhattacharjee
University of Kyoto
Byeong Chan Suh
National Institute for Materials Science
Light Metals Subject Award - Warren Peterson Cast Shop for Aluminum Production
Taiki Nakata
Student, Nagaoka University of Technology
Shigeharu Kamado
Professor, Director for RCAMT, Nagaoka University of Technology
Nack Joon Kim
Professor, Pohang University of Science & Technology
Kazuhiro Hono
NIMS Fellow and Director of Magnetic Materials Center, National Institute for Materials Science
Magnesium Technology Student Paper Award
Jishnu Bhattacharyya
Student, University of Virginia
Sean Agnew
Associate Professor, University of Virginia
Peidong Wu
Professor, McMaster University
Wilburn Whittington
Research Associate, Mississippi State University
Magnesium Technology Best Poster Award
Sivanesh Palanivel
Graduate Research Assistant, University of North Texas
Rajiv S. Mishra
Professor, University of North Texas
Raymond Brennan
Materials Engineer, U.S. Army Research Laboratory
Kyu C. Cho
Materials Engineer, U.S. Army Research Laboratory

Materials Processing & Manufacturing Division (MPMD) Awards
Distinguished Service Award
Amit Misra
Professor, University of Michigan
Structural Materials Division (SMD) Awards
Distinguished Scientist/Engineer Award
Nikhilesh Chawla
Professor, Arizona State University
Distinguished Service Award
Raul Rebak
Corrosion and Materials Scientist, GE Global Research
JOM Best Paper Award
G. Robert Odette
Professor, University of California
Young Professional Awards
EPD Young Leaders
Professional Development Awards
Laura Bartlett
Assistant Professor, Texas State University
Alexander Senaputra
Application Chemist, Cytec Industries
Tao Wang
Metallurgical Engineer, Nucor Steel
FMD Young Leaders
Professional Development Awards
Babak Arfaei
Research Assistant Professor, Universal Instruments
Vincenzo Lordi
Lawrence Livermore National Laboratory
Partha Mukherjee
Scientist, Texas A&M University
2016 TMS – AIME AWARDS CEREMONY

Tolou Shokuhfar
Associate Professor, University of Illinois

Luisa Whittaker-Brooks
Assistant Professor, University of Utah

Yu Zhong
Florida International University

LMD Young Leaders Professional Development Awards

Nadia Ahli
Lead Engineer, Process Development, Emirates Global Aluminium

Mehul Bhatia
Postdoctoral Researcher, Arizona State University

Jan-Marten Seitz
Project Manager and R&D Specialist, Syntellix AG

MPMD Young Leaders Professional Development Awards

Marko Knezevic
Postdoctoral Fellow, New Hampshire University

Samantha Lawrence
Postdoctoral Appointee, Sandia National Laboratories

Soumya Nag
Metallurgist, General Electric

Garritt Tucker
Assistant Professor, Drexel University

Christopher Weinberger
Assistant Professor, Drexel University

SMD Young Leaders Professional Development Awards

Lauren Garrison
Weinberg Fellow, Oak Ridge National Laboratory

E-Wen Huang
Assistant Professor, National Chiao Tung University

Eun Soo Park
Professor, Seoul National University

Reza Shahbazian-Yassar
Assistant Professor, University of Illinois

Julie Tucker
Assistant Professor, Oregon State University

Natasha Vermaak
Assistant Professor, Lehigh University

TMS/JIM Young Leaders International Scholar

Saryu Fensin
Postdoctoral Researcher, Los Alamos National Laboratory

Federation of European Materials Society Young Leader

Henry Proudhon
Research Associate, Mines ParisTech, Centre des Matériaux

Japan Institute of Metals Young Leader

Motomichi Koyama
Assistant Professor, Kyushu University

STUDENT AWARDS

J. Keith Brimacombe Presidential Scholarship

Ivan Au
University of Alberta

EPD Scholarships

Maureen Chorney
Montana Tech of the University of Montana

Jordan Dick
South Dakota School of Mines and Technology

Mark Mazzucco
South Dakota School of Mines and Technology

Kerry McQuaid
Colorado School of Mines

FMD Gilbert Chin Scholarship

Ziyn Huang
Drexel University

LMD Scholarships

Daniel Balder
University of Minnesota

Cory Potter
University of Alabama at Birmingham

Hannah Woods
Purdue University

MPMD Scholarships

Bill Nguyen
Drexel University

Gregory Strader
University of Utah

SMD Scholarships

Rebecca Stern
University of Connecticut

TMS Best Paper Contest: Graduate Division

First Place:
Zhiquan Sun
University of Tennessee

Second Place:
Gian Song
University of Tennessee
OFFICERS:

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Scientific Capability and Group Leader, Lawrence Livermore National Laboratory

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Materials and Metallurgical Engineering Professor, South Dakota School of Mines and Technology

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James C. Foley
R&D Manager, Los Alamos National Laboratory

Incoming Materials Processing & Manufacturing Division
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Principal Member, Technical Staff, Sandia National Laboratories

Structural Materials Division
Rajiv S. Mishra
Professor, University of North Texas

Incoming Structural Materials Division
Ellen K. Cerreta
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ANNUAL MEETING PROCEEDINGS

Collected Proceedings
TMS 2016 Annual Meeting & Exhibition attendees in all registration classes receive free online access to the complete collected proceedings of the meeting—as a single PDF file including all published proceedings volumes, as separate PDF files for each proceedings publication, or as individual articles. Complimentary proceedings content must be downloaded before May 31, 2016, at which time standard pricing will take effect.

Individual Volumes for Purchase
TMS members receive a 35% discount off hard copies of the following volumes, which are available for purchase at the Wiley booth, located in the TMS2016 Registration Area at the Music City Center.

- 7th International Symposium on High-Temperature Metallurgical Processing
- CFD Modeling and Simulation in Materials Processing 2016
- Energy Technology 2016: Carbon Dioxide Management and Other Technologies
- EPD Congress 2016
- Light Metals 2016
- Magnesium Technology 2016
- Rare Metal Technology 2016
- REWAS 2016
- Shape Casting: 6th International Symposium
- TMS 2016 Supplemental Proceedings

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PLAN TO ATTEND!
ELECTROMETALLURGY 2016
2ND INTERNATIONAL SYMPOSIUM

September 11–15, Québec City Convention Center

The 2nd International Symposium on Electrometallurgy – building on the previous Symposium in Orlando, Florida (2012), will bring together industry, consulting engineers and researchers.

This symposium is held within the Conference of Metallurgists hosted by IMPC 2016.

Topics discussed at the symposium:
• Electrefining: Improving productivity electrolyte control and by-product recovery
• Electrowinning: Impurity effects and deposit control
• Electrowinning: Anode technology
• Molten Salt Electrometallurgy: New and future applications
• Electrometallurgy: Innovative Applications
• Electrochemical Technologies and Fundamentals for Metals, Minerals, and Materials
• Electrochemical treatment of effluents
• Process Modelling and optimization
• Emerging Technologies

This Symposium is organized by MetSoc of CIM and co-organized by TMS.

SHORT COURSE ON ELECTROMETALLURGY

A one day short course will be offered before the Symposium on Saturday, Sept. 10 that will cover presentations on the fundamentals and practices of Electrometallurgy.

TECHNICAL TOUR

A one-day tour to Canadian Copper Refinery and Canadian Electrolytic Zinc is planned for COM 2016-IMPC2016. Please visit our website for updates.

ABOUT THE CONGRESS

The IMPC has been a major driving force for the promotion of scientific and technical knowledge in mineral processing and extractive metallurgy across the globe, becoming the most prestigious event in its field in the world today.
Get Some Satisfaction

Own the guitar autographed by the current lineup of the Rolling Stones. It’s up for bid—along with other pieces of pop culture history.

TMS Foundation Silent Auction

(Location at the Exhibit Hall entrance)

Monday, February 15
2:00 p.m. to 6:30 p.m.
Tuesday, February 16
10:00 a.m. to 5:30 p.m.
Wednesday, February 17
10:00 a.m. to Noon

Here’s just a sampling of what you can bid on, while making sure future generations benefit from the TMS Foundation’s student scholarships and young professional programs.

Star Wars
- Autographed Star Wars: The Force Awakens Movie Poster
- Autographed Star Wars Masterpiece: Episodes I–VI Poster

Music
- Guitar Autographed by Bruce Springsteen
- Vinyl Albums Autographed by Paul McCartney and Ringo Starr, Bob Dylan, and Johnny Cash

Television
- Autographed Star Trek (Original Series) Cast Photo
- Autographed The Big Bang Theory Cast Photo
- Bart Simpson Sketch Autographed by Matt Groening

Movies
- Poster Autographed by Six James Bond Actors
- Autographed Harry Potter Series Cast Poster
- Autographed Nightmare Before Christmas Movie Poster

Not interested in memorabilia? How about luxury vacations or one-of-a-kind handcrafted items donated by TMS members?

Visit www.tms.org/TMS2016Auction for details on each item.

Enjoy browsing and good luck bidding!
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