

# DESIGN AND PRODUCTION OF HIGH QUALITY ALUMINUM CASTINGS

OCTOBER 5-7, 2015

NASHVILLE, TN

**Over 25 Experts in the Aluminum Industry  
Gathered in One Location to Help You  
Improve Your Casting Quality**

## **Topics Include:**

- Aluminum Melting, Treatment and Cleanliness
- New Developments in Aluminum Casting
- Inspection and Quality
- Sand Casting
- Permanent Mold Casting
- Gating and Feeding

**Includes  
Plant Tour**



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## Tentative Agenda

### MONDAY, OCTOBER 5

7:30 a.m.

#### Registration

8:00 a.m.

#### Networking Breakfast

9:00 a.m.

#### Conference Begins/Welcome

### Session 1

9:00 a.m.

#### Aluminum Melting, Treatment and Cleanliness

AFS Aluminum Melt Survey  
*Brian Began, Foseco, Cleveland, OH*

Keynote: Best Practices for Degassing,  
Grain Refinement and Eutectic Modification  
*Geoffrey Sigworth, GKS Engineering,  
Dunedin, FL*

Oxides and Their Influence on Mechanical  
Properties of Aluminum Castings  
*Qigui Wang, GM Global Powertrain  
Engineering, Pontiac, MI*

Advanced Methods for Aluminum  
Cleanliness Assessment  
*S.W. Hudson, Advanced Casting Research  
Center, Worcester Polytechnic Institute,  
Worcester, MA*

11:30 a.m.

#### Lunch

Statistical Analytics of Melt Cleanliness  
*Wenwu Shi, Foseco, Pittsburgh, PA*

12:30 p.m.

A Novel Approach for the Assessment  
of Eutectic Si Modification and Tensile  
Properties of Al-Si Cast Alloys  
*Mohammadreza Zamani, Salem Seifeddine,  
Jönköping University, Jönköping, Sweden*

Best Practices for Metal Handling and  
Melt Quality  
*Dave Neff, Willoughby, OH*

### Session 2

2:00 p.m.

#### New Developments in Aluminum Casting

A20X High Strength Aluminum Alloy  
*Alan Dustan Aeromet, Aeromet International PLC,  
London, England*

He Injection  
*Tom Woods, Michigan Technological University,  
Houghton, MI*

Intelligent Melt Treatment for the  
Production of Aluminum Castings  
*Roger Kendrick, Foseco International,  
Staffordshire, England*

Expanding Opportunities Through  
Additive Manufacturing  
*Tom Prucha, American Foundry Society,  
Schaumburg, IL*

Case Studies in Additive Manufacturing  
*Dave Weiss, Eck Industries, Manitowoc, WI;  
Randy Oehrlein, Carley Foundry, Blaine, MN*

Elongation Improvement in 357 Alloys  
Through Modification and Trace Element  
Additions  
*Dave Weiss, Eck Industries, Manitowoc, WI;  
Tom Wood, Michigan Technological University,  
Houghton, MI*

5:00 p.m.

#### Day 1 of Conference Concludes

5:30 p.m.

#### Networking Reception

# TUESDAY, OCTOBER 6

7:30 a.m.

## Continental Breakfast

### Session 3

8:00 a.m.

#### Design Principles for Aluminum Components

Principles of Effective Casting Design and Engineering

*Mike Gwynn, Mount Pleasant, SC*

AFS Casting Alloy Data Selector (CADS)

*Jiten Shah, Product Development & Analysis, Naperville, IL*

### Session 4

9:30 a.m.

#### Inspection and Quality

Considerations for Destructive Testing

*Dave Weiss, Eck Industries, Manitowoc, WI*

Understanding Aluminum Microstructures

*Robin Foley, University of Alabama, Birmingham, AL*

Prediction of As-Cast & Heat-Treated Microstructure and Mechanical Properties in Aluminum Sand & High Pressure Die Castings

*Jianzheng Guo and Sam Scott, ESI North America, Cincinnati, OH; Weisheng Cao, CompuTherm LLC, Madison, WI*

11:30 a.m.

## Lunch

### Afternoon Options:

**Plant Tour or Session 5: Sand Casting**

### Plant Tour:

#### Nissan Assembly Plant, Smyrna, TN

Bus leaves hotel at 12 noon,

Plant tour 1-2 p.m., Return to hotel 2:30 p.m.

**(Limited space available, advance registration is required)**

### Session 5

1:00 p.m.

#### Sand Casting

New Developments in Mold and Core Binder Technology for Aluminum Casting

*Doug Trinowski, Huettene-Albertus Chemische Werke GmbH, Duesseldorf, Germany; Amine Serghini HA International LLC, Westmont IL*

Direct, Quiescent, Clean, Controlled Counter Gravity Aluminum Filling

*Sam Ramrattan, Western Michigan University*

Simulating Core Blowing

*Mauricio Velazquez, Magma Foundry Technologies, Schaumburg, IL*

### Session 6

2:30 p.m.

#### Permanent Mold Casting

Primer on Permanent Mold Tooling Design and Costs

*Dave Groth, Winona Pattern & Mold, Winona, MN*

Panel: Thermal Management of Molds

*Randy Oehrlein, Carley Foundry, Blaine, MN; Dave Groth, Winona Pattern & Mold, Winona, MN; Bob Pischel, Foseco, Cleveland, OH; Adam Loukus, REL Inc., Calumet, MI*

- Permanent Mold Coolers and Chillers
- Chilling Permanent Molds Through Use of Inserts
- Permanent Mold Coatings

4:30 p.m.

## Day 2 of Conference Concludes

### Evening: Nashville Event Opportunities

AFS will provide transportation to the music district in downtown Nashville.

Enjoy the free time for dinner and exploring the city.

**Extend Your Stay and Attend The Iron Melting Conference at the Same Location Oct. 7-9, 2015**



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# WEDNESDAY, OCTOBER 7

7:30 a.m.

## Continental Breakfast

## Session 7

8:00 a.m.

### Facilities Management

#### Energy Measurement and Efficiency

*James Wiczner, Sensor Synergy, Inc., Vernon Hills, IL*

#### Plant Safety in the Aluminum Foundry

*Ted Schorn, Enkei America, Inc., Columbus, OH*

## Session 8

9:30 a.m.

### Gating And Feeding

#### Oxides and Gating

*Dan Hoefert, Eck Industries, Manitowoc, WI*

#### Optimizing Design of a Gating System

*Carlos Esparza, Le Sueur Inc., Le Sueur, MN*

#### Simulation of Filling and Solidification

*Steve Sikorski, Magma Foundry Technologies, Schaumburg, IL*

#### Gating and Feeding

*Cory Sents, Carley Foundry, Blaine, MN*

#### Hot Tear Modeling for A206 and 535

*Jiten Shah, Product Development & Analysis, Naperville, IL; Dave Weiss, Eck Industries, Manitowoc, WI*

## Special!

Buy "Best Practices in Aluminum Metalcasting" by Geoffry Sigworth when you register for the show, and shipping is FREE.

12:00 noon

## Conference Concludes

1:00 p.m.

## AFS Aluminum Division 2 Committee Meeting

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**Hotel Information:** Registrants should make hotel reservations directly with the Sheraton Music City Hotel, 777 McGavock Pike, Nashville, TN 37214.

**Room Rate:** Our special group rate is \$159.00/night, standard/double. You must mention you are with the American Foundry Society and this conference to receive this rate.

**Room Reservation Cut-Off Date:** Registrations must be made over the phone, 615/885-2200. The cut-off date for reservations is September 11, 2015. Any reservations accepted after the cutoff date shall be accepted at the group rate based upon availability.

**Cancellations and Substitutions:** Substitutions will be accepted anytime. Cancellations of confirmed registrants with full refund of fees will not be accepted unless received at least one week prior to the conference date. In the unlikely event the conference is canceled for any reason, AFS liability is limited to the return of the registration fee.

**REGISTRATION FEES** AFS Member: \$695 • Non-AFS Member: \$845  
**BOOK** (Optional) AFS Member: \$225 • Non-AFS Member: \$300  
w/Free Shipping

- I would like to attend the plant tour.  
 I would like to purchase *Best Practices in Aluminum Metalcasting*.

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

AFS Membership # (if applicable) \_\_\_\_\_

Check enclosed

Charge my : American Express  MasterCard  Visa

Card Number \_\_\_\_\_

Expiration Date \_\_\_\_\_

Authorized Signature \_\_\_\_\_

For additional registrants, copy this form.

### RETURN FORM TO:

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