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Welcome to North America's premier conference and trade show for casting producers, buyers, and industry suppliers! This year's Metalcasting Congress is our 122nd, drawing on a proud tradition. We are excited to be here in Fort Worth, a great industrial city with plenty of visitor attractions and cultural attributes as well.

The technical and management content and insights to be offered over the next several days will help attendees optimize their success for months and even years to come. Among the many highlights this year are:

- The chance to interact with suppliers, metalcasters, and casting buyers on the show floor.
- Technical sessions where groundbreaking papers and expert panels will be presented.
- Informative management sessions on marketing and human resources.
- Compelling offerings by our Shared Interest Groups (SIGs) Women in Metalcasting and Future Leaders in Metalcasting.
- Educational courses provided by the AFS Institute.
- Keynote addresses by Jean Bye of Dotson Iron Castings and noted economist/policy expert Stephen Moore.
- Annual Hoyt Memorial Lecture to be delivered by Dan Oman of Haley & Aldrich.
- The HUB the focal point for meet-ups, AFS resources, e-Learning demonstrations, and the AFS Bookstore.
- The Annual Banquet and the President's Luncheon and Annual Business Meeting, where we will recognize excellence in a variety of categories.

Casting designers and end-users of castings will benefit from the casting design and purchasing education being offered as well as from the industry-exclusive Cast In North America exhibition that showcases the capabilities of North American metalcasters.

We thank our attendees and exhibitors for their support. We also recognize the work of the AFS committee and SIG members, and their supporting companies, who developed an excellent slate of educational programming. By taking advantage of these sessions, attendees can improve their technical and competitive position for the future. Thanks also to the AFS professional staff for their tireless work in making Metalcasting Congress a success.

We trust you will enjoy and profit from the sessions and exhibitions!



Doug Kurkul Chief Executive Officer American Foundry Society

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Metalcasting Congress 2018 App









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in

Foundry and Diecaster Network / Metal Casting Design and Purchasing



American Foundry Society

The 122nd Metalcasting Congress is sponsored by the American Foundry Society (AFS), the leading metalcasting association in North America. Based in Schaumburg, IL, AFS provides members with advocacy, coordination and efforts in Washington, D.C., ongoing technical education through its Institute, as well as the transfer of innovative research and technology to the industry.



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General Information

Registration

(Fort Worth Convention Center - Belt Buckle Lobby)

Monday, April 2: Tuesday, April 3: Wednesday, April 4: Thursday, April 5: 4 – 6 p.m. 7 a.m. – 5 p.m. 7 a.m. – 5 p.m. 7 a.m. – 12:30 p.m.

* CompuSystems lead retrieval counter will be near the registration counters.

Exhibit Hall

(Fort Worth Convention Center - Exhibit Hall A)

 Wednesday, April 4:
 9 a.m. - 6 p.m.

 (Reception with Exhibitors: 4:30 - 6 p.m.)

 Thursday, April 5:
 9 a.m. - Noon

 (Breakfast with Exhibitors: 9:30 a.m.)

*AFS Bookstore, HUB, Membership and Magazine areas will follow the Exhibit Hall schedule. A satellite AFS Bookstore will be open 8:30 a.m. – 3 p.m. on Tuesday, April 3 on the second floor near the escalators.

Technical/Management Sessions

(Fort Worth Convention Center - Rooms 201C, 202A, 202B, 202C, 203B)

Tuesday, April 3: Wednesday, April 4: Thursday, April 5: 8 a.m. – 4:45 p.m. 8 a.m. – 4:45 p.m. 8 – 10:15 a.m.

Institute Sessions

(Fort Worth Convention Center - Room 203A)

Tuesday, April 3: Wednesday, April 4: Thursday, April 5: 1:30 – 4:45 p.m. 1:30 – 4:45 p.m. 8 – 10:15 a.m.

Technical Office / Speaker Ready Room

(Fort Worth Convention Center - Room 202D)

Monday, April 2:	1 – 5 p.m.
Tuesday, April 3:	7 a.m. – 5 p.m.
Wednesday, April 4:	7 a.m. – 5 p.m.
Thursday, April 5:	7 – 10 a.m.

AFS Office

(Fort Worth Convention Center - Room 100)

Monday, April 2:	1 – 5 p.m.
Tuesday, April 3:	8 a.m. – 5 p.m.
Wednesday, April 4:	8 a.m. – 5 p.m.
Thursday, April 5:	8 a.m. – 10 a.m.

GES Exhibitor Service Center / Owen Electric / Smart City

(Fort Worth Convention Center - Back of Exhibit Hall A)

Tuesday, April 3:	10 a.m. – 5 p.m.
Wednesday, April 4:	10 a.m. – 6 p.m.
Thursday, April 5:	9 a.m. – 12 p.m.

Minimum Age Restriction

Children under the age of 16 are not permitted on the show floor.



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AFS Bookstore

A satellite AFS Bookstore will be open 8:30 a.m. – 3 p.m. on Tuesday, April 3 on the second floor near the escalators.

Main AFS Bookstore Location

The HUB – Booth 517 (Hours follow the Exhibit Hall schedule)

The HUB

Booth 517 (Hours follow Exhibit Hall schedule)

Excellence in Service Registration

The traditional book for registering your years of volunteer service in the metalcasting industry will be located in The HUB - Booth 517. AFS Members who have served the industry for five or more years are invited to register and receive the Volunteer Milestone Pin.

Policy on Audio and Video Recording

AFS reserves the right to any audio and video reproduction of any part of Metalcasting Congress. Recordings (audio, video, still photography, etc.) intended for personal use, distribution, publication or copyright without the express written consent of the association and the individual authors or exhibitors is strictly prohibited.

Antitrust Policy

The Antitrust Policy statement of the American Foundry Society is available to anyone attending Metalcasting Congress. Copies are available in the AFS Office.

Special Events/Sessions

weanesday, April 4	
Author Chair Breakfast	7 – 8 a.m.
(Fort Worth Convention Center – Room 200)	
Women in Metalcasting Breakfast	7:30 – 9 a.m.
(Fort Worth Convention Center - Room 204) - Invitation (Only
Keynote – Hoyt Memorial Lecture:	10:30 – 11:30 a.m.
Changing Perceptions: The Need for an "Unbalanced	Force"
Dan Oman - Haley & Aldrich Inc Ann Arbor, MI	
(Fort Worth Convention Center – Ballroom C)	
Division Recognition Luncheon	11:30 a.m. – 1 p.m.
(Fort Worth Convention Center - Room 204) - Ticketed E	vent
Future Leaders in Metalcasting Session	2 – 4 p.m.
(Fort Worth Convention Center - Room 203C) - Invitation	Only
Exhibit Floor Reception	4:30 – 6 p.m.
(Fort Worth Convention Center – Exhibit Hall A)	
Alumni Dinner	6:30 – 9:30 p.m.
(Cowboy Hall of Fame - Stockyard District) - Ticketed Ev	vent - Alumni Only
Thursday, April 5	
Thursday, April 5 Author Chair Breakfast	7 – 8 a.m.
	7 – 8 a.m.
Author Chair Breakfast	7 – 8 a.m.
Author Chair Breakfast	7 – 8 a.m. 9:30 – 10:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D)	
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors	
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors	9:30 - 10:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A)	9:30 - 10:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect	9:30 – 10:30 a.m. Fhrough Feedback
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker:	9:30 – 10:30 a.m. Fhrough Feedback
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect (Fort Worth Convention Center – Room: 202B)	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - Heritage Foundation - Washington, D.C.	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - Heritage Foundation - Washington, D.C (Fort Worth Convention Center – Ballroom C)	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - Heritage Foundation - Washington, D.C (Fort Worth Convention Center – Ballroom C) President's Luncheon / Annual Business Meeting	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m. 2. 11:30 a.m. – 1:30 p.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - Heritage Foundation - Washington, D.C (Fort Worth Convention Center – Ballroom C)	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m. 2. 11:30 a.m. – 1:30 p.m.
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Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - <i>Heritage Foundation - Washington, D.C</i> (Fort Worth Convention Center – Ballroom C) President's Luncheon / Annual Business Meeting (Fort Worth Convention Center – Room 204) - <i>Ticketed E</i> Plant Tour	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m. 2. 11:30 a.m. – 1:30 p.m. <i>ivent</i> 2:30 – 5 p.m.
Author Chair Breakfast (Fort Worth Convention Center – Room 202D) Continental Breakfast With Exhibitors (Fort Worth Convention Center – Exhibit Hall A) AFS Institute Course: Creating a Culture of Respect T (Fort Worth Convention Center – Room: 202B) Keynote Speaker: Economic and Political Update Stephen Moore - Heritage Foundation - Washington, D.C (Fort Worth Convention Center – Ballroom C) President's Luncheon / Annual Business Meeting (Fort Worth Convention Center – Room 204) - Ticketed E	9:30 – 10:30 a.m. Fhrough Feedback 8 – 10:15 a.m. 10:30 – 11:30 a.m. 2. 11:30 a.m. – 1:30 p.m. <i>ivent</i> 2:30 – 5 p.m.
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Committee Meeting Rooms (Fort Worth Convention Center – Rooms 102 and 103)

Board Meeting Room (Fort Worth Convention Center – Room 104)

Wednesday, April 4



Special Events

Most events take place at the Fort Worth Convention Center unless otherwise noted.

Copper Division Luncheon

Tuesday, April 3 | 11:30 a.m. | Room 200 | Ticket Required | \$55

The Copper Division will present its David Kunkel Distinguished Service award and will feature speaker Ed Brown of the North Fort Worth Historical Society. The Copper Division Scholarship will be presented. The luncheon is open to everyone with an interest in copper alloys.

Annual Banquet

Tuesday, April 3 I Cash bar 6 – 7 p.m. I Awards, dinner, then entertainment 7 – 10 p.m. I Hilton Fort Worth – Crystal Ballroom I Ticket Required I \$110

Join us for the presentation of the highest honor from AFS, the Gold Medal. This year's recipients are John R. Keough, P.E. and Dr. David V. Neff.

The entertainment for the evening will be **It Takes 2 Dueling Pianos**, with **Joe Phillips** and **Emmeline**, two talented performers who will have everyone tapping their toes and singing along.

Joe Phillips is a keyboardist and vocalist who began his career in the Chicago area, touring with several bands and performing as a solo artist. He has composed music for corporate events and jingles for radio, as well as for hundreds of TV shows. He is founder of Joe Phillips Production Inc. In recent years, he has made his home in Dallas, where he composes and performs as a solo artist for events of all types.

Emmeline has been a pianist since the age of four and a songwriter since 11-and-a-half (because, when you're young, you count by "halves"). She earned a Bachelor of Arts in general music at Scripps College, where she studied voice, piano and music theory. Emmeline uses her versatile musical palette to explore stories of everyday life which allow each listener to forge an intense and immediate connection.

Women in Metalcasting Breakfast

Wednesday, April 4 | 7:30 a.m. | Room 204 (Invitation only)

This event is open to members of the Women in Metalcasting group and features a continental breakfast and networking with women who work in all facets of the metalcasting industry.

Division Recognition Luncheon

Wednesday, April 4 | 11:30 a.m. | Room 204 | Ticket required | \$55

This luncheon will feature the presentation of the Best Paper and Division awards, as well as the Applied Research and Howard F. Taylor Award.

Reception with Exhibitors

Wednesday, April 4 | 4:30 p.m. | Exhibit Hall A

Attendees are encouraged to mingle on the show floor with exhibitors. Enjoy snacks and refreshments.

Alumni Dinner

Wednesday, April 4 | 6:30 p.m. | Cowboy Hall of Fame | Ticket required (Must be alumni to attend) | \$100

Grab your cowboy hat and boots and join fellow alumni for dinner and a guided tour at the Texas Hall of Fame in the historic Stockyards District. The Texas Hall of Fame honors men and women who have excelled in the sport and business of rodeo and the Western lifestyle in Texas. The 100-plus inductees include Nolan Ryan, Tommy Lee Jones, Trevor Brazile, Don Edwards, George Strait, Lane Frost, Ty Murray, Barry Corbin, Red Steagall, Tuff Hedeman, J.J. Hampton and many more. They have their own booths containing personal memorabilia to view. (Includes transportation. Transportation departs from outside the Belt Buckle Lobby on Commerce Street.)

Continental Breakfast with the Exhibitors

Thursday, April 5 | 9:30 - 10:30 a.m. | Exhibit Hall A

Attendees are encouraged to visit exhibitors they still want to meet while grabbing a cup of coffee and breakfast.

President's Luncheon & Annual Business Meeting

Thursday, April 5 | 11:30 a.m. | Room 204 | Ticket required | \$55

Join the annual meeting, where the election of AFS officers and directors will be announced. In addition, the AFS Awards of Scientific Merit, Service Citations, Casting of the Year, Corporate Contribution Award and Millionaires Safety Awards will be presented.

Plant Tour

Thursday, April 5 | 2:30 – 5 p.m. | Ticket required | \$20

Join us for a tour of nearby AFS Corporate Member Midland Manufacturing Co. Midland specializes in water well cylinders and cast bronze products and is in its fourth generation of family leadership. The registration fee includes round-trip transportation as well as a beverage and light snack. (Transportation departs from outside the Belt Buckle Lobby on Commerce Street.)



Sessions take place at the Fort Worth Convention Center. Full Education and Exhibits registration is required to attend special sessions.

Preparing for the Metalcasting Workplace of Tomorrow

Tuesday, April 3 | 8:30 - 10 a.m. | Room 203B

The panel discussion is hosted by human resource leaders across the metalcasting industry, spotlighting key topics from the February 2018 Metalcasting Industry Human Resources Conference. These key topics continue to impact our organizations as we prepare for the metalcasting workplace of tomorrow. Topics will include: Future of Performance Management, Managing Change and Mapping Your Succession Plan, Current Trends and Best Practices in Compensation, Building Your Employer Brand, Utilizing Technology for Recruitment, and Creating a Flexible Work Environment for Shop Floor Employees.

Work Hardening: How to Overcome Obstacles

Wednesday, April 4 | 9:15 - 10:15 a.m. | 203B

Whether it is the market, finances, people, systems, technology or change, the workplace is filled with challenges. From entry-level staff to CEOs, adversity in the workplace affects us all. How we embrace these challenges and our ability to learn and grow from them stand as a reflection of character, culture and adaptability. View challenges for what they are - obstacles for growth and opportunities to succeed.

Future Leaders in Metalcasting Session

Wednesday, April 4 | 2 – 4 p.m. | Room 203C (Invitation only)

Are you interested in hearing from both prospective new future leaders and those who have already started leading the way? Do you want to know what students are looking for in an employer? Do you want to hear some best practices on issues you are currently facing at your location? During the panel discussion, you will ask questions of leaders in the metalcasting industry on relevant topics in the industry and network with other professionals. The second half will consist of students entering the workforce or those recently engaged in the metalcasting industry. Get involved in this interactive discussion and learn ways to attract young talent and also discuss issues facing future leaders every day. Cocktails and appetizers will be provided during this event.

Creating a Culture of Respect Through Feedback

Thursday, April 5 | 8 a.m. | Room 203A

Today, it's more critical than ever to develop a culture of respect and safety for all employees. Senior leaders have one role in creating a workplace that promotes tolerance and collaboration. But the fact is we all have a stake in driving a safe and enjoyable work climate, whether you're a man or a woman, salaried or hourly, experienced or brand-new. One way you can support a thriving workplace is through your ability to deliver and receive feedback. We get a lot of feedback from bosses, colleagues, spouses, parents, neighbors, and customers – and it's never easy to accept. Why? Because even though we all want to learn and develop, we have a conflicting and fundamental need to be accepted and respected. Learn about three triggers of feedback and how to defuse the triggers before they impact your credibility, reputation, and a workplace that works for everyone. Through the unique Leading Edge blend of research and best practices, improvisational comedy, and interaction, you'll walk away more open and ready to learn. AFS Institute course sponsored in part by Women in Metalcasting. **This special session is available to all attendees.**

Training for Excellence in Metalcasting



e-Learning Solutions Booth 517



The HUB Booth 517

The HUB is a dedicated area for connecting with AFS staff and other attendees. This area features the AFS Bookstore, AFS Products & Services, AFS Makerspace and the Casting of the Year display.

Ongoing features and activities include:

AFS Bookstore

The premier bookstore for people in the metalcasting industry. Practical and technical publications will be on hand, along with signature clothing and gift items.

AFS Products & Services

Whether you are a member of AFS or plan on becoming one, stop by and learn about the competitive edge AFS membership provides.

Additionally, AFS provides numerous opportunities for advertisers to reach decision-makers, both in metalcasting facilities and at OEMs. Whether you represent a metalcaster or a supplier to the metalcasting industry, AFS has a program for you! Our sales staff will be available to discuss opportunities for reaching metalcasters and buyers and designers of cast metal components.

Issues of *Modern Casting, Metal Casting Design & Purchasing, Global Casting Magazine* and *Melting Point* will be available. Stop by and pick up the latest issue.

AFS Institute

Spend a few minutes with The Institute learning how quality education in various aspects of metalcasting can advance your company. Metalcasting workforce training just became more convenient and affordable. Tour and demo our newly enhanced e-Learning modules.

AFS Makerspace

See AFS' new 3-D printer in action and get hands-on by making your own casting.



2018 Casting Competition

AFS and *Metal Casting Design & Purchasing* magazine recognize superior cast component design in the annual Casting Competition. Castings are judged by industry representatives based on the achievements of the material and casting processes showcased within the design. Winning castings will be on display in The HUB.

AFS Theater

The following presentations will take place in The HUB:

Wednesday, April 4

Excellence in Metalcasting Education with Shelly Dutler	10 – 10:30 a.m.
AFS/FEF Student Technology Digital Poster Contest	1 – 2 p.m.
Meet the Author featuring Ted Schorn	2 – 2:30 p.m.
Coming Soon at AFS with Doug Kurkul	2:30 – 3 p.m.
AFS Wisconsin Regional Casting Competition	
Winners: University of Wisconsin-Platteville	3 - 3:30
The Corporate Member Advantage with Ben Yates	3:30 – 4 p.m.
Thursday, April 5	

Meet the Author featuring Dave Neff

10 - 10:30 a.m.

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Keynote Speakers



Tuesday Keynote Speaker/Honorary Lecture Disaster Recovery— Everyone's Worst Nightmare

Jean Bye, *Dotson Iron Castings, Mankato, MN* Tuesday, April 3 I 10:30 – 11:30 a.m. Sponsored by the AFS Cast Iron Division

In the early morning hours of Sept. 23, Dotson Iron Castings experienced a fire that would destroy all of its molding capabilities, completely shut down its operation

and require a recovery effort beyond what could ever have been detailed in a disaster recovery plan. Bye will talk about the many twists, turns, and lessons learned throughout the recovery process relating to disaster preparedness.



Hoyt Memorial Lecture

Changing Perceptions: The Need for an "Unbalanced Force"

Dan Oman, *Haley & Aldrich Inc., Ann Arbor, MI* Wednesday, April 4 | 10:30 – 11:30 a.m.

Perceptions are a function of information received from many different sources. These perceptions become firmly held beliefs that rarely, if ever, change. Today, the typical

perception of the metalcasting industry is that of a smokestack industry utilizing low technology and lacking in challenging career opportunities. This perception remains virtually unchanged since the 1970s. According to Newton's First Law of Motion, an object moving in space continues to move in the same direction at a constant velocity in the absence of an unbalanced force. In the absence of an unbalanced force, perceptions also will not change. Over the past 40 years, many individuals have acted as an unbalanced force to change perceptions. This presentation will examine the common aspects of these efforts so that each of us can have an impact on perceptions.



Thursday Keynote Speaker **Economic and Political Update**

Stephen Moore, Heritage Foundation, Washington, D.C. Thursday, April 5 | 10:30 - 11:30 a.m.

Respected economist Stephen Moore was Senior Economic Adviser to the Trump Campaign in 2016.

"Stephen Moore is one of the foremost experts on tax

policy and one of the most influential advocates for economic growth," said Doug Kurkul, CEO of the American Foundry Society. "The insight and perspective he offers will benefit Metalcasting Congress attendees in their business planning and decision-making."

Moore is currently the Distinguished Visiting Fellow for the Project for Economic Growth at the Heritage Foundation. In prior roles, he was the Founder of the Club for Growth, a member of the Wall Street Journal editorial board, and Founder of the Free Enterprise Fund. Moore was the Co-Founder of the Committee to Unleash Prosperity, alongside Arthur Laffer, Steve Forbes and Larry Kudlow

The author or co-author of several books. Moore earned a bachelor of arts degree from University of Illinois at Urbana-Champaign. He holds a Master of Arts in economics from George Mason University. Moore's commentary has often been featured on CNN. Fox News, and other news outlets.

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Contact Richard Cox at 847-987-0967 richard.cox@yxlon.com / www.yxlon.com AFS April 3-5, 2018 Fort Worth, Texas METALCASTINGCONGRESS

Congress Program

(Subject to change)

To complement the exhibit floor, the 122nd Metalcasting Congress offers engaging keynote speakers, numerous shared interest group meetings, exciting programs, interactive AFS Institute courses, and expansive technical and managerial sessions.

Full Education and Exhibits registration is required to attend all sessions except for the sessions with blue and grey backgrounds.

Tuesday, April 3

7 a.m. Author/Chair Breakfast Room 200

8 - 9 a.m. Room: 202C

Presented by the Copper Division Session Chairs: Jeff Sorenson, I Schumann & Co., Bedford, OH; Andrew Bain, Ford Meter Box Co., Inc., Wabash, IN

Panel: Multiple Alloys Scrap Management: Alloy Issues, Segregation, and In-Plant Management (18-126)

James Michel, Copper Development Association Inc., New York, NY; Mike Galvin, Buck Co. Inc., Quarryville, PA *Category: Nonferrous*

Track: Technical

Room: 202A

Presented by the Engineering Division Session Chair: Greg Bray, Electric Controls & Systems Inc., Birmingham, AL

Research into the Quantitative Evaluation of Casting Surfaces Using 3-D Laser Scanning (18-090)

Nathaniel Bryant, University of Northern Iowa, Cedar Falls, IA Category: Engineering & Technology Track: Technical

Room: 201C

Presented by the Lost Foam Division Session Chair: Elodie Thonnard, StyroChem Canada Ltd., Baie-D'urfe, QC, Canada

Use of X-Bead and Inline Hot Air Expanders for Lost Foam Patterns II (18-134)

Melissa Wallum, StyroChem Canada Ltd., Baie-D'urfe, QC, Canada Category: Molding Track: Technical

Use of Novel Lost Foam Technology for 9000 lbs. and Beyond for Steel and Other Ultra-Low Carbon Alloys (18-135)

Will Jeffs, Castings Technology International, Rotherham, UK Category: Molding Track: Technical

Room: 202B

Presented by the Melting Methods & Materials Division Session Chair: Scott Stiefvater, ABP Induction LLC, Union Grove, WI

The Twin Chamber Cokeless Furnace for Ferrous Castings at Low Emissions (18-017)

Baha Abulnaga, Maztherm Cokeless Melting Inc., Sumas, WA Categories: Environmental Health & Safety, Ferrous, Engineering & Technology, Business of Metalcasting Track: Technical

8:30 - 10 a.m. Room: 203B

Presented by the Human Resources Division Session Chair: Brian Lewis, Foundry Educational Foundation, Schaumburg, IL

Panel: Preparing for the Metalcasting Workplace of Tomorrow (18-161)

Kirk Kallio, Waupaca Foundry Inc., Waupaca, WI; David Shouse, Lodge Mfg. Co., South Pittsburg, TN; Teresa Weber, ATEK Metal Technologies, New Hampton, IA, Liz Ulman, Dotson Iron Castings, Mankato, MN Categories: Business of Metalcasting, Professional Development Tracks: Management, Student

9:15 - 10:15 a.m. Room: 202C

Presented by the Copper Division Session Chairs: Bill Johnson, AY McDonald Mfg. Co., Dubuque, IA; Jim Valentine, Neptune Technology Group Inc., Tallassee, AL

Panel: Core Production and Tooling Design Optimization Using Numerical Core Blowing Simulation (18-127)

Jarek Olszak, Laempe + Reich Corp., Trussville, AL; Mauricio Velazquez Blandino, Magma Foundry Technologies Inc., Schaumburg, IL

Categories: Nonferrous, Molding Track: Technical

Room: 201C

Presented by the Lost Foam Division Session Chair: Glover Kerlin, BRP US Inc., Spruce Pine, NC

The Development of Lost Foam Casting in China (18-136)

Guo Peng, Huazhong University of Science & Technology, Wuhan, China Category: Molding Track: Technical

3-D Printing of Lost Foam Tooling (18-137)

Marshall Miller, Flowserve, Irving, TX Categories: Molding, Engineering & Technology Track: Technical

Room: 202B

Presented by the Melting Methods & Materials Division Session Chair: Brian Johnson, Hickman Williams & Co., Oak Brook, IL

Panel: U.S. Foundry Coke Suppliers: Sustainable Partners for U.S. Metalcasters (18-122)

David Ailor, American Coke and Coal Chemicals Institute, Washington, D.C.; David Kasun, Kuttner LLC, Port Washington, WI

Category: Ferrous Track: Technical

10:30 - 11:30 a.m. Room: Ballroom C

Keynote Speaker/Honorary Lecture: Sponsored by the AFS Cast Iron Division Disaster Recovery – Everyone's Worst Nightmare (18-150) Jean Bye, Dotson Iron Castings, Mankato, MN Categories: Ferrous, Engineering & Technology, Business of Metalcasting Tracks: Technical, Management, Student, Designer, Buyer

11:30 a.m. - 1 p.m. Room: 200

Copper Division Luncheon Ed Brown, North Fort Worth Historical Society, Fort Worth, TX *Ticket Required*

1:30 - 3 p.m. Room: 201C

Presented by the Aluminum Division Session Chair: Herbert Doty, General Motors, Pontiac, MI

Evolution of Aluminum Cylinder Head Alloys (18-116) Francis Breton, Rio Tinto, Saguenay, QC, Canada Category: Nonferrous Track: Technical

Evaluation of A New High Temperature Cast Aluminum Alloy for Cylinder Head Applications (18-034)

Qigui Wang, Devin Hess, General Motors, Pontiac, MI; Xinyan Yan, Alcoa Technical Center, New Kensington, PA; Francis Caron, Alcoa Technical Center, Deschambault, QC, Canada

Categories: Casting Design & Purchasing, Nonferrous, Engineering & Technology

Tracks: Technical, Designer, Buyer

An Aluminum Casting Alloy for High Performance Engines (18-069)

David Weiss, Eck Industries, Inc., Manitowoc, WI Categories: Casting Design & Purchasing, Nonferrous, Engineering & Technology Tracks: Technical, Designer, Buyer

Room: 202A

Presented by the Cast Iron Division Session Chairs: Matt Meyer, Kohler Co., Kohler, WI; Brandon Reneau, Caterpillar Inc., Mapleton, IL

Solidification Pattern of Silicon Alloyed Ductile Cast Irons (18-022)

Stelian Stan, Iulian Riposan, Mihai Chisamera, Politehnica University of Bucharest, Romania, Bucharest; Michael Barstow, Consultant Metallurgist, Napa, CA

Categories: Casting Design & Purchasing, Ferrous Tracks: Technical, Designer, Buyer

Modelling the Variation of Tensile Properties of High Silicon Ductile Iron (18-040)

Peter Hammersberg, Kenneth Hamberg, Chalmers University of Technology, Göteborg, Sweden; Henrik Borgstrom, Swerea SWECAST AB, Jonkoping, Sweden; Joachim Lindkvist, Volvo Powertrain, Göteborg, Sweden; Lars-Erik Björkegren, LEB Casting Technology, Jönköping, Sweden

Categories: Casting Design & Purchasing, Ferrous, Engineering & Technology

Tracks: Technical, Designer, Buyer

Stop Name Calling - Identify Casting Defects by Appearance to Reduce Scrap (18-067)

Dr. Sudesh Kannan, Co-Power LLC, Schaumburg, IL; Abhishek Pathak, Kautex Textron Inc., Muskegon, MI; Tom Cobett, Tom Cobett and Associates, Strongsville, OH

Categories: Casting Design & Purchasing, Ferrous, Nonferrous, Molding, Engineering & Technology, Business of Metalcasting Tracks: Technical, Designer, Buyer

Room: 202C

Presented by the Copper Division Session Chairs: Dan Geyer, Mueller Co., Decatur, IL; Andy Shea, AY McDonald Mfg. Co., Dubuque, IA

Panel: Safety in the Foundry - Tips and Tools for Achieving a Safer Workplace (18-124)

Tom Slavin, Slavin OSH Group LLC, Chicago, IL; Shawn Sexauer, Neenah Foundry Co., Neenah, WI; Ted Schorn, Enkei America Inc., Columbus, IN

Category: Copper Track: Technical

Room: 202B

Presented by the Melting Methods & Materials Division Session Chairs: Marc King, Globe Metallurgical Inc., Beverly, Ohio; Jeff Smithberger, Superior Graphite Co., Chicago, IL

Panel: An Update on the Latest Trends in Ferrous Charge Materials (18-121)

Lenny Basaj, Metal Technologies Ravenna Ductile Iron Plant, Ravenna, MI; David Borsuk, Sadoff Iron & Metal Co., Fond du Lac, WI; Gene Holloway, Hickman Williams & Co., Oak Brook, IL; Tim Hogan, National Material Trading, Elk Grove Village, IL

Category: Ferrous Track: Technical

Pig Iron: A Value-Adding Feedstock for Ferrous Castings (18-045)

Chris Barrington, International Iron Metallics Association, Guildford, UK Categories: Ferrous, Business of Metalcasting Track: Technical

1:30 - 4:45 p.m.

Room: 203A AFS Institute

Virtual Casting Process (18-146)

Bo Wallace, AFS Institute, Schaumburg, IL Categories: Casting Design & Purchasing, Professional Development Tracks: Technical, Student, Designer, Buyer

3:15 - 4:45 p.m.

Room: 201C

Presented by the Aluminum Division Session Chair: Tom Prucha, MetalMorphasis LLC, Rochester Hills, MI

Metallurgical Properties Inside a Tilt Poured Permanent Mold Structural Aluminum AlSi7Mg03 (A356) Casting (18-011)

Franco Chiesa, Quebec Metallurgy Center, Trois-Rivières, QC, Canada; Jeremy Carignan, Centre de Métallurgie du Québec, Trois-Rivières, QC, Canada; David Levasseur, Gheorghe Marin, Quebec Metallurgy Center, Trois-Rivières, QC, Canada; Michel Jutras, Powercast Manufacturing Inc., St-Eustache, QC, Canada

Categories: Nonferrous, Engineering & Technology Track: Technical

Defining True Production Costs While Meeting Optimal Casting Quality (18-049)

John Hambleton, Magma Foundry Technologies Inc., Schaumburg, IL Categories: Ferrous, Nonferrous, Engineering & Technology, Business of Metalcasting Track: Technical

Room: 202A

Presented by the Cast Iron Division Session Chairs: George Kokos, Caterpillar Inc., Peoria, IL; Andy Adams, Foseco, Cleveland, OH

Panel: Money Saving Ideas/Problems Solved Using Six Sigma (18-143)

Lizeth Medina-Alatorre, Neenah Foundry Co., Neenah, WI; Brandon Reneau, Caterpillar Inc., Mapleton, IL; Roxanna Stein, Waupaca Foundry Inc., Tell City, IN; Joe Renze, John Deere Foundry, Waterloo, IA; Ray Staral, Dura-Bar, Woodstock, IL

Categories: Ferrous, Engineering & Technology Track: Technical

Room: 203B

Presented by the Marketing Division Session Chair: Wendy Pilcher, Magma Foundry Technologies Inc., Schaumburg, IL

Branding Yourself: How to Use Social Media to Invent or Reinvent Yourself (18-154)

Erik Deckers, Pro Blog Service, Orlando, FL Category: Business of Metalcasting Track: Management

Room: 202B

Presented by the Melting Methods & Materials Division Session Chair: Steve Heger, Waupaca Foundry Inc., Waupaca, WI

Panel: Channel Induction Refractory Installation, Maintenance and Safety (18-140)

John Walsh, Saint Gobain Ceramics, Worcester, MA; Johnny Hill, Martin Foundry, Dallas, TX; Jack McMillin, Ajax Tocco Magnethermic Corp., Warren, OH; Bill Matarazzo, Inductotherm Corp., Rancocas, NJ; Pat Leper, Saveway USA Corp., North Canton, OH

Category: Ferrous

Track: Technical

Panel Topics:

Walsh: Inductor Refractory Installation Hill: Uppercase Refractory Installation McMillin: Channel Furnace Periodic and Preventive Maintenance Matarazzo: Channel Furnace Safety Leper: Moisture in Refractory

Room: 202C

Presented by the Molding Methods & Materials Division Session Chairs: Scott Giese, University of Northern Iowa, Cedar Falls, IA; Jay Morrison, Carpenter Brothers Inc., Mequon, WI

What Impact Will 3-D Metal Printing Have on Investment Casting? (18-109) Tom Mueller, Mueller AMS, New Berlin, WI Categories: Molding, Business of Metalcasting Track: Technical

AFS Research: Firing Time/Temperature Effect on Investment Shells Thermos-Mechanical Properties (18-050)

Mingzhi Xu, Missouri University of Science & Technology, Rolla, MO; Joe Govro, MetalTek International, Pevely, MO; Madison Wooley; Scott Vogel, Wayne Pugh, Missouri University of Science and Technology, Rolla, MO Categories: Ferrous, Nonferrous, Molding, Engineering & Technology, Business of Metalcasting Track: Technical

6 p.m.

Hilton Fort Worth – Crystal Ballroom – West Promenade Annual Banquet Reception - Cash Bar

7 p.m.

Hilton Fort Worth – Crystal Ballroom Annual Banquet Ticket Required

Wednesday, April 4

7 a.m.

Room 200 Author/Chair Breakfast

7:30 - 9:00 a.m.

Room 204 Women in Metalcasting Breakfast - Invitation Only

8 - 9 a.m.

Room: 201C

Presented by the Aluminum Division Session Chair: David Weiss, Eck Industries Inc., Manitowoc, WI

MultiMaterial Casting - Practical Foundry Guidelines (18-082)

Carl Soderhjelm, Diran Apelian, Worcester Polytechnic Institute, Worcester, MA Categories: Nonferrous, Engineering & Technology, Business of Metalcasting Track: Technical

Creating Knowledge from Big Data in Metal Casting Operations (18-120)

Adam Kopper, Brunswick Corp., Fond du Lac, WI; Ning Sun, Diran Apelian, Worcester Polytechnic Institute, Worcester, MA

Categories: Nonferrous, Engineering & Technology, Business of Metalcasting Track: Technical

Room: 202C

Presented by the Engineering Division Session Chair: Greg Bray, Electric Controls & Systems Inc., Birmingham, AL

Integrating your QMS (Quality Management System) with your ERP (Enterprise Resource Planning) System (18-117)

Patrick McCrevan, B&L Information Systems, Inc., Bridgman, MI Categories: Engineering & Technology, Business of Metalcasting Track: Technical

Room: 202A

Presented by the Molding Methods & Materials Division Session Chairs: Matt Calcutt, Rochester Metal Products Corp., Rochester, IN; Steve Neltner, IMERYS, Cincinnati, OH

Hot Permeability (18-037)

Sam Ramrattan, Prayag Patel, Dariush Moradinezhad, Western Michigan University, Kalamazoo, MI Categories: Ferrous, Nonferrous, Molding, Engineering & Technology Track: Technical

AFS Research: Effect of Water Quality on Green Sand Properties (18-009) Bo Wallace, AFS Institute, Schaumburg, IL; Sairam Ravi, Jerry Thiel, University of Northern Iowa, Cedar Falls, IA

Categories: Ferrous, Nonferrous, Molding Track: Technical

Room: 202B

AFS Research: New Tools for Casting Design and Simulation Engineers (18-139)

Jiten Shah, Product Development & Analysis LLC, Naperville, IL Categories: Casting Design & Purchasing, Engineering & Technology Tracks: Technical, Designer, Buyer

9:15 - 10:15 a.m. Room: 201C

Presented by the Aluminum Division Session Chair: Steve Sikorski, Magma Foundry Technologies Inc., Schaumburg, IL

AFS Research: Understanding Barium as a Modifier in Al-Si Alloys (18-068)

David Weiss, Eck Industries, Inc., Manitowoc, WI; Thomas Wood, Michigan Technological University, Houghton, MI

Categories: Ferrous, Engineering & Technology Track: Technical

Influence of Strontium and Aluminum Oxides on Porosity Formation in Al-Si Castings (18-098)

Agnes Samuel, Fawzy Samuel, Université du Québec à Chicoutimi, Chicoutimi-Saguenay, QC, Canada; Herbert Doty, General Motors, Pontiac, MI; Salvador Valtierra Gallardo, Nemak, S.A., Garza Garcia, Mexico

Category: Nonferrous Track: Technical

Room: 202B

Presented by the Cast Iron Division Session Chairs: Lizeth Medina-Alatorre, Neenah Foundry Co., Neenah, WI; Greg Miskinis, Waupaca Foundry Inc., Waupaca, WI

AFS Research: Influence of Mn and S on the Microstructure of Cast Iron (18-091)

Richard Gundlach, Element Materials Technology, Wixom, MI Category: Ferrous Track: Technical

AFS Research: Influence of Mn-S Balancing on Fatigue Strength in Cast Iron (18-094)

Richard Gundlach, Element Materials Technology, Wixom, MI Category: Ferrous Track: Technical

Room: 202C

Presented by the Environmental Health & Safety Division Session Chair: Michael Lenahan, Fairmount Santrol, Benton Harbor, MI

Panel: EH&S Hot Topics and Washington Update (18-131)

Jeet Radia, McWane Inc., Birmingham, AL; Greg Kramer, ME Elecmetal, Duluth, MN; Jeff Hannapel, The Policy Group, McLean, VA; Stephanie Salmon, AFS Washington Office, Washington, D.C.

Categories: Environmental, Health & Safety Track: Technical

Room: 202A

Presented by the Molding Methods & Materials Division Session Chair: Jeff Krause, Mitch Patterson, HA International LLC, Westmont, IL

Silver Anniversary Lecture: Processing of Foundry Sands for Re-Use Within the Foundry - Past, Present and Future (18-141) Robert Voigt, Penn State University, University Park, PA Categories: Molding, Engineering & Technology Track: Technical

Room: 203B

Presented by the Women in Metalcasting Division Session Chair: Patti Buksa, Laempe + Reich, Trussville, AL

Panel: Work Hardening: How to Overcome Obstacles (18-145)

Sara Timm, Waupaca Foundry Inc., Waupaca, WI; Emily Shedlarski, Mueller Co., Chattanooga, TN, Sandy Calabrese, General Motors, Defiance, OH; Laura Grondin, Virginia Industries Inc., Rocky Hill, CT

Categories: Business of Metalcasting, Professional Development Tracks: Management, Student

10:30 - 11:30 a.m. Room: Ballroom C

Keynote Presentation: Hoyt Memorial Lecture

Changing Perceptions: The Need for an "Unbalanced Force" (18-103) Dan Oman, Haley & Aldrich, Inc., Ann Arbor, MI Categories: Environmental Health & Safety, Business of Metalcasting Track: Technical, Management, Student, Designer, Buyer

11:30 a.m. – 1:30 p.m. Room 204 Division Recognition Luncheon Ticket required

1:30 - 3 p.m. Room: 201C

Presented by the Aluminum Division Session Chair: Randy Oehrlein, Carley Foundry Inc., Blaine, MN

Challenges in the Design and Manufacture of Efficient, Downsized ICE Cylinder Heads (for Future Vehicles) (18-133)

Remi Martinez, Linamar Montupet Light Metal Casting, Livonia, MI Categories: Casting Design & Purchasing, Nonferrous Tracks: Technical, Designer, Buyer

Thermal Treatment of AI-Mg-Ce Alloys (18-070)

David Weiss, Eck Industries, Inc., Manitowoc, Wi Categories: Casting Design & Purchasing, Nonferrous, Engineering & Technology, Business of Metalcasting Tracks: Technical, Designer, Buyer

Effects of Transition Elements and Si Content on the Tensile Properties of an Al-Cu Alloy at Ambient and High Temperature (18-101)

Ahmed Ibrahim, Agnes Samuel, Fawzy Samuel, Université du Québec à Chicoutimi, Chicoutimi-Saguenay, QC, Canada; Herbert Doty, General Motors, Pontiac, MI

Category: Nonferrous Track: Technical

Room: 202B

Presented by the Cast Iron Division Session Chairs: Kathy Hayrynen, Applied Process Inc., Livonia, MI; Lizeth Medina-Alatorre, Neenah Foundry Co., Neenah, WI

A Novel Inoculant Promoting a Type A Graphite Structure in Gray Iron While Minimizing Slag Generation in Pouring Boxes (18-043)

Cathrine Hartung, Elkem Foundry Products, Kristiansand, Norway; Matthew Liptak, Elkem Materials Inc., Pittsburgh, PA

Categories: Ferrous, Engineering & Technology, Business of Metalcasting Track: Technical

Shrinkage Induced Gas Porosity Model for Analysis of Solidification Shrinkage in Castings (18-030)

Sung-Bin Kim, Dong-Hoon Roh, Young-Hoon Yim, AnyCasting Software Co., Ltd., Seoul, South Korea; Doru Stefanescu, University of Alabama and Ohio State University, Dublin, OH

Categories: Ferrous, Engineering & Technology Track: Technical

AFS Research: Effect of Non-Metallic Inclusions on Solidification of Inoculated SGI (18-083)

Simon Lekakh, Missouri University Science and Technology, Rolla, MO Category: Ferrous Track: Technical

Room: 202C

Presented by the Environmental Health & Safety Division Session Chair: Fred Kohloff, Keramida Inc., Indianapolis, IN

Silica Source Reduction - Determining Feasibility (18-130)

Trent Blake, Keramida, Indianapolis, IN

Categories: Environmental Health & Safety, Business of Metalcasting Track: Technical

Panel: Understanding and Implementing the New OSHA Silica Rule (18-132)

Tom Slavin, Slavin OSH Group LLC, Chicago, IL; Bob Scholz, TRC Solutions, Brookfield, WI; Fred Simpson, McWane Inc., Birmingham, AL; Stephanie Salmon, AFS Washington Office, Washington, D.C.; Fred Kohloff, Keramida Inc., Indianapolis, IN

Categories: Environmental Health & Safety Track: Technical

Room: 203B

Presented by the Marketing Division Session Chair: Rich Jefferson, Shannon Wetzel, American Foundry Society, Schaumburg, IL

Casting of the Year Case Study from Aristo-Cast (18-155) Paul Leonard, Aristo-Cast Inc., Almont, MI Categories: Casting Design & Purchasing, Nonferrous, Molding Tracks: Management, Designer, Buyer

Room: 202A

Presented by the Molding Methods & Materials Division Session Chairs: Jerry Thiel, University of Northern Iowa, Cedar Falls, IA; Brodie Biersner, HA International LLC, Westmont, IL

Panel: AFS Mold Metal Interface Committee – Defects, Coating and Additives (18-128)

Jeff Cieplewski, Prince Minerals LLC, Milwaukee, WI; Jay Morrison, Carpenter Brothers Inc., Mequon, WI; Sam Ramrattan, Western Michigan University, Kalamazoo, MI; Harry Seibel, REFCOTEC Inc., Orrville, OH Category: Molding

Track: Technical

Preliminary Investigation and Method to Determine Resin Content For 3-D Sand Printers (18-053)

Kip Woods, University of Northern Iowa, Cedar Falls, IA; Michael Richardson, Sudhir Trikha, HA International, Westmont, IL Categories: Ferrous, Nonferrous, Molding, Engineering & Technology,

Categories: Ferrous, Nonterrous, Molaing, Engineering & Technolog Business of Metalcasting Track: Technical

1:30 - 4:45 p.m.

Room: 203A AFS Institute

Identifying the Correct Casting Defect (18-147)

Shelly Dutler, AFS Institute, Schaumburg, IL Categories: Casting Design & Purchasing, Professional Development Tracks: Technical, Student, Designer, Buyer

2 – 4 p.m.

Room: 203C

Presented by the Future Leaders of Metalcasting Session Chair: Megan Kirsh, Kirsh Foundry Inc., Beaver Dam, WI

Panel: Today's Students, Tomorrow's Future Leaders in Metalcasting (18-148) - *Invitation Only*

Jeff Cook, Eagle Alloy Inc., Muskegon, MI; Joey Leonard, The H.S. Group Inc., Green Bay, WI; Liz Ulman, Dotson Iron Castings, Mankato, MN; Brandon Kruse, Sinto America, Lansing, MI; Mattie LaPrade, AMERICAN Cast Iron Pipe Company, Birmingham, AL; Aidan King, University of Alabama-Birmingham, Birmingham, AL; Bo Wallace, AFS Institute, Schaumburg, IL; Austin Partin, Purdue University, West Lafayette, IN

Categories: Business of Metalcasting, Professional Development Management

Tracks: Management, Student

3:15 - 4:45 p.m. Room: 201C

Presented by the Aluminum Division Session Chair: Brian Began, Foseco, Cleveland, OH

AFS Research: Influence of Core Variables in Aluminum Semi-Permanent Mold Dimensions (18-077)

Russ Stein, Michigan Technological University, Houghton, MI; Randy Oehrlein, Carley Foundry Inc., Blaine, MN

Categories: Nonferrous, Molding, Engineering & Technology, Business of Metalcasting

Track: Technical

The Influence of Sand Mold/Core Properties on the Solidification of Aluminum Alloy (18-093)

Sritama Kar, Gregory Sturtz, ASK Chemicals LP, Dublin, OH; Xianping Wang, Ashland Chemicals, Dublin, OH

Category: Nonferrous Track: Technical

AFS Research: Analysis of Permanent Mold Distortion in Aluminum Casting (18-138)

Lynn Ferguson, Zhichao Li, Justin Sims, Dante Solutions Inc., Cleveland, OH; David Schwam, Case Western Reserve University, Cleveland, OH; David Neff, Consultant, Willoughby, OH

Category: Nonferrous Track: Technical

Room: 202B

Presented by the Cast Iron Division Session Chairs: Andy Adams, Foseco, Cleveland, OH; Kevin McMahon, Elkem Materials Inc., Pittsburgh, PA

A Comparative Study of Crystal Growth in Cast Iron and in Analogous Systems - Part I: Crystallization Mechanisms in Graphite and Analogous Hexagonal and Cubic Systems (18-031)

Doru Stefanescu, University of Alabama and Ohio State University, Dublin, OH; Gorka Alonso, Pello Larrañaga, Esther de la Fuente, Ramon Suarez, IK4-Azterlan, Durango, Bizkaia, Spain

Categories: Ferrous, Engineering & Technology Track: Technical

A Comparative Study of Crystal Growth in Cast Iron and in Analogous Systems - Part II: Experimental Work on Cast Iron and the Multi-Mechanism Theory of Graphite Crystallization (18-032)

Doru Stefanescu, University of Alabama and Ohio State University, Dublin, OH; Gorka Alonso, Pello Larrañaga, Esther de la Fuente, Ramon Suarez, IK4-Azterlan, Durango, Bizkaia, Spain

Categories: Ferrous, Engineering & Technology Track: Technical

Room: 202C

Presented by the Engineering Division Session Chair: Greg Bray, Electric Controls & Systems Inc., Birmingham, AL

Exploit Industrial Internet of Things for Increased Production & Lower Cost (18-081)

James Wiczer, Sensor Synergy Inc., Vernon Hills, IL; Brian Reinke, TDI Energy Solutions, Lemont, IL

Categories: Engineering & Technology, Business of Metalcasting Track: Technical

Room: 203B

Presented by the Marketing Division Session Chair: Alexandria Trusov, B&L Information Systems Inc., Bridgman, MI

Think Like a Storyteller: Turning Numbers Into Narrative (18-123) Kerry Edelstein, Research Narrative, Inc., Los Angeles, CA Categories: Business of Metalcasting, Professional Development Track: Management

Room: 202A

Presented by the Molding Methods & Materials Division Session Chairs: Pete Gravunder, Sara Joyce, Badger Mining Corp., Berlin, WI

Case Study: Reducing Shrinkage in Aluminum Castings Using Thermal Management of PUCB Resin System (18-100)

Brodie Biersner, HA International, Westmont, IL; Sairam Ravi, Scott Giese, University of Northern Iowa, Cedar Falls, IA

Categories: Ferrous, Nonferrous

Track: Technical

Virtual Design of Experiments and Optimization of Core Production (18-046)

Mauricio Velazquez Blandino, Magma Foundry Technologies Inc., Schaumburg, IL; Ingo Wagner, Joerg Sturm, Magma GmbH, Aachen, Germany Categories: Ferrous, Nonferrous, Molding, Engineering & Technology, Business of Metalcasting Track: Technical

Using Disc-Shaped Specimen Tests to Classify Chemically Bonded Sand Systems (18-035)

Prayag Patel, Lee Wells, Sam Ramrattan, Western Michigan University, Kalamazoo, MI

Categories: Molding, Engineering & Technology Track: Technical

4:30 – 6 p.m. Exhibit Floor Reception With Exhibitors

Thursday, April 5

7 a.m. Room 202D Author/Chair Breakfast

9:30 – 10:30 a.m. Exhibit Floor Breakfast With Exhibitors

8 - 9 a.m.

Room: 202A Presented by the Molding Methods & Materials Division Session Chairs: Jay Zins, Dotson Iron Castings, Mankato, MN; D.J. Couture, General Motors, Saginaw, MI

Sheet Metal Mold Casting (SMMC) Process - A Novel Process for Production of Sand Castings (18-056)

Pravash Maity, Consultant, Jalandhar, Punjab, India Categories: Nonferrous, Molding, Engineering & Technology, Business of Metalcasting Track: Technical

Forced Cooling of Semi-Permanent Molds for Fine Grain Ferrous Castings (18-115)

Nick Moroz, Pedro Guillen, Detroit Materials, Wixom, MI; Rish Mitra, ESI-NA, Farmington Hills, MI

Categories: Casting Design & Purchasing, Nonferrous Tracks: Technical, Designer, Buyer

Room: 201C

Presented by the Steel Division Session Chair: Laura Bartlett, Missouri University of Science & Technology, Rolla, MO

Efficiency of Solid Inclusion Removal From the Steel Melt by Ceramic Foam Filter: Design and Experimental Validation (18-048)

Soumava Chakraborty, Ronald O'Malley, Laura Bartlett, Mingzhi Xu, Missouri University of Science & Technology, Rolla, MO

Categories: Ferrous, Engineering & Technology, Business of Metalcasting

Track: Technical

Influence of Rare Earth Additions on the Structure of HY100 (18-062)

Robert Tuttle, Saginaw Valley State University, University Center, MI Category: Ferrous Track: Technical

8 - 10:15 a.m.

Room: 202B

Presented by the Additive Manufacturing Division Session Chair: Brandon Lamoncha, Humtown Products, Columbiana, OH

Panel: Additive Manufacturing (18-144)

Marshall Miller, Flowserve, Irving, TX; Travis Frush, University of Northern Iowa, Cedar Falls, IA; Tom Mueller, Mueller AMS, New Berlin, WI; Jiten Shah, Product Development & Analysis LLC, Naperville, IL; Jerry Thiel, University of Northern Iowa, Cedar Falls, IA

Categories: Casting Design & Purchasing, Molding Tracks: Technical, Designer, Buyer

Room: 203A AFS Institute

Creating a Culture of Respect Through Feedback (18-159)

Cindy Maher, Jamie Guite, Leading Edge Coaching & Development, Woodbury, MN

Categories: Professional Development, Management Tracks: Management, Student, Designer, Buyer

9:15 - 10:15 a.m. Room: 201C

Presented by the Steel Division Session Chair: Robert Tuttle, Saginaw Valley State University, University Center, MI

Effect of Nonmetallic Inclusions on Impact Toughness in High Strength Lightweight Steels With Different Sulfur Additions (18-033)

Rairu Vaz Penna, Laura Bartlett, Trevor Constance, Missouri University of Science Technology, Rolla, MO

Categories: Casting Design & Purchasing, Ferrous, Engineering & Technology

Tracks: Technical, Designer, Buyer

10:30 - 11:30 a.m. Room: Ballroom C

Keynote Presentation: Economic and Political Update (18-158) Stephen Moore, Heritage Foundation, Washington, D.C. Categories: Professional Development Tracks: Technical, Management, Student, Designer, Buyer

11:30 a.m. – 1:30 p.m. Room: 204 President's Luncheon & Annual Business Meeting Ticket required

THURSDAY

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April 3-5, 2018 Fort Worth, Texas **ETALCASTING**CONGRESS

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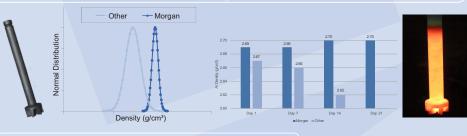
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ASK Chemicals	205



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Suppliers Exhibitor Directory

(As of February 16)

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Booth 511 1460 Livingston Ave. North Brunswick, NJ 08902-1873 732-932-6142 abpinduction.com

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Advanced Technology International

Booth 118 315 Sigma Dr. Summerville, SC 29486 843-670-5500 amc.ati.org

The American Metalcasting Consortium (AMC) is a partnership consisting of the American Foundry Society, North American Die Casting Association, Steel Founders Society of America, and the Non-Ferrous Founders' Society managed by Advanced Technology International (ATI). AMC combines the best in industry, academia and government to develop and apply new technologies that will rapidly deliver high quality, cost-effective cast parts to support the military warfighter as well as the industrial sector.

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Albarrie Environmental Services

Booth 711 340 Huronia Rd. Barrie, Ontario L4N 8Y9 Canada 855-737-6906 albarrie.com Albarrie Environmental Services is the leading North American textile manufacturer specializing in a complete range of filter bags. Our stringent quality assurance procedures on all the fabrics we produce, our stringent standard controls on the bags we fabricate, and our years of expertise and experience have established Albarrie as a world leader in dust collector optimization services, filter media and filter bags. Albarrie also supplies baghouse accessories including cages, valves, controls, door seal, dryer/drum gasketing and fluorescent tracing compounds to detect leaks. Albarrie provides rapid-response troubleshooting, baghouse inspections, maintenance, filter bag replacement, and high-efficiency filter bag cleaning, performed inside the baghouse.

Alcoa USA Corp.

Booth 818 900 S. Gay St. Suite 1100 Knoxville, TN 37920 865-594-4823 alcoa.com

Alcoa is a pioneer in new alloy production and has developed a number of aluminum casting alloys to deliver robust weight reduction for all types of vehicles. These materials support the future vehicle that may be powered by a more efficient IC engine, an electrified hybrid engine or a fully electric vehicle. There are two technical papers presented at this show on the new 351 SupraCast alloy for engine cylinder heads and blocks. Stop by Booth 818 to discuss this alloy, along with A354 for structural components, EverCast for high toughness applications, and new vacuum HPDC alloys for automotive body structures.

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American Foundry Society

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The HUB, Booth 517, is a dedicated area for connecting with AFS staff and other attendees. It features the AFS Bookstore, AFS Products & Services, a Makerspace and the Casting of the Year display. The HUB is your one-stop shop to experience all AFS has to offer to its members and customers.

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ATS Applied Tech Systems LLC

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DIDION will feature its new line of rotary foundry equipment at Booth 413 at the 2018 Metalcasting Congress. DIDION designs, engineers and manufactures a full range of rotary processing equipment for foundries, including: rotary media drums, rotary sand reclaimers, rotary dross/slag

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Elementar designs and builds analyzers with the operator in mind. Analyzers for carbon, sulfur, oxvgen, nitrogen and hydrogen. One of the most consistently innovative companies, our instruments are used in industry, contract labs, research and academia around the world, Fast, Precise, Clean, Low maintenance. No need for oscillator tubes. No need for special vacuum cleaners. No need to spend so much time in tear down. Our three newest analyzers are: Inductar CS cube for carbon, sulfur: Inductar ONH cube for oxvgen, nitrogen, hydrogen; and Inductar EL cube. the industry's first all-in-one CSONH analyzer! All are equipped with a long-life, solid-state, high-frequency induction furnace, which makes it possible to reach sample temperatures of up to 2,000 degrees Celsius. An optional internal camera shows the gas release in real-time by the operator. Carbon and sulfur are both analyzed by wide-range IR detectors, which are capable to detect the whole concentration range. Thus, little impurities in the ppm-range and higher concentrations of some percentages by weight are detectable.

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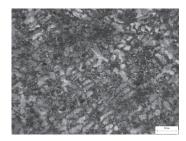
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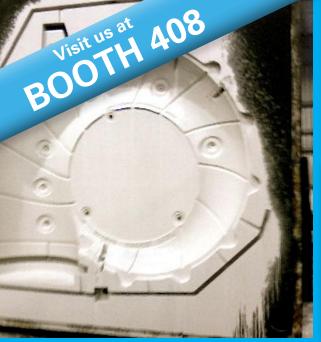
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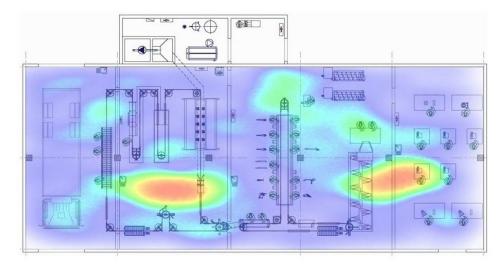
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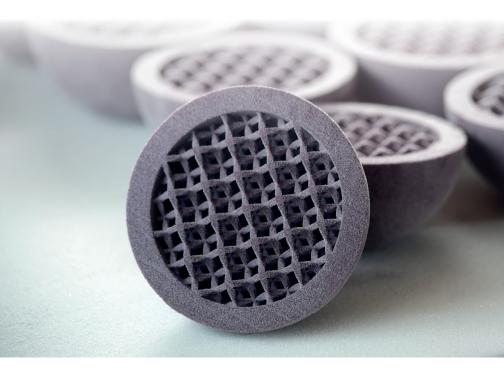
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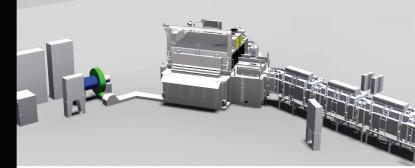
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Viridis3D

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The robotic additive manufacturing systems from EnvisionTEC and Viridis3D are the fastest. most flexible robotic 3-D printing options in the foundry and 3-D printing industries today. Using a patent-pending technology, a proprietary print head attached to an ABB robot arm uses exclusive binder ietting technology to print sand molds, mold cores and investment casting patterns for foundry applications. The proprietary systems include easy-touse Viriprint software that uses a CAD file to print a mold and core in just a few hours. A variety of build envelopes are now offered. The RAM 123 prints pieces up to 1' x 2' x 3', with a RAM 224 (2' x 2' x 4'), RAM 236 (2' x 3' x 6'), and RAM 336 (3' x 3' x 6') now available. Viridis3D can also develop custom solutions with this scalable solution. This disruptive technology brings a new way of production to foundries - instead of shipping castings around the world, raw materials are shipped and files are simply transmitted to 3-D printers in strategic locations. The result is castings are poured the same day, only where you need them.

voxeljet America Inc.

Booth 237 41430 Haggerty Cir. S. Canton, MI 48188 734-808-0025 voxeljet.com

voxeliet is a leading manufacturer of 3-D printing systems for industrial applications and is specialized on powder-binder-ietting of plastic and sand. With additive manufacturing we would like to ensure that our customers receive maximum efficiency and profitability by using innovative technology and comprehensive knowhow in additive manufacturing. A perfectly adjusted product range always offers the right solution for different sectors, requirements and sizes - thus creating the best foundation for a faster and more flexible production.

Vulcan Engineering Co.

Booth 619 1 Vulcan Dr. Helena, AL 35080 205-663-0732 vulcangroup.com

Vulcan Engineering Co. was founded in 1970 and is the largest in-house foundry engineering, equipment design, manufacture, and full-service integration group in North America. Equipment and facility designs and services are provided from concept to completion by an experienced team of specialized craftsmen and professional engineers across multiple disciplines. Vulcan utilizes more than 300,000 square feet of design and manufacturing space at the Helena. AL. location with additional sales and services centers in Mexico. Europe and China. Vulcan offers customers a total concept approach to manufacturing, focused on productivity and profitability.

Wheelabrator

Booth 910 1606 Executive Dr. LaGrange, GA 30240 706-884-6884 wheelabratorgroup.com

YXLON

Booth 129 5675 Hudson Industrial Pkwy. Hudson, OH 44236 847-987-0967 yxlon.com

Worldwide, YXLON is the leading provider of non-destructive test (NDT) X-ray inspection equipment for industrial applications. YXLON enhances conventional x-ray (2D) with innovative technologies, including computed tomography (CT) for 3-D, HDR (highly dynamic radiology), microfocus x-rav tubes and automatic defect recognition (ADR). Whether operated manually, semi-automatically or on a fully automatic scale, we have the right solution to match nearly every application. For us, the highest priority is placed on quality: the quality of our inspection systems and, as a result, the quality of your products. Our years of experience and the pleasure we take in innovation have enabled us to gain the confidence and trust of the most renowned manufacturers in the die casting and foundry industries, automotive industry, aviation and aerospace, electronics, etc. Since 2007, YXLON has been a member company of the COMET Holding AG (Suisse). To learn more visit www.yxlon.com. Contact us at 877-972-9100 or yxlon@ vxlon.com.

ZEISS Industrial Metrology

Booth 105 6250 Sycamore Ln. Maple Grove, MN 55369 763-744-2400 zeiss.com/metrology

ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. The Industrial Metrology business group is a leading manufacturer of multidimensional metrology solutions. These include coordinate measuring machines and metrology software for the automotive, aircraft, mechanical engineering, plastics and medical technology industries.

Zerust Corrosion Solutions

Booth 117 P.O. Box 69 Circle Pines, MN 55014 763-225-6658 zerust.com

Zerust/Excor offers a full line of corrosion inhibitor packaging and rust solutions. Zerust is the inventor of Volatile Corrosion Inhibitor (VCI) poly technology and offers expert onsite support in over 60 countries worldwide. For over 35 years, Zerust has helped customers reduce the cost and problems associated with corrosion. Have a challenging corrosion prevention need, such as overseas shipping or storage in corrosive environments? Trust Zerust to help you manage corrosion in your operations. Zerust is a business unit of Northern Technologies International Corp. For more information, visit www.zerust.com.

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Cast in North America Exhibitor Directory

(As of February 16)

ATEK Metal Technologies

Booth 931 2205 Rusty Kennedy Road New Hampton, IA 50659 248-766-7191

Casting to the most relevant specifications. Yours. For more than 50 years, ATEK Metal Technologies has delivered superior aluminum castings that meet the specifications of the world's most demanding industries, from motorsports and recreation to transportation and industrial markets.

Atlas Foundry Company

Booth 830 601 N. Henderson Ave. Marion, IN 46952 765-662-2525 atlasfdry.com Atlas Foundry is a jobbing and production foundry specializing in Class 25, 30, and 35 gray iron castings weighing less than 50 pounds. We utilize Disamatic molding machines to produce molds for our castings. Production volumes range from 100 mold releases to several thousand molds per release. Our foundry is located in Marion, IN, about 60 miles to the northeast of Indianapolis.

Blackhawk de Mexico SA de CV

Booth 633 Carretera a Villa de Gracia Km 2.5 1-A Santa Catarina, Nuevo Leon 66350 Mexico 52-81 8151-0323 blackhawk.com.mx

Bremen Castings Inc.

Booth 837 500 N. Baltimore St. Bremen, IN 46506 574-546-2411 bremencastings.com

Bremen Castings, Inc. (BCI) is 100% made in the USA and has been family-owned since 1939. With 79 years of experience, BCI is a manufacturing facility where buyers can send one purchase order and receive a complete part ready for application. Bremen Castings pours premier gray and ductile iron castings with a full-service, in-house machine shop. BCI is a one-stop shop and can take care of your machine complete aluminum and steel needs as well! Quality is a major priority at BCI and is proven out by being ISO/TS 16949:2009 and ISO 9001:2008 registered.

Charlotte Pipe Foundry and Company

Booth 828 1335 S. Clarkson St. Charlotte, NC 28235 704-999-0278 charlottecastings.com

Charlotte Pipe is a family-owned and privately-held company that has been in the foundry business for over 100 years. Our foundry is a large (300,000-square-foot) and modern foundry that has diverse equipment to meet your specific needs. We are a medium to high production green sand foundry, with Disamatic, matchplate and HWS cope and drag molding equipment. We offer onsite e-coat and machining for value-added services. Charlotte Pipe is ISO 9001:2015 certified by LRQA. We have in-house pattern capability which allows us to upfit as well as design and build new patterns and core boxes.

Decatur Foundry Inc.

Booth 829 1745 N. Illinois St. Decatur, IL 62526 217-429-5261 decaturfoundry.com

Dotson Iron Castings

Booth 729 200 W. Rock St. Mankato, MN 56001 507-345-5018 dotson.com

Dotson Iron Castings is a onestop shop for all your ductile iron casting, machining, painting and heat treatment needs. Along with value-added services, Dotson also offers industry-leading lead times, top notch engineering and unparalleled customer service. Dotson is employee-owned, and the owners are focused on continuous improvement in all areas of the business in order to deliver value and, most importantly, agility to you.

LeClaire Manufacturing Company

Booth 634 3225 Zimmerman Dr. Bettendorf, IA 52722 563-332-6550 leclairemfg.com

Lethbridge Iron Works Ltd.

Booth 928 720 32nd St. North Lethbridge, Alberta T1H 5K5 Canada 403-329-4242 lethiron.com

McConway & Torley LLC

Booth 935 109 48th St. Pittsburgh, PA 15201 412-688-1559 mcconway.com

Craftsmanship. Innovation. Interconnected. Trinity Parts is a diversified business group that owns complementary, marketleading businesses with a deep legacy of service in many sectors. Our breadth of knowledge and experience enables us to provide peerless expertise and support to our customers. Trinity Parts employs more than 1,000 professionals across the U.S. We are uniquely positioned to offer the combined capabilities of casting, forging and fabrication within the U.S. Typically, forging and casting companies are competitors within the industry, but our ability to do any type of forming allows us to take the best approach for each customer and situation. It also makes us cost-competitive in the industries we serve. The single destination for a multitude of industry capabilities.

Monarch Industries Limited

Booth 728 51 Burmac Rd. P.O. Box 429 Winnipeg, Manitoba R3C 3E4 Canada 204-786-7921 monarchindustries.com

Founded in 1935, Monarch Industries is a leading manufacturer and supplier of raw and machined iron castings with extensive experience in weldto-cast conversions. Monarch's foundry capabilities include the ability to pour both gray and ductile castings ranging from 1 to 1,000 pounds on its 16 x 20. 26 x 20 and 32 x 30 greensand lines in addition to its 45 x 66 nobake line. Employing over 450 people and having attained both ISO 9001 guality and ISO 14001 environmental certifications. Monarch is committed to providing outstanding service, quality and environmental responsibility. View our virtual factory tour videos at www.monarchindustries.com

OSCO Industries Inc.

Booth 529 P.O. Box 1388 Portsmouth, OH 45662 740-821-3227 oscoind.com

Pier Foundry & Pattern Shop Inc.

Booth 629 51 State St. St. Paul, MN 55107 651-222-4461 pierfoundry.com

Pier Foundry & Pattern Shop is passionately committed to providing you with the highest level of service, support and value which you expect from a grey iron and ductile iron casting manufacturer. We are an ISO certified provider of grey iron, ductile iron and austempered ductile iron castings of superior quality, at a competitive price with one of the shortest lead times in the industry. We offer nearly 130 years of manufacturing experience, a knowledgeable and friendly sales staff, and a full complement of engineering support and technical services. We encourage our customers to get us involved early in the design process and offer design and castability assistance from concept through production. Let Pier Foundry be the one-stop shop for all of your casting needs.

Product Development & Analysis LLC

Booth 631 1776 Legacy Cir. Suite #115 Naperville, IL 60563 630-505-8801 pda-llc.com

PDA LLC has been providing metalcasting design and manufacturing services for over 24 years to OEMs, metalcasters and tool makers towards new product development, casting conversion, redesign, reverse engineering for all alloys and processes utilizing CAD, FEA, CFD, casting process simulation, 3-D scanning, rapid prototyping and additive toolingless processes. PDA specializes in the design and development of casting, rigging and process for conventional and additive manufacturing; and advance simulation for porosity, residual stress, hot tearing, micro-structure and properties for complex shapes with optimization, scrap reduction,

contract research and contract manufacturing. PDA LLC has been a member of major manufacturing innovation institutes – DMDII, LIFT and America Makes, currently working on castingrelated research projects for all of them. Visit www.pda-llc.com.

Renaissance Manufacturing Group, Waukesha LLC

Booth 735 1401 Perkins Ave. Waukesha, WI 53186 262-548-1506 ren-mfg.com

Renaissance Manufacturing Group features state-of-the-art processes resulting in improved production efficiency and quality assurance. We specialize in all ductile/nodular grades, hi temp grades, and ADI products. Renaissance Manufacturing Group also offers a wide variety of valueadded services, including, but not limited to, heat treatment, machining, assembly and coatings.

Rochester Metal Products Corp.

Booth 535 616 Indiana Ave. P.O. Box 488 Rochester, IN 46975 574-223-3164 rochestermetals.com

Rochester Metal Products Corp. has been producing quality gray and ductile iron castings since 1937. Our 200,000-square-foot facility is designed to serve a wide range of casting requirements from 1 pound to 40 pounds. We offer casting design assistance for new products, from original concept to prototyping and final production. Rochester Metal Products Corp. takes great pride in our more than eight decades of commitment to meeting our customers' needs through short cycle times, on-time deliveries with consistent quality and competitive prices.

TB Wood's

Booth 731 440 N. 5th Ave. Chambersburg, PA 17201 717-217-3879 tbwoods.com

Waupaca Foundry

Booth 628 1955 Brunner Dr. P.O. Box 249 Waupaca, WI 54981 715-258-6611 waupacafoundry.com

Webster Industries Inc.

Booth 929 325 Hall St. Tiffin, OH 44883 800-243-9327 websterchain.com/OurProducts/ MalleableIronCastings

The Webster Foundry has been in operation since 1914. We specialize in the production of custom malleable iron castings in quantities from a few pieces to high-volume production runs. We cast in sizes from two ounces to 50 pounds in the following metals: white iron, high alloy white iron, ferritic malleable iron, and pearlitic malleable iron (most classes). Our casting operations include pattern making; induction channel melting: shell, oil sand and nobake core making; Squeezer, Roto-Lift and Hunter automatic mold making: controlled atmosphere annealing; and insured pattern storage. We also have in-house heat-treat and machining facilities for more advanced machining requirements. Webster Industries' guality system is certified to the ISO9001:2015 standard. The workforce of the Webster foundry is comprised of highly skilled, well-trained and experienced employees, supported by our in-house engineering and design department.

Wisconsin Aluminum Foundry

Booth 737 838 S. 16th St. Manitowoc, WI 54221 920-686-2753 wafco.com

Wisconsin Aluminum Foundry is located in Manitowoc. WI. We are IATE16949 & ISO9001 certified and employ approximately 340 people. We specialize in aluminum permanent mold, green sand. low pressure permanent mold and air set sand processes and can produce anywhere from prototype to 40,000-plus castings per year for our customers. We have recently expanded the foundry and added a second automated Disa green sand molding line and low pressure line to increase capacity in all processes. We also pour aluminum bronze and brass alloys.



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ABP Induction, LLC

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Sinto

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Sinto

517-371-2460 www.sintoamerica.com Booth 617





ABP Induction

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Fairmount Santrol

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Meet the People Responsible for the New Publications!

Gold Medal-winner Ted Schorn will be available on Wednesday, April 4, at 2 p.m. to talk about his book, *Improving the Effectiveness of Visual Inspection*. Another Gold Medal winner, David Neff, also will be on hand to discuss *Aluminum Casting Technology, 3rd Edition*.

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Dr. David V. Neff

The **JOHN A. PENTON GOLD MEDAL**... for his technical contributions to the metalcasting industry especially in the areas of research, publications, presentations and technical education.



MILLIONAIRES SAFETY AWARD

Anvil International (Columbia, PA): 3 million safe-hours

MetalTek International–Wisconsin Centrifugal Division (Waukesha, WI): 2 million safe-hours

Oil City Iron Works, Inc. (Corsicana, TX): 2 million safe-hours

- AAM Castings, Brewton Manufacturing Facility (Brewton, AL): 1 million safe-hours
- AAM Castings, Columbiana (Columbiana, AL): 1 million safe-hours
- AAM Castings, Ductile Iron Castings (New Castle, IN); 1 million safe-hours
- AAM Castings, Iron Mountain (Kingsford, MI): 1 million safe-hours

AWARD OF SCIENTIFIC MERIT

Robin D. Foley

Associate Professor The University of Alabama at Birmingham (Birmingham, AL)

The **AFS AWARD OF SCIENTIFIC MERIT**... for service to the metalcasting industry through research, process investigation, metal properties exploration and foundry education.

AFS SERVICE CITATION

Kathy L. Hayrynen

Vice President of Research and Development Applied Process Inc. (Livonia, MI)

The **AFS SERVICE CITATION**... for service to the metalcasting industry through leadership roles in various industry activities on the national and chapter levels, for educating the industry on the capabilities of cast iron and its viability, and for supporting the next generation of metalcasting professionals.

Ed Marczyszak

Plant Manager Burndy Corporation (Bethel, CT)

The **AFS SERVICE CITATION**... for his leadership and dedication to the local New England Chapter and tireless support of the American Foundry Society to advance education in the metalcasting industry.

Brad Steinkamp

Plant Metallurgist Dura-Bar (Woodstock, IL)

The **AFS SERVICE CITATION**... for continuous support and leadership of a thriving Cast Iron Division and his mentorship to new committee members.







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Laempe Reich Trussville, AL



AFS Corporate Members

(As of February 16)

<u>A</u>

A F K Corp A Y McDonald Mfg Co AAM - Castings - Bessemer AAM - Castings - Biscoe AAM - Castings - Brewton AAM - Castings - Browntown AAM - Castings - Columbiana AAM - Castings - El Carmen AAM - Castings - Kingsford AAM - Castings - Menomonee Falls AAM - Castings - New Castle AAM - Castings - Oconomowoc AAM - Castings - Reedsburg AAM - Castings - Saint Cloud AAM - Castings - Southfield AAM - Castings - Wauwatosa Aarrowcast Inc. ABC Coke ABC Coke Drummond ABP Induction LLC - Massillon ABP Induction LLC - N Brunswick ABP Induction LLC - Union Grove AC Foundry Inc Acme Foundry Inc ACTech North America Inc Advanced Cast Products Advanced Pattern Works

Advantage Metals Recycling LLC Aero Metals Inc. Air Products & Chemicals Inc. Airmatic Inc. Ajax TOCCO Magnethermic Canada Ltd Ajax TOCCO Magnethermic Corp - Albertville Ajax TOCCO Magnethermic Corp - Longview Aiax TOCCO Magnethermic Corp - Madison Heights Ajax TOCCO Magnethermic Corp - North Canton Aiax TOCCO Magnethermic Corp - Warren Akron Brass Co Akron Foundry Co Alabama Casting LLC Alliant Castings Alotech I td Alpha Foundry Co Alpha Resins Inc Alu-Bra Foundry Inc AMERICAN Cast Iron Pipe Company American Castings LLC American Colloid Co - Albion American Colloid Co - Belle Fourche

American Colloid Co - Belvidere American Colloid Co - Chattanooga American Colloid Co - Granite City American Colloid Co -Hoffman Estates American Colloid Co - Letohatchee American Colloid Co - Neenah American Colloid Co - Shell Rock American Colloid Co - York AMETEK Foundry Products - Berwyn Amsted Rail - Granite City Amsted Rail - Kansas Citv Amsted Rail Company, Inc Anderson Express Inc Anderson Global Anthracite Industries Inc Anvil International Inc - Columbia Anvil International Inc - Exeter AnyCasting Software Co Ltd AP Westshore Inc Appleton Group Applied Process Inc Aristo-Cast Inc Asbury Carbons Inc - Asbury Asbury Carbons Inc - Sunbury Asbury Wilkinson Inc - Burlington Asbury Wilkinson Inc - Cambridge Asbury Wilkinson Inc - Chateauguay Asbury Wilkinson Inc - Mississauga Ashland Foundry & Machine Works ASK Chemicals - Ashland ASK Chemicals - Boonton ASK Chemicals - Cleveland ASK Chemicals - Commerce ASK Chemicals - Dublin ASK Chemicals - Kansas City ASK Chemicals - Kidderminster ASK Chemicals - Mississauga ASK Chemicals - Montreal ASK Chemicals - Ontario ASK Chemicals - Schiller Park ASK Chemicals de Mexico S de R L de C V ASK Chemicals Hi-Tech LLC ASK Chemicals Metallurgy Inc Astech Alloy Steel Technologies Inc ATD Engineering & Machine

Atek Metal Technologies -Eden Prairie Atek Metal Technologies -New Hampton Atlas Foundry Co Inc Aurora Metals Divison LLC (Hiler Industries) Austin Foundry Corp Azterlan

В

B&L Information Systems Inc Babs Foundry Inc Badger Alloys Inc Badger Mining Corp - Berlin Badger Mining Corp - Taylor Bahr Bros Manufacturing Co Baker Manufacturing Co Ball Brass & Aluminum Foundry **Batesville Products Inc** Beaver Valley Alloy Foundry Co Belmont Metals Inc Benton Foundry Inc Bespro Pattern Inc Best Sand Corp Betz Industries Bingham & Taylor Corp Black Cat Wear Parts Blackhawk de Mexico SA de CV Blackmer Blast Cleaning Technologies Blastec Inc Bodine Aluminum Inc - Jackson Bodine Aluminum Inc - Saint Louis Bodine Aluminum Inc - Troy Boose Aluminum Foundry Co -Reamstown Boose at Cornwall Inc - Lebanon Bradken - Brisbane Bradken - Oconomowoc Bradken - Amite Bradken - Atchison/St Joe Bradken - Atlas Bradken - Engineered Products Bradken - Global Services Bradken - London Bradken - Mont-Joli

Bremen Castings Inc Brenner Machine Co Llc Inc Brokk Inc BRP US Inc - Spruce Pine BRP US Inc - Sturtevant Buck Co Inc Burnham Corp - Lancasterr Burnham Hydronics - Lancaster Busche Aluminum Technologies Busche Group

<u>C</u>

C A Lawton Co C L Dews & Sons Fdry & Mach Co Inc C Reiss Coke Cadillac Casting Inc Calderys California Metal-X Canada Metal (Pacific) Ltd Capital Refractories Inc CARBO Industrial Technologies -Houston CARBO Industrial Technologies -New Iberia Carlson Tool & Mfg Corp Carolina Metal Castings Carpenter Brothers Inc - Eagan Carpenter Brothers Inc - Mequon Carpenter Brothers Inc - Norton Shores Carpenter Brothers Inc - Zionsville Carrier Vibrating Equip Canada Carrier Vibrating Equipment Inc Cast Aluminum Solutions LLC Cast Technologies Inc Castalloy Inc Casting Solutions LLC Castwell Products LLC Caterpillar de Mexico Caterpillar Inc - Aurora Caterpillar Inc - Champaign Caterpillar Inc - Danville Caterpillar Inc - Decatur Caterpillar Inc - Denison Caterpillar Inc - East Peoria Caterpillar Inc - Lafayette Caterpillar Inc - Mapleton

Caterpillar Inc - Mossville Caterpillar Inc - Peoria Caterpillar Inc - South Milwaukee Caterpillar Inc - Toccoa Caterpillar Inc - West Fargo Caterpillar Logistics Services Inc Centre for Innovation & Technology N Mahalingam (CITNM) Century Brass Works Inc CFM Corp Champion Chisel Works Inc Charlotte Pipe & Foundry Co Chesapeake Specialty Products Inc Chicago Magnesium Casting Co Chris Erhart Foundry & Machine Co Clay & Bailey Mfg Co CMI Novacast Inc CMP Global Inc - Suffolk CMP Global Inc - Virginia Beach Colonial Metals Co Columbia Steel Casting Co Inc Columbus Recycling Comanche Technologies LLC Conbraco Industries Inc - Conway Conbraco Industries Inc - Matthews Conbraco Industries Inc -Pageland Consarc Consolidated Mill Supply Inc Continental Aluminum Corp Conveyor Dynamics Corp CoorsTek **CP** Industries **CPP** - Minneapolis Operation Craft Pattern & Mold Inc CTP Sinto America LLC Cumberland Foundry Co Inc Cummins Inc Curto-Ligonier Foundries Co **Customized Energy Solutions**

D

D & L Foundry Inc D W Clark Inc Dakota Foundry Inc David J Joseph Co Decatur Foundry Inc Deeter Foundry Inc Denison Industries Inc DeWys Engineering Didion International Inc Dinamec Systems LLC DISA Donsco Inc - Mount Joy Donsco Inc - Wrightsville Dotson Iron Castings Dualtech Innovative Casting Tech Inc Durex Industries DustMASTER Enviro Systems

E

Eagle Allov Inc Eagle Aluminum Cast Products Eagle Machined Products Eagle Manufacturing Group Eagle Precision Cast Parts Inc EBAA Iron Inc - Albany EBAA Iron Inc - Cordele EBAA Iron Inc - Eastland EBAA Iron Sales Inc - Eastland Eck Industries Inc. Eirich Machines Inc. EJ - Ardmore EJ - Denham Springs EJ - East Jordan Electric Controls & Systems Inc Element Materials Technology -Broken Arrow Element Materials Technology -Wixom Elkem Foundry Products Elkem Materials Inc Elkem Metal Canada Inc. Elkhart Brass Mfg Co Inc Elyria Foundry Co EMSCO Inc - Anniston **EMSCO Inc - Massillon** EMSCO Inc - Milwaukee EMSCO Inc - Pico Rivera EMSL Analytical Inc Engineered Ceramics Corp **Engis** Corporation EnvisionTec Inc Epcor Foundry

EQI Ltd Erie Bronze & Aluminum Co ESI North America ETA Engineering Inc Evans Industries ExOne - Houston ExOne - Irwin ExOne - Las Vegas ExOne - Troy EZ Grout Corp EZG Manufacturing

F_

Faircast Inc Fairmount Foundry Inc Fairmount Santrol - Benton Harbor Fairmount Santrol - Chardon Fairmount Santrol - Chesterland Fairmount Santrol - Ottawa Fairmount Santrol - St Charles Fairmount Santrol - Sugar Land Fairmount Santrol - Troy Grove Fairmount Santrol - Wedron Falcon Foundry Co Fall River Foundry Farrar Corp - Manhattan Farrar Corp - Norwich Federal Bronze Casting Ind Inc Ferroloy Inc Finishing Associates Finite Solutions Inc - Hamilton Finite Solutions Inc - Slinger FISA North America Inc Fisher Cast Steel Products Inc. Flexovit USA Inc Flow Science Inc Flury Foundry Co Foley Pattern Co Inc Fonderie Laperle Inc Fonderie Saguenay Ltee Fonderies Bibby Ste-Croix Inc Ford Meter Box Co Inc - Pell City Ford Meter Box Co Inc - Wabash Foseco - Cleveland Foseco - Guelph Foseco - Highland Foseco - Pittsburgh

Foseco - Winlock Foundry Solutions & Design Franklin Iron Works Inc Frazer & Jones Co Fresno Valves & Castings Inc Friends Foundry Inc Fritz Winter North America LP

<u>G</u>

G & W Electric Co - Blue Island G & W Electric Co - Bolingbrook Galesburg Castings Inc Gartland Foundry Co GF Additive GE Cntr for Additive Tech Advancement Gemini Inc - Cannon Falls Gemini Inc - Decorah Gemini Inc - Taylor General Foundry Service Corp General Kinematics Corp General Motors - Bay City General Motors - Bedford General Motors - Defiance General Motors - Flint General Motors - Indianapolis General Motors - Lansing General Motors - Pontiac General Motors - Romulus General Motors - Saginaw General Motors - Spring Hill General Motors - Toledo General Motors - Warren General Motors - Ypsilanti General Motors de Mexico S A de C V - Toluca General Motors Fairfax General Motors of Canada Ltd Goldens' Foundry & Machine Co -Columbus Goldens' Foundry & Machine Co -Cordele Graham-White Mfg Co Great Lakes Castings LLC Green Packaging Inc GreenSand Controls Inc. Griffin Industries Corp

Guardian Software Systems Inc Gudgeon Thermfire Intl Inc

<u>H</u>

H Kramer & Co HA International LLC - Toledo HA International LLC - Westmont Halev & Aldrich - Ann Arbor Haley & Aldrich - Convers Haley & Aldrich - Greenville Harmony Castings LLC Harry H Reich Co Hayakawa USA Corp Henry Perkins Co Henry Pratt Co Henschel Andromat Inc. Heraeus Electro-Nite Canada Ltd Heraeus Electro-Nite Co - Langhorne Heraeus Electro-Nite Co - Loveland Heraeus Electro-Nite Co - Yardlev Heraeus Hartland Hickman Williams & Co - Birmingham Hickman Williams & Co - Chattanooga Hickman Williams & Co - Cicero Hickman Williams & Co -Cranberry Township Hickman Williams & Co - Fontana Hickman Williams & Co - Houston Hickman Williams & Co - LaPorte Hickman Williams & Co - Monroe Hickman Williams & Co - Oak Brook Hickman Williams & Co - Plymouth Hickman Williams Canada Inc. High Temperature Systems Inc Hiler Industries Hiler Industries (Kingsbury Cstg Div) Hitachi Hi-Tech Analytical Science Hitachi Metals America I td Hitachi Metals Automotive Components USA LLC Hitech Shapes & Designs Hodae Foundry Hoosier Pattern Inc. Howell Foundry LLC HS Group HR Inc Hsin Lien Machinery Parts Co Ltd

Humtown Products Hunter Foundry Machinery Corp

I Schumann & Co I Sq R Power-Cable Co **ID** Castings LLC IMERYS - Birmingham IMERYS - Cincinnati **IMERYS** - Niagara Falls **IMERYS** - Roswell **IMERYS** - Waterloo Impact NDT LLC Indquip Co LLC Inductotherm Corp - Pico Rivera Inductotherm Corp - Rancocas Inductotherm Group Canda Ltd Industrial Ceramic Products Inc Industrial Metals Recycling Industrias John Deere SA de CV -Santa Catarina Industrias John Deere SA de CV -Torreon Ingot Metal Co Ltd Integra Castings Inc International Thermal Systems Interstate Castings Iron Age Designs Italpresse Gauss

J

J & L Precision Castings - Waukesha J R Hoe & Sons Inc - Middlesboro Jef-Scot Metal Industries Inc -Centerville Jenkins Electric Co - Charlotte John Deere Co - Ankeny John Deere Co - Coffeyville John Deere Co - Davenport John Deere Co - Des Moines John Deere Co - Dubuque John Deere Co - East Moline John Deere Co - Horicon John Deere Co - Moline John Deere Co - Ottumwa John Deere Co - Waterloo John Deere Power Systems

John Deere Turf Care Joy Mark Inc Joyworks LLC

K

Kansas Castings Inc Kelly Foundry & Machine Co Kenton Iron Products LLC Keramida Inc Key 3 Casting Co Keystone Casting LLC Kimura Foundry America Inc King Tester Corp Kirsh Foundry Inc Kloster Foundry Products Knoebel & Associates Kodiak Group Kohler Co Kurtz Bros Inc Kurtz North America Kuttner LLC

L

L A Aluminum Casting Corp Laempe + Reich Corp Lakeshore Sand Co Larpen Metallurgical Service Latrobe Foundry Machine & Supply Co Lebanon Tool Co Inc. LeClaire Manufacturing Co LECO Corporation Lee Brass Co Lemfco Inc LeSueur Incorporated Lethbridge Iron Works Co Ltd Liberty Casting Co LLC Liberty Pattern Company Liberty Technology Co LLC Ligon Industries LLC Lindberg/MPH Littlestown Foundry Inc Lodge Mfg Co Lodi Iron Works Inc Louis Meskan Foundry Inc Lou-Rich Inc

Μ

MacKenzie Castings LLC Magaldi Technologies LLC - Atlanta Magaldi Technologies LLC - Salerno MAGMA Foundry Technologies Inc -Schaumburg Magneco/Metrel Inc - Addison Manlev Bros of Indiana Inc -Troy Grove Marcellus Metalcasters Inc -Marcellus Martin Engineering - Neponset McConway & Torley LLC - Pittsburgh McHenry Brass Inc - Mc Henry McWane Inc - Anniston McWane Inc - Birmingham McWane Inc - Coshocton McWane Inc - Elmira McWane Inc - Oakland McWane Inc - Oskaloosa McWane Inc - Phillipsburg McWane Inc - Provo McWane Inc - Ste Croix McWane Inc - Tyler Meloon Foundries LLC Mercer Forge Corporation Meritor Inc - Fletcher Meritor Inc - Franklin Meritor Inc - Troy Metal Technologies Inc Metal Technologies Ravenna Ductile Iron Plant Metal Technologies Three Rivers Gray Iron Plant MetalTek International - Chattanooga MetalTek International - Pevely MetalTek International - Watertown MetalTek International - Waukesha MIA Manufacturing Inc Michigan Pneumatic Tool Inc Michigan Wheel Marine Mid City Foundry Co - Grafton Mid City Foundry Co - Milwaukee Midland Manufacturing Co Midvale Industries Inc - Montgomery Midvale Industries Inc - Saint Louis Midvale Industries Inc - Tulsa Midwest Manufacturing & Logistics

Miller and Company Minerals Technologies Modern Equipment Co LLC Monett Metals Inc Morgan AM&T Morgan Molten Metal Systems Morris Bean & Co Mossner MPM Infosoft Pvt Ltd Mueller Canada Mueller Co - Albertville Mueller Co - Chattanooga Mueller Co - Decatur Multi-Cast LLC

Ν

Naval Foundry & Propeller Center Neenah Foundry Co Neptune Technology Group Inc Newport News Shipbuilding Non-Ferrous Cast Alloys Inc North Star Products North Vernon Industry Corp Northern Foundry LLC Northern Iron & Machine Northfield Manufacturing Inc NovaCast Solutions USA Inc NovaCast Systems AB - Goteborg NovaCast Systems AB - Ronneby

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O'Fallon Casting O'Hare Foundry Corp Oil City Iron Works Inc Olson Aluminum Castings Osco Industries Inc - Jackson Osco Industries Inc - Portsmouth Oshkosh Corporation

Ρ

P&W Foundry Inc Pacific Alloy Casting Co Inc Palisades Holdings Inc Palmer Engineered Products Palmer Foundry Inc Palmer Maus North America Corp Palmer Mfg & Supply Inc Pangborn Corp - Birmingham Pangborn Corp - Fairburn Peerless Metal Powders & Abrasive Perfect Patterns Inc. Perkins Engine Co Ltd Perma-Cast Co Peter E Macler Assoc PLLC Pickering Metal Casting LLC Pier Foundry & Pattern Shop **Pillar Induction** Plymouth Foundry Inc Poitras Foundry Ltd Porter Warner Industries Inc -Arlinaton Porter Warner Industries Inc -Birmingham Porter Warner Industries Inc -Chattanooga Porter Warner Industries Inc -Compton Porter Warner Industries Inc - Houston Porter Warner Industries Inc - Oakland Porter Warner Industries Inc - Phoenix Porter Warner Industries Inc -Richburg Porter Warner Industries Inc - Tulsa Powercast Mfg Inc Precision Enterprises Inc/Duro Cast Inc Precision Rail and Mfg Inc Premier Aluminum LLC PRL Industries Inc. Product Development & Analysis LLC Production Pattern & Foundry Co ProfitGuard LLC Progress Rail, a Caterpillar Company Prototype Casting Inc

<u>Q</u>

Quality Castings Co

R

Rassini Frenos SA de CV - Plymouth Rassini Frenos SA de CV -San Martin Texmelucan REFCOTEC Inc - Orrville Regal Cast Inc - Lebanon Renaissance Manufacturing Group -Waukesha LLC Resource Recovery Corp Rheocast Co Rice Industries Inc. **Richmond Industries Inc** Rimrock Corp Rio Tinto Alcan - Independence Rio Tinto Alcan - Jonguiere Rio Tinto Iron & Titanium Inc -Montreal Rio Tinto Iron & Titanium Inc -Sorel-Tracy Rio Tinto Iron & Titanium Inc -South Jordan **RJ Lee Group Inc** Roberts Sinto Corp Roberts Sinto de Mexico Rochester Metal Products Corp -Muncie Rochester Metal Products Corp -Rochester Rock Island Arsenal Joint Mfg & Tech Cntr (RIA-JMTC) Rockford Foundries Inc Rocky Mount Engine Plant Rolls Royce Marine North America Roloff Manufacturing Corp Roman Manufacturing/Quality Brass Ross Aluminum Castings LLC

<u>S</u>

Sandmold Systems Inc Sandusky International Inc Schaefer Furnaces Inc Scott Sales Co Seabee Cast Steel Foundry Seaport Mold & Casting Corp Selee Corporation Seneca Foundry Inc Shandong Jingang New Materials Co Ltd - Houston Shandong Jingang New Materials Co Ltd - Zouping Shipston Aluminum Technologies Inc Simpson Technologies Corp SinterCast Inc - Naperville

SinterCast Ltd - Sunninghill Berkshire Sintex Minerals & Services Inc Sipi Metals Corp Skat-Trak Inc Sloan Valve Co - Augusta Sloan Valve Co - Franklin Park Smith & Richardson Mfg Inc Smith Foundry Co Snam Alloys Pvt Ltd Solar Turbines Inc. Solex Thermal Science Inc solidThinking Inc Sotrem-Maltech Southeastern Fdry Products & Fdry Coatings Inc Southland Metals Inc - Maumelle Southland Metals Inc - Mishawaka Southland Metals Inc - Pryor Southland Metals Inc - Roswell Southland Metals Inc - Tomball Southwest Steel Casting Co SP Foundry Specialty Castings LLC Spectro Analytical Instruments Spring City Electrical Mfg Co St Louis Precision Casting Co St Marys Foundry Inc St Paul Foundry Stahl Specialty Co - Kingsville Stahl Specialty Co - Warrensburg Standard Alloys & Manufacturing Star Pipe Products Strato Inc StrikoWestofen Superior Aluminum Castings Inc Superior Graphite Co Supreme Cores Alabama Supreme Cores of The Carolinas Inc Swerea SWECAST Synchro ERP Ltd - Austin Synchro ERP Ltd - London SYSCON Sensors

<u>T</u>___

T H Mfg Co Tampa Brass & Aluminum Corp Taylor Foundry Co TB Wood's Inc **TDJ Group Inc** TechniSand Inc. Tennetek Inc **Textron Defense Systems** Textron Inc The AWC Company - Courtice The AWC Company - Romeo The Federal Metal Co The HILL and GRIFFITH Co -Cincinnati The HILL and GRIFFITH Co -Indianapolis The Wasmer Company LLC Tinker Omega Mfg LLC Tonkawa Foundry Inc **Torrance Casting Inc** Toscelik Granul Sanavi AS Townley Foundry & Machine TPI Arcade Inc - Arcade TPI Arcade Inc - Harmony TRC Companies Inc - Ann Arbor TRC Companies Inc - Brookfield TRC Companies Inc - Grand Ledge TRC Companies Inc - Grand Rapids TRC Companies Inc - Greenville TRC Companies Inc - Nashville TRC Environmental Corp - Cleveland TRC Environmental Corp - Madison Tromley Industrial Holdings Inc Tyco Fire & Building Products Tyler Pipe Co

U

U S Foundry & Mfg Co - Atlanta U S Foundry & Mfg Co - Medley U S Pipe & Foundry Co - Bessemer U S Pipe & Foundry Co -Council Bluffs U S Pipe & Foundry Co - Hoover U S Pipe & Foundry Co - Lisle U S Pipe & Foundry Co - Lynchburg U S Pipe & Foundry Co - Union City Ultraseal America Inc Unicast Co Unimin Corp - Brentwood Unimin Corp - Crystal City Unimin Corp - Huntingburg Unimin Corp - Mansfield Unimin Corp - Millville Unimin Corp - Milwaukee Unimin Corp - New Canaan Unimin Corp - Ottawa Unimin Corp - Pittsburgh Unimin Corp - Portage Unimin Corp - Rocklin Unimin Corp - Tuscaloosa United Brass Works Inc - Erie United Brass Works Inc - Randleman United Western Supply Co - Portland United Western Supply Co - Seattle Universal Electric Foundry Inc Urick Ductile Solutions Urschel Laboratories Inc **US Aluminum Castings**

V

Van Hydraulics Inc Verichek Technical Services Inc Vermont Castings Versevo Inc Victaulic Co of America - Alburtis Victaulic Co of America - Faston Victaulic Co of America - Leland Victaulic Co of Canada Victaulic De Mexico S de RL de CV Victaulic Technical Center Viking Pump Viking Technologies Virginia Industries Inc Viridis3D LLC Voestalpine Nortrak Inc Voxeljet AG Voxeljet America Inc Voxeljet China Co Ltd Vulcan Engineering Co Inc -Birmingham Vulcan Engineering Co Inc - Helena

W

Ward Corporation Ward Heat Treating Ward Manufacturing LLC Washburn Iron Works Inc Washington Mills Waterous Company Watry Industries LLC Waupaca Foundry Inc - Etowah Waupaca Foundry Inc - Marinette Waupaca Foundry Inc - Tell City Waupaca Foundry Inc - Tioga Waupaca Foundry Inc - Waupaca Wear-Tek Weatherly Casting & Machine Co Weaver Materiel Service Inc Webster Industries Inc Weil McLain Weir Pump and Valve Solutions, Inc West Salisbury Fdry & Machine Co Western Foundries Inc. Wexford Sand Co WGB Industries Inc. WGS Global Services LLC - Flint WGS Global Services LLC - Tell City Wheelabrator Group - Burlington Wheelabrator Group - Lagrange Wheelabrator Group - Waukesha Whibco Inc William Goetz and Associates Winnebago Foundry Inc Wirco Inc - Avilla Wirco Inc - Champaign Wisconsin Aluminum Foundry Co Wisconsin Oven Corporation Woodland/Alloy Casting Inc

Y

Yamaha Marine Precision Propellers Inc YXLON



AFS and the Institute Upcoming Events

Upcoming Conferences

May 1 - 2 Practical Cupola Operations Workshop Comfort Suites Foxfire I Waupaca, WI

May 8 - 9 AFS Stormwater Seminar Crowne Plaza Columbus Downtown I Columbus, OH

May 15 - 16 AFS Government Affairs Fly-In Hyatt Regency Washington on Capitol Hill I Washington, D.C.

Aug. 13 - 14

AFS Volunteer Training Conference AFS Headquarters I Schaumburg, IL

Aug. 20 - 21 AFS Cast Iron Inoculation Conference Sheraton Louisville Riverside Hotel I Louisville, KY

Sept. 10 - 13 Additive Manufacturing for Metalcasting Conference Louisville Marriott Downtown I Louisville, KY

Sept. 16 - 18 AFS Foundry Leadership Conference Omni Amelia Island Plantation I Amelia Island, FL

Oct. 7 - 8 AFS Advanced Air Seminar Cleveland Marriott East I Warrensville Heights, OH

Oct. 9 - 11 AFS 30th Environmental, Health & Safety Conference Cleveland Marriott East I Warrensville Heights, OH

Oct. 10 Advanced Cupola Concepts Seminar

McWane Ductile and Coshocton Village Inn and Suites I Coshocton, OH

Nov. 5-7 AFS Aluminum Casting Conference Crowne Plaza Knoxville I Knoxville. TN

Dec. 11 - 12 AFS Marketing Conference Westin O'Hare, Rosemont, IL

Apr. 27-30, 2019

CastExpo '19

Georgia World Congress Center, Atlanta, GA

Upcoming Courses

Apr. 17 - 18

Casting Defect Analysis Hampton Inn & Suites Warwick/Airport I Warwick, RI

Promoted by the New England AFS Chapter. In order to determine the true root cause of a casting defect and select the proper corrective action, a systematic evaluation method must be applied.

List Price: \$1,350.00 | Member Price: \$1,150.00

Course Instructors:

Shelly Dutler, AFS Institute Patrick Kluesner, Consultant

Apr. 24 - 25

Gating & Riser Design 101

Southern Oklahoma Technology Center I Ardmore, OK

Casting quality and yield are directly impacted by gating design. This course guides participants through the basic functions of gating and risers to provide clean, sound and functional castings.

List Price: \$1,250.00 | Member Price: \$1,050.00

Course Instructors:

Ed Marczyszak, Burndy Corp Shelly Dutler, AFS Institute

May 2 - 3

Casting Defect Analysis

American Foundry Society I Schaumburg, IL

Participants will become proficient in applying a 10-step procedure that will enable them to analyze and reduce metalcasting defects by correctly identifying defects, root causes, and determining corrective action.

List Price: \$1,350.00 | Member Price: \$1,150.00

Course Instructors:

Patrick Kluesner, Consultant Shelly Dutler, AFS Institute

May 8 - 10 Foundry Process Improvement

Hilton Garden Inn Chattanooga Downtown I Chattanooga, TN

This 2.5-day course provides foundry personnel with disciplined problem solving techniques by emphasizing tools to better understand process data and performance with unique examples and case studies draw from foundry settings.

List Price: \$1,750.00 | Member Price: \$1,550.00 Course Instructors:

Walter Evans, Process Improvement Consultant

May 16 - 17

Design & Optimization for 3-D Sand Printing

UNI Additive Manufacturing Center I Waterloo, IA

This course focuses on designing castings for the 3-D sand printing process, as well as optimizing existing designs to take advantage of the unique capabilities afforded. Topics covered include the advantages and limitations to the process. List Price: \$1,350.00 | Member Price: \$1,150.00

Course Instructors:

Brandon Lamoncha, Humtown Products Jerry Thiel, University of Northern Iowa

June 6 - 7 Casting Supplier Auditing

Hampton Inn & Suites I St. Paul, MN

This course will review the methods for effectively performing supply chain audits of metalcasting facilities. List Price: \$1.450.00 | Member Price: \$1.250.00

Course Instructors:

Walter Evans, Consultant Jim White, Consultant

June 12 - 13 Gating & Riser Design 101

American Foundry Society I Schaumburg, IL

Casting quality and yield are directly impacted by gating design. This course guides participants through the basic functions of gating and risers to provide clean, sound and functional castings. List Price: \$1.250.00 | Member Price: \$1.050.00

Course Instructors:

Dr. Sudesh Kannan, Consultant Shelly Dutler, AFS Institute

June 20

Identifying the Correct Casting Defect/Casting Material Properties

Hampton Inn and Suites Downtown St. Paul I Saint Paul, MN Identifying the Correct Casting Defect provides participants with a basic overview of the casting defect analysis procedure. Casting Material Properties provides an in-depth discussion on expected performance of a casting. List Price: \$500.00 I Member Price: \$425.00

Course Instructors:

Shelly Dutler, AFS Institute Bo Wallace, AFS Institute

July 17 - 18 Introduction to Metalcasting

American Foundry Society I Schaumburg, IL

This course introduces the process of metalcasting. It provides a broad picture of what happens in a casting production facility, while illustrating the technology, variables and complexity involved in producing a casting. List Price: \$1,250.00 | Member Price: \$1,050.00

Course Instructors:

Shelly Dutler, AFS Institute Juliette Garesche, AFS Bo Wallace, AFS Institute Shannon Wetzel, AFS

July 31 - Aug. 1

Gating & Riser Design 201

American Foundry Society I Schaumburg, IL

This course is a continuation of Gating & Riser Design 101 with an emphasis on application of sands, chill, sleeves, other thermal control properties, fluid flow principles and filtration.

List Price: \$1,350.00 | Member Price: \$1,150.00

Course Instructors:

Dr. Sudesh Kannan, Consultant Patrick Kluesner, Consultant

Sept. 19 - 20

Casting Cost Estimating

American Foundry Society I Schaumburg, IL

Cost estimating is a critical factor in ensuring a manufacturing company continues to acquire customers and to be profitable. List Price: \$1.350.00 | Member Price: \$1,150.00

Course Instructors:

Dr. Sudesh Kannan, Consultant Doug Dallmer, CMS Associates Inc.

Oct. 1 Virtual Casting Process

American Foundry Society | Schaumburg, IL

This course provides participants with a basic overview of the metalcasting process from quoting through shipping. List Price: \$500.00 | Member Price: \$425.00

Course Instructors:

Bo Wallace, AFS Institute Shelly Dutler, AFS Institute

Oct. 2

Iron 101

American Foundry Society I Schaumburg, IL

This is an introductory course covering the major cast iron families. List Price: \$1,000.00 | Member Price: \$800.00

Course Instructors:

Walter Evans, Consultant

Oct. 3 - 4

Casting Defect Analysis

American Foundry Society | Schaumburg, IL

In order to determine the true root cause of a casting defect and select the proper corrective action, a systematic evaluation method must be applied. List Price: \$1,350.00 | Member Price: \$1,150.00

Course Instructors:

Patrick Kluesner, Consultant Walter Evans, Consultant

Oct. 23

Virtual Casting Process

American Foundry Society I Schaumburg, IL

This course provides participants with a basic overview of the metalcasting process. Students will trace the path of a casting from quoting through shipping. List Price: \$500.00 I Member Price: \$425.00

Course Instructors:

Bo Wallace, AFS Institute Shelly Dutler, AFS Institute

Oct. 24 Aluminum 101

American Foundry Society | Schaumburg, IL

This course covers the characteristics and properties of aluminum, alloying elements and their general applications and considerations for working with aluminum cast parts.

List Price: \$1,000.00 | Member Price: \$800.00

Course Instructor:

David Palmer, BRP US Inc.

Dec. 4 Coldbox Process 101

American Foundry Society | Schaumburg, IL

This course is an introduction to the coldbox coremaking process. List Price: \$1,000.00 | Member Price: \$800.00

Course Instructor:

Doug DeSmit, ASK Chemicals

Dec. 5

Green Sand Molding 101

American Foundry Society, Schaumburg, IL

This course is an introduction to the green sand molding process used within a metalcasting facility. List Price: \$1,000.00 I Member Price: \$800.00 **Course Instructors:** *Bo Wallace, AFS Institut*e

Dec. 6

Nobake Molding & Coremaking 101

American Foundry Society, Schaumburg, IL

This course provides participants with a basic foundation of the nobake molding and coremaking process used within a foundry. List Price: \$1,000.00 | Member Price: \$800.00

Course Instructors:

John Roth, Prairie Industrial Products

Training for Excellence in Metalcasting



e-Learning Solutions Booth 517

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AFS	April 3-5, 2018 Fort Worth, Texas
METALCAST	INGCONGRESS

Congress at a Glance

Fort Worth Convention Center 1201 Houston St. Fort Worth, TX 76102

Monday, April 2	
4 – 6 p.m.	Registration

Wednesday, April 4	
7 a.m. – 5 p.m.	Registration
7 – 8 a.m.	Author Chair Breakfast
7:30 <i>–</i> 9 a.m.	Women in Metalcasting Breakfast (Invite only)
8 a.m. – 4:45 p.m.	Technical & Management Sessions
9 a.m. <i>–</i> 6 p.m.	Exhibit Hall Open
10:30 <i>–</i> 11:30 a.m.	Hoyt Memorial Lecture - Dan Oman
11:30 a.m. – 1:30 p.m.	Division Recognition Luncheon - Ticket Required
1:30 – 4:45 p.m.	Institute Course
2 – 4 p.m.	Future Leaders in Metalcasting Session (Invite only)
4:30 – 6 p.m.	Reception with Exhibitors in the Exhibit Hall
6:30 – 9:30 p.m.	Alumni Dinner <i>(Invite only)</i>

Tuesday, April 3	
7 a.m. – 5 p.m.	Registration
7 – 8 a.m.	Author Chair Breakfast
8 a.m. – 4:45 p.m.	Technical & Management Sessions
9 a.m. – 5 p.m.	Exhibitor Set-Up
10:30 – 11:30 a.m.	Keynote Speaker - Jean Bye
11:30 a.m. – 1 p.m.	Copper Division Luncheon - Ticket Required
1:30 – 4:45 p.m.	Institute Course
6 – 7 p.m.	Annual Banquet Reception
7 – 10 p.m.	Annual Banquet - Ticket Required

Thursday, April 5	
7 a.m. <i>–</i> 12:30 p.m.	Registration
7 – 8 a.m.	Author Chair Breakfast
8 – 10:15 a.m.	Technical & Management Sessions
8 <i>–</i> 10:15 a.m.	Institute Course
9 a.m. – Noon	Exhibit Hall Open
9:30 <i>–</i> 10:30 a.m.	Continental Breakfast - In Exhibit Hall
10:30 <i>–</i> 11:30 a.m.	Keynote Speaker - Stephen Moore
11:30 a.m. – 1:30 p.m.	President's Luncheon & Annual Business Meeting - <i>Ticket Required</i>
Noon – 5 p.m.	Exhibit Hall – Tear Down
2:30 – 5 p.m.	Plant Tour - Midland Manufacturing Co <i>Ticket</i> Required





