

WISCONSIN REGIONAL CONFERENCE & EXPO

PRESENTED BY THE WISCONSIN, STATELINE, AND NORTHEASTERN WISCONSIN AFS CHAPTERS



"Solidify Your Casting Future"

*The 81st Annual Wisconsin Regional
Foundry Conference & Exposition
Potawatomi Hotel & Casino
February 13-15, 2019*

The AFS Wisconsin Chapter is dedicated to serving its membership through educational, professional, and social activities designed to strengthen and promote the local metalcasting industry today and for the future.

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A Message From Mike Kamin, The Conference Chair



As we look back on 2018, most would agree our industry faced some interesting challenges. With new environmental regulations, booming business conditions, international business challenges and staffing constraints – our beloved metalcasting industry was forced to embrace change and work within the new constraints set forth.

I am humbled by our collective industry efforts to work at continuing our metalcasting heritage and our willingness to help each other. That collaboration reminds me of how talented, respectful and resilient our metal casting industry is.

Our industries continuation of new technologies in materials, process, products and equipment is nothing short of amazing.

I welcome and thank each of you for supporting the AFS mission and metal casting heritage. We are excited to see all of you at the 81st annual AFS Wisconsin Regional Foundry and Conference Exposition.

I hope you find the technical program, venue, speakers and overall event valuable and rewarding. I want to send a heartfelt 'thanks' to the volunteers and supporters who help make this event possible. Without the support and volunteer efforts of metal casting facilities, suppliers and supporting groups, this event wouldn't be possible.

I'm proud to be part of such a tight knit family of metalcasting talent and look forward to 2019 and beyond!

Respectfully,
Mike Kamin
2018/19 AFS Wisconsin Chapter Vice President and Regional Chair

Regional Planning Committee Members:

Regional Chair: Mike Kamin, *Carpenter Brothers, Inc.*

Regional Co-Chair: Jeff Cieplewski, *Weaver Materiel Service Inc.*

Director: Alex Rasch, *Castalloy*

Wayne Carr, *Olson Aluminum Castings*

Jeff Cook, *Eagle Group*

Mike Cortez, *Precision Pattern Co., Inc.*

George Forish, Jr., *Precision Pattern Co., Inc.*

Nick Gerrits, *Carpenter Brothers, Inc.*

Dave Jablonski, *Retired, Badger Mining Company*

Sara Joyce, *Badger Mining Company*

Eric Lovejoy, *Joy-Mark, Inc.*

Sean McGough, *Stateline Foundries*

Doug Michor, *IBCC Industries, Inc.*

Chad Moder, *DePere Foundry*

Rob Peaslee, *Manitowoc Grey Iron Foundry*

Robert Puissant, *We Enable, LLC*

Adel Rahman, *Kuttner, North America*

Doug Sawyer, *Universal Welding*

Regs Scheeler, *Retired*

Scott Stiefvater, *ABP*

David Weiss, *ECK Industries*

Rick Yrigoyen, *United Erie, Inc.*



Thank you Regional Planning Committee Members!

A Message From Carey Chapman the Wisconsin Chapter President



As current President of the Wisconsin Chapter of the American Foundry Society, I welcome you all to the 81st annual Regional Conference. Last year's event allowed our chapter to award numerous scholarships to future metal casters. The opportunities in this industry are limitless for those willing to be engaged in this career.

Our chapter's conference continues to be the largest AFS regional in the United States. The Regional Planning Committee and chapter directors continue to modify and try new ideas in a measured way to build on the successes of recent years. The Casting Competition and academic involvement continues to grow, which I believe is the key to future sustainability in the industry and the American Foundry Society.

I am sure 2019 will prove to be unpredictable and challenging on many levels, however, what is predictable is the adaptive and competitive underpinnings of our industry that have allowed us to survive where other industries have not.

Much planning and thought goes into this event, with the goal of benefitting the foundry industry. Thank you to all those who have volunteered time from our chapter, as well as the Northeast and Stateline chapters. We are grateful for the tremendous supplier support and commitment, without them this event would not be possible.

Please take time to fill out questionnaires; your responses are helpful in the planning of future events. Thank you again for your attendance.

Sincerely,

A handwritten signature in black ink, appearing to read "Carey Chapman".

Carey Chapman
President – AFS Wisconsin Chapter
Regional Sales Manager – Covia Corporation

C'mon - Get Involved!"

Our chapter operates through the collective leadership and participation of active members, including the officers, board of directors and committee leaders and members. We have nearly 500 individual members of this great chapter, yet the number who actively participate in chapter operations is a fraction of that number. Why not get involved? Make a commitment and join a committee today! Are you skilled on the technical side? Do you have your finger on the pulse of the most pressing issues facing the foundry industry? Then get involved with one of the technical committees and have an influence on what gets presented at future monthly meetings or the next Regional Conference. Are you an ambassador for the metalcasting industry, full of enthusiasm about all things foundry? Do you like mentoring young people about our industry? Maybe you'd like to contribute to the outreach activities of the Education committee through the amazing Foundry-in-a-Box initiative. If so, please contact the Education Committee chair.

Do you enjoy the social or networking side of things? Perhaps you'd like to join the Membership committee or the committees that organize and run the Christmas Party, Golf Outing and Old Timers. Or maybe you just like being involved and would be happy to help out a little. All of the committees can use help. Pick the one that appeals to you and let somebody know you want to be included. Your chapter needs your energy and ideas. Why not join a committee today!

Meet Your Featured Kickoff & Keynote Speakers



Wednesday Kick-Off Speaker: 2:30 P.M. Expo Stage **AFS National President**



Jean Bye

President of the American Foundry Society

Bachelor and Masters Degrees in Business Administration

45 Years of experience in the metal casting industry

Jean has held responsibility in all areas of Dotson Iron Casting. Currently, Jean is the President and CEO. Jean has a passion for lean manufacturing, flow, efficiency and encourages an inclusive culture of engaged employees. Jean recognizes the importance of best practices and seizes every opportunity to visit metal casting operations around the world – continuing to learn from each visit.

Jean recently received the Manufacturing Leadership Council's award for outstanding achievement in collaborative innovation. She has served on the board of the Ductile Iron Society and American Foundry Society.

Thursday Keynote Speaker: 7:00 P.M. Dinner



John Wiesbrock

Executive VP– Sales, Marketing and Supply Chain Management, Waupaca Foundry, Inc.

TOPIC: “Increasing Your Companies Value Proposition”

John has over 30 years of manufacturing experience in both Foundry and Machining operations.

Wiesbrock started his career in manufacturing in 1986 and has held Senior Management positions in Operations, Sales and Marketing, and Supply Chain Management.

In 2002, Wiesbrock joined Waupaca Foundry. During his tenure he has held positions including John Deere Key Account Manager, Sales Manager, Director of Automotive Sales, Director of Off Highway Sales, and his current role as Executive Vice President.

In July of 2010 Wiesbrock developed Waupaca's Supply Chain Management Organization as the Director of Supply Chain Management, in July 2012; Wiesbrock was promoted to Vice President of Supply Chain Management and in 2014 was promoted to his current role as Executive Vice President.

Waupaca's Supply Chain Management Organization includes Procurement, Supplier Quality, Supplier Development, Logistics, New Product Introduction, and Customer Service / Order Fulfillment Processes.

AFS Wisconsin Regional 6th Annual Invitational Casting Competition



The Wisconsin Regional Conference is pleased to include the “6th Annual Invitational Casting Competition” as a regular event in the program for 2019.

The 81st Wisconsin Regional Foundry Conference is a great opportunity to promote education and build relationship between the academic and business communities. Teams of students from each of the invited AFS Student Chapters have worked together by designing, manufacturing and presenting castings which can be seen in the Expo Hall booths for the Invitational Casting Competition. These entries will be on display during the Conference exhibit hours. Please take the time to view and interact with the participating students.

This year, it is expected that the competition will be challenging as Michigan Tech, University of Northern Iowa, University of Wisconsin- Milwaukee, University of Wisconsin- Platteville, and Western Michigan University will be competing for the coveted first prize!

Judging is based on the benefits delivered to the customer, use of the casting process’ unique capabilities, quality and workmanship will be judged by industry experts. Awards will be presented at the Thursday Night Banquet, held in the Woodland Dreams Ballroom.

Please support the future workers of our great industry by stopping at the booths in the conference exhibit hall to view the student’s posters and finished castings.

2019 AFS WI Regional Casting Contest Judges:

- Frank Headington, AFS National – Neenah Foundry, Retired
- Greg Maskinis, AFS North East Wisconsin, Waupaca
- Dave Weiss, AFS North East Wisconsin, Eck Industries
- Dick Haun, AFS Stateline, Gunite
- Erik Johnson, AFS Wisconsin, Northern Stainless

Nick Gerrits
Invitational Casting Competition
Committee Chairperson



AWARDS

1st Place: \$2,500
2nd Place: \$1,000
3rd Place: \$500
Imagination Award: \$800

Thank You for Your Support

The AFS Wisconsin, Stateline, and Northeastern Wisconsin Chapters would like to thank the following schools for participating in our 6th Annual Invitational Casting Competition



The AFS Wisconsin Chapter, along with the AFS Northeastern Wisconsin Chapter and the AFS Stateline Chapter would like to thank Supreme Casting, Inc. and Precision Pattern Co., Inc. for casting, assembling, and finishing the award plaques. We also extend our appreciation to the Eckhart G. Grohmann Collection at the Milwaukee School of Engineering for supplying the Man at Work speaker-award books.



The AFS Wisconsin, Stateline, and Northeastern Wisconsin Chapters would like to thank the following companies for their donations & support of our 6th Annual Invitational Casting Competition



Mr. George Forish
in Support of Future Foundry Engineers



W Abrasives®



Thank You For Your Support!

Regional Conference Agenda & Information



Wednesday, February 13th, 2019

- Kickoff Presentation: 2:30 p.m.
- Featuring AFS National President, Jean Bye, (Event Center Stage)

- 10:30 a.m. - 6:00 p.m. Registration Open (Event Center Lobby)

- 2:00 p.m. - 6:00 p.m. EXPO Hours (Event Center)

- 2:30 p.m. Kickoff Speaker (Event Center - Main Stage)
 - Kickoff Featuring: Jean Bye, Dotson Iron Castings

- 3:00 - 6:00 p.m. Networking Reception* with Exhibitors (Event Center)

*Complimentary Beer (with valid ID), Appetizers, Cash Bar

SPECIAL THANK YOU TO OUR WEDNESDAY EXPO BEER SUPPORTERS:



Quality • Customer Service • Value

Regional Conference Agenda & Information



Thursday, February 14th, 2019

8:00 a.m. - 6:00 p.m.	Registration Open	(Event Center Lobby)
9:00 a.m. - 5:00 p.m.	EXPO Hours	(Event Center)
8:30 a.m. - 9:45 a.m.	<u>Early Morning Tech Sessions</u>	(Meeting Rooms)
10:30 a.m. - 11:45 a.m.	<u>Late Morning Tech Sessions</u>	(Meeting Rooms)
11:45 a.m. - 1:15 p.m.	Lunch in EXPO Lunch Ticket Required	
1:15 p.m. - 2:30 p.m.	<u>Afternoon Tech Sessions</u>	(Meeting Rooms)
2:00 p.m. - 4:00 p.m.	Invitational Casting Competition* *Complimentary Beer (with valid ID), Cash Bar	
4:00 p.m. - 5:00 p.m.	Job Fair/Networking Event	(Event Center - Main Stage)
5:00 p.m. - 6:00 p.m.	Networking Reception	(Woodland Lobby)
6:00 p.m. - 8:00 p.m.	Keynote Awards/Dinner Banquet Dinner Ticket Required	(Woodland Ballroom)
7:00 p.m.	Keynote Featuring: Mr. John Weisbrock Executive VP – Sales, Marketing and Supply Chain Waupaca Foundry, Inc.	

The AFS Wisconsin Chapter is dedicated to serving its membership through educational, professional, and social activities designed to strengthen and promote the local metalcasting industry today and for the future.

Conference Tech Session Schedule

Thursday, February 14, 2019



Time:

Session | Location

8:30 a.m. - 9:45 a.m.



PROGRESS ROOM

Topic: [Iron Conversions: Grey Iron \(GI\) to Ductile \(DI\) and Ductile to Grey - Considerations and Concerns](#)

Speaker: [Kevin Pilon - VP/Manager New Business Development & IT, Carpenter Brothers, Inc.](#)

Foundries pouring both GI and DI are constantly converting between the two. This discussion addresses some of the issues encountered and details what to watch for when changing over furnaces from one iron type to another.

Session Chair: *Tom Gaeding*

Session Co-Chair: *Dan Herbst*

8:30 a.m. - 9:45 a.m.



PROSPERITY ROOM

Topic: [Extending the Capabilities of Aluminum Castings](#)

Speaker: [David Weiss - VP Engineering/R&D, ECK Industries](#)

The development of aluminum alloys and processes continues to move at a rapid pace. Alloys that perform well at elevated temperatures are of particular interest, with many applications in the automotive world, including pistons and cylinder heads. This talk will review some of the standard approaches around improved precipitation hardened alloys along with some more novel solid solution strengthened and in-situ reinforced composite alloys. The performance can be further enhanced through unique heat treat approaches such as thermomagnetic processing.

Session Chair: *Sean McGough*

Session Co-Chair: *Mike Kamin*

8:30 a.m. - 9:45 a.m.



INSPIRE ROOM

Topic: [Foundry In A Box: Exposing others to the metalcasting/foundry industry!](#)

Speaker: [Regs Scheeler - Retired, AFS](#)

Learn more about how local groups are facilitating the FIAB platform to further educate and promote the metalcasting industry. See new and unique ways to get involved and continue to grow interest in our industry!

Session Chair: *George Forisch*

Session Co-Chair: *Jeff Cieplewski*

8:30 a.m. - 9:45 a.m.



CLARITY ROOM

Topic: [Environmental Compliance for today's Metalcasters: The past, present and future!](#)

Speaker: [Eric Emmett, P.E. - August Mack Environmental, Inc.](#)

August Mack will discuss various environmental topics associated with maintaining the environmental compliance at a foundry. Topics will include air permitting; MACT Compliance; Tier II and Form R reporting; storm water best management plans; spill prevention, control and countermeasure plans; and hazardous waste regulations. The talk will focus on the requirements of the regulations and commonly identified short falls in maintaining environmental compliance.

Session Chair: *Pat Baskfield*

Session Co-Chair: *Jesse Barron*

Conference Tech Session Schedule

Thursday, February 14, 2019



Time:

Session | Location

10:30 a.m. - 11:45 a.m.



PROGRESS ROOM

Topic: [The Future of Binder Jetted Aggregates](#)

Speaker: [Aaron Howard - Sales Engineering Manager, Voxeljet America](#)

2019 will mark the 30th anniversary of binder-jetting technology. From the earliest systems through corn starch, silica, acrylic and most recently metal; binder-jetting continues to proliferate into more materials. This robust technology – teamed with different binding systems – can quickly produce some of the most complex components that are tailored for the individual application. The next generation of aggregate binders (phenol & inorganic) seek to dispel the current alcohol, acid-based systems with cleaner and stronger solutions.

Session Chair: *Luke Czaplewski*

Session Co-Chair: *Carey Chapman*

10:30 a.m. - 11:45 a.m.



PROSPERITY ROOM

Topic: [Evolution from Ferritic 60-40-18 to SSSF Grades](#)

Speaker: [Cesar Braga - Aarowcast, Inc.](#)

Aarowcast has tested the influence of Silicon, Manganese and Nickel on the tensile strength and toughness of ferritic ductile iron, under different cooling rates, and showed that high toughness could be obtained with high Silicon, depending on the cooling rate in the mold. Later on, SSSF development showed some benefits to improve productivity, reducing restrictions like cooling time in the mold.

Session Chair: *John Martin*

Session Co-Chair: *Dan Herbst*

10:30 a.m. - 11:45 a.m.



INSPIRE ROOM

Topic: [Youth Apprenticeships - A better understanding of the benefits!](#)

Speaker: [Amy Phillips - WI Youth Apprenticeship Program Coordinator, WI DWD, Apprenticeship Standards Bureau and Kristin Holtz - Youth Apprenticeship Regional Coordinator, Employ Milwaukee, Career Plus YA Consortium](#)

This session will address the Department of Workforce Development's Youth Apprenticeship program and explain how this program helps to support the skill development of young people in high school. First, we will dispel the common myths held by employers that can make them reluctant to hire minors. Then we will discuss the legal aspects of hiring youth, specifically in foundries. We will also review employer testimony that will reveal the social benefits of bringing youth into the workplace. We will detail how the Youth Apprenticeship program combines individual high school career and technical education training with on the job learning in an effort to attract new talent and develop the skills of promising young people. How Youth Apprenticeship work translates to Registered Apprenticeship programs will also be highlighted. Finally, we will detail how employers can get connected with the program's local consortiums both within Milwaukee and across the state and learn how to begin utilizing this program as a piece that can support Wisconsin companies' talent development strategies.

Session Chair: *Dan Jason*

Session Co-Chair: *Regs Scheeler*

Conference Tech Session Schedule

Thursday, February 14, 2019



Session | Location

10:30 a.m. - 11:45 a.m.

CLARITY ROOM



Topic: [Guidelines for the performance of exhaust systems in a foundry silica exposure control program](#)

Speaker: [Robert C Scholz, P.E., CIH – Senior Project Manager and Ben Lemely, P.E. – Project Engineer, TRC Environmental Corporation](#)

After a brief summary of foundry ventilation system design principles, this presentation will focus on key elements of a foundry ventilation system operation and maintenance program, with emphasis on setting and monitoring performance standards for sustainable operation of those systems.

Session Chair: *Adel Rahman*

Session Co-Chair: *Rob Peaslee*

1:15 p.m. - 2:30 p.m.

PROGRESS ROOM



Topic: [Evaluating Alternative Green Sand Molding Media for use in the Foundry Industry](#)

Speaker: [Dr. Sam Ramrattan - Professor, Western Michigan University](#)

The presentation is based on an AFS Research Project “Alternative Granular Media for Green Sand Casting” conducted at Western Michigan University (WMU). An AFS Steering Committee identified seven commercially available foundry sands to be used in the study. One of the sands is a typical silica sand used in the foundry industry and it was identified as a control. Five sands were considered synthetic because the original media was heat processed to some degree and another was a natural mineral. The purpose of this study is to determine green properties and the durability of various foundry sands (granular media) in thermomechanical testing aimed at mimicking molding, melting, filling, shakeout and reclamation. Further, chemical analysis of the granular media was taken before and after elevated temperature exposure. Casting trials were conducted to observe surface finish and determine propensity for erosion defects. Results provide information regarding green properties and the durability of granular media that is beneficial to reclamation and/or the use of granular media for foundry processing.

Session Chair: *Bob Pussiant*

Session Co-Chair: *Mike Kamin*

1:15 p.m. - 2:30 p.m.

PROSPERITY ROOM



Topic: [Process and Data Automation for the Mid Sized Foundry](#)

Speaker: [Jim Lagrant - VP of Engineering, Palmer Foundry Advanced](#)

Jim will share his experiences of connecting to existing foundry equipment and using this process information. Collecting time-based data from non-automated equipment. Methods for upgrading manual processes to increase control and data collection. Automating the analysis of transactional data. Raising the flag to notify process owners when there's an issue, standardizing and automating data charting.

Session Chair: *Andy Ceretto*

Session Co-Chair: *George Forisch*

Regional Conference Schedule

Thursday, February 14, 2019



1:15 p.m. - 2:30 p.m.



INSPIRE ROOM

Topic: *Understanding registered Apprenticeships and how they can positively impact your business!*

Speaker: *Steve Vander Heyden, Dept. of Workforce Development/Bureau of Apprenticeship*

Steve will discuss the history of apprentice, benefits to employers for sponsoring an apprenticeship program, benefits of being an apprentice.

Session Chair: *Alan Kolstad*

Session Co-Chair: *Eric Lovejoy*

1:15 p.m. - 2:30 p.m.



CLARITY ROOM

Topic: *Quenching Aluminum for Residual Stress and Distortion Control*

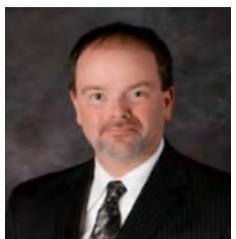
Speaker: *D. Scott MacKensie, PhD, FASM - Houghton International, Inc.*

This talk will focus on considerations important during heat treating of aluminum to control residual stress and distortion.

Session Chair: *Sean Marek*

Session Co-Chair: *Jeff Cieplewski*

7:00 p.m.



WOODLAND BALLROOM

Keynote Speaker: *John Wiesbrock, Executive VP- Sales, Marketing and Supply Chain Management, Waupaca Foundry, Inc.*

Topic: *"Increasing Your Companies Value Proposition"*

THANK YOU TO OUR THURSDAY NIGHT DINNER SUPPORTERS:



Regional Conference Agenda & Information



Friday, February 15th, 2019

7:45 a.m. - 9:45 a.m.	Hot Breakfast Buffet	(Serenity Room)
8:45 a.m. - 10:00 a.m.	<u>Early Morning Tech Sessions</u>	(Meeting Rooms)

THANK YOU TO OUR FRIDAY BREAKFAST SPONSORS:



Scholarship Information

George J. Barker Memorial Scholarship

George J. Barker Memorial Scholarships support graduate level educational efforts with direct student scholarships, in arts and sciences beneficial to the cast metal industry, particularly within the AFS Wisconsin Chapter membership area. Final evaluation and selection of grant recipients are made through an interview process conducted by the George J. Barker Memorial Research Foundation Interview and Evaluation Committee. This Committee conducts interviews of each candidate either in person, via video conference or via telephone. The Committee uses a cascade of criteria in considering applications. The maximum award could be as much as \$5,000 although many factors such as funds availability, the number of qualified applicants, the needs of the individual applicants and certain screening criteria all can affect the sizes of the individual awards. Applications for the George J. Barker Memorial Scholarship are made through FEF. Applications are due by December 15 and awards are announced at the Wisconsin Regional. For more information, please visit the Wisconsin Chapter website www.wisconsinafs.org or the FEF website www.fefinc.org. Recipient: Will be posted late January.

The FEF Past Presidents' Scholarship Fund

This FEF Past Presidents' Scholarship Fund is made possible through your directed support of this fund and through the ongoing support of the AFS Wisconsin Chapter. It is for undergraduate students (primarily FEF schools, but qualified students attending non-FEF schools will be considered. Application occurs to FEF through the key professor at each school. Scholarships are issued by the chapter's Past Presidents Committee, in cooperation with the FEF Executive Director. Applications are due by December 15 and awards are announced at the Wisconsin Regional.

Conference Information and Reminders

Exhibits

The Expo is located in the Event Center. Please visit with all exhibitors, and see the latest new products, learn about new technology, and gain insight into new services.

The Invitational Casting Competition booths are in the 500 aisle. The entrants are competing for significant prizes and bragging rights. Please engage with the students and learn about their castings and the processes used to produce them. These students are future leaders in the metalcasting industry.

The Wisconsin Chapter's Foundry-in-a-Box is located in the 500 aisle and is staffed by UW-Milwaukee students. Choose your pattern, make your mold, pour your tin, cool your casting, clean it and show it off to your colleagues! Donations collected at the Foundry-in-a-Box will go to UW-Milwaukee.

Conference Tech Session Schedule

Friday, February 15, 2019



Time:

Session | Location

8:45 a.m. - 10:00 a.m.



PROGRESS ROOM

Topic: [Latest Metalcasting R&D Efforts from UW Platteville](#)

Speaker: [Dr Kyle Metzloff - University of Wisconsin-Platteville](#)

Session Chair: *Jeff Cieplewski*

Session Co-Chair: *Carey Chapman*

8:45 a.m. - 10:00 a.m.



PROSPERITY ROOM

Topic: [Foundry Education in the Arts](#)

Speaker: [Teresa Lind- Sculpture Instructor, University of WI – Whitewater](#) Presentation on what we are teaching at UW Whitewater to make foundry accessible to students and the community.

Session Chair: *George Forish*

Session Co-Chair: *Mike Kamin*

8:45 a.m. - 10:00 a.m.



INSPIRE ROOM

Topic: [Casting process modernization resulting in energy savings](#)

Speaker: [Jim Furness Jr, Furness-Newburge Inc.](#)

A discussion of 3 technologies that show potential for significant energy/\$avings

- Waste green sand recycled back to cores and with clay reclamation
- Automatic thermal moisture analysis enhancing conventional green sand moisture control by intermittent auto-calibration
- Fresh approaches to molten metal practice

Session Chair: *Adel Rahman*

Session Co-Chair: *Mike Cortez*

8:45 a.m. - 10:00 a.m.



CLARITY ROOM

Topic: [The Use of Ceramic Molding Materials for Green Sand and Cold Box Applications](#)

Speaker: [Jerry Theil - Director, University of Northern Iowa Metal Casting Center](#)

The recent reduction in allowable respirable silica has caused concern for the casting industry especially the small to medium size foundry operations. Non-silica molding materials such as ceramics until recently were avoided in green sand operations because of their high cost. Using ceramic sands in a green sand operation requires a closed loop system where the ceramic sand is reclaimed and reused in the core room and as new sand makeup. The University of Northern Iowa conducted a study to determine the performance of ceramic sands in green sand and core room applications. It was necessary to reclaim the ceramic green sand for cold box cores as well as new sand dilutions. The presentation will provide the results of the research as well as recommendations for replacement of silica sand with ceramic molding media.

Session Chair: *Sean Marek*

Session Co-Chair: *Alan Kolstad*



Regional Conference

Thank you for your support!

The AFS Wisconsin Chapter, in cooperation with the AFS - Stateline and the Northeastern Wisconsin Chapters, would like to thank all of the speakers, exhibitors, attendees, and the Regional Planning Committee for making this event a great success!





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Visit booth #301 to learn more.

Contact: Jose Diez-Rico, District Manager

Cell: 856.912.1921 • Toll Free: 800.257.9527

jdiez-rico@inductotherm.com

www.inductotherm.com

The 81st Annual Wisconsin Regional Foundry Conference & Exposition

SAVE THE DATE

Mark Your Calendars for
Next Year's
**82nd WISCONSIN
REGIONAL!**

**February 12, 13, and 14,
2020**

Start thinking about 2020!





2019 “JOB FAIR” Limited Space



Join the AFS Wisconsin Chapter (AFS-WI) and Foundry Education Foundation (FEF) for a ‘Job Fair’ during the 2019 – AFS Wisconsin Regional which is being held February 13th, 14th and 15th, 2019 at the Potawatomi Hotel and Casino in Milwaukee, WI.

The Job Fair will be “FREE” and held in the exhibit hall from 4:00pm-5:00pm on Thursday, February 14th on a first come, first serve basis.

HOW DOES IT WORK:

- Metalcasters and suppliers will sign up through the AFS-WI Regional website and will have access to a high top table and 2 chairs which they can set up with their company information/logo and job openings (if they wish).
- Students and other professionals interested in networking/discussing job opportunities in the metalcasting industry will have the freedom to move about the networking tables for discussion and introduction during the allotted time.

EMPLOYERS:

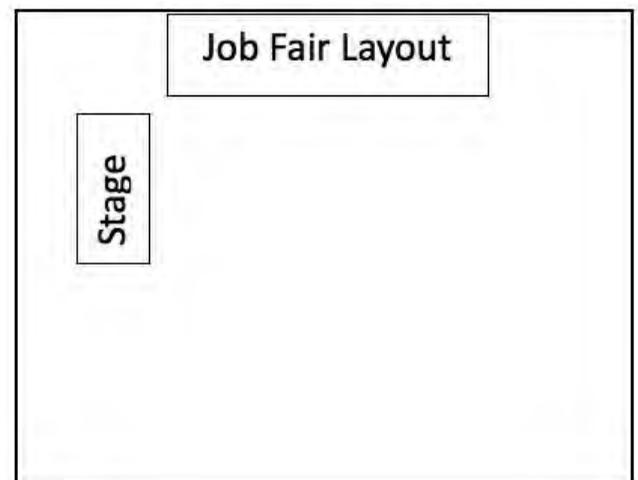
This Job Fair is a GREAT PLACE to be if you want to:

- Meet with prospective students interested in the metalcasting industry.
- Meet with seasoned professionals working in the metalcasting industry.
- Promote your company, job openings and future success.
- Try a new method for attracting new talent to your organization.

JOB SEEKERS & CASUAL NETWORKERS:

This Job Fair is a GREAT PLACE to be if:

- Actively looking for a new job
- Passively networking to see what opportunities are available
- Interested in getting acquainted with some of the best metalcasting companies in the Industry.
- Looking for an internship



Foundry-in-a-Box

The Wisconsin AFS Chapter has taken an assertive approach to promote the foundry industry to local schools and surrounding communities through the Foundry-in-a-Box program. Foundry-in-a-Box is an educational tool that consists of a small melter, flasks, patterns, reusable sand, related tools and safety equipment, and tin. It is highly portable and requires no special facilities in order to be used. Our Chapter's volunteers have been successful in educating all levels of interest including middle school, high school, and college students.

By introducing young people to metalcasting and educating them and their communities on the importance of the metalcasting industry, we will ensure more people choose metalcasting as a career path. Foundry-in-a-box also encourages communities to recognize and support the value of our industry.

When we cultivate new talent, the industry will continue to thrive and remain competitive in today's global manufacturing environment. AFS chapters, groups, teachers and even parents can draw upon this program to spotlight the metalcasting industry, and HAVE FUN WHILE DOING IT!

Our Chapter's Education Committee will continue to focus on the education, mentoring, and recruitment of young talent. If you are interested in becoming involved with this program, please inquire at the Registration Counter

Thank you,
Carey Chapman, Regional Sales Manager – Covia Corporation
AFS Wisconsin Chapter President
Education Committee Chair



EXPERIENCE Foundry in a Box first hand! We invite you to come and cast the 81st Wisconsin Regional Medallion!



We welcome donations to support the outreach efforts of Foundry-in-a-Box.

A special thanks to **Manitowoc Grey Iron Foundry** for maintaining the Foundry-in-a-Box equipment, and for making the pattern for this year's 81st Wisconsin Regional commemorative medallion.

ARE YOU A MEMBER OF ONE OF THE AFS CHAPTERS?

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- Career development through more than 100 AFS Institute courses and special AFS conferences furnish you with continuing education opportunities.
- Practical and timely information to keep you current on metalcasting technology, management and government affairs issues through Modern Casting.
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- In-depth information to keep you up-to-date, provided through current books, videotapes, transactions and research reports, discounted to AFS members only.
- Library services, providing all types of metalcasting information from the AFS Library through the Retrieval Service and Metalcasting Abstract Service, discounted to AFS members only.
- Improved operations through management and technical software programs available to members at significant discounts.
- Proactive leadership and industry representation in the political arena, providing a voice for all metalcasters through the AFS Washington Office.
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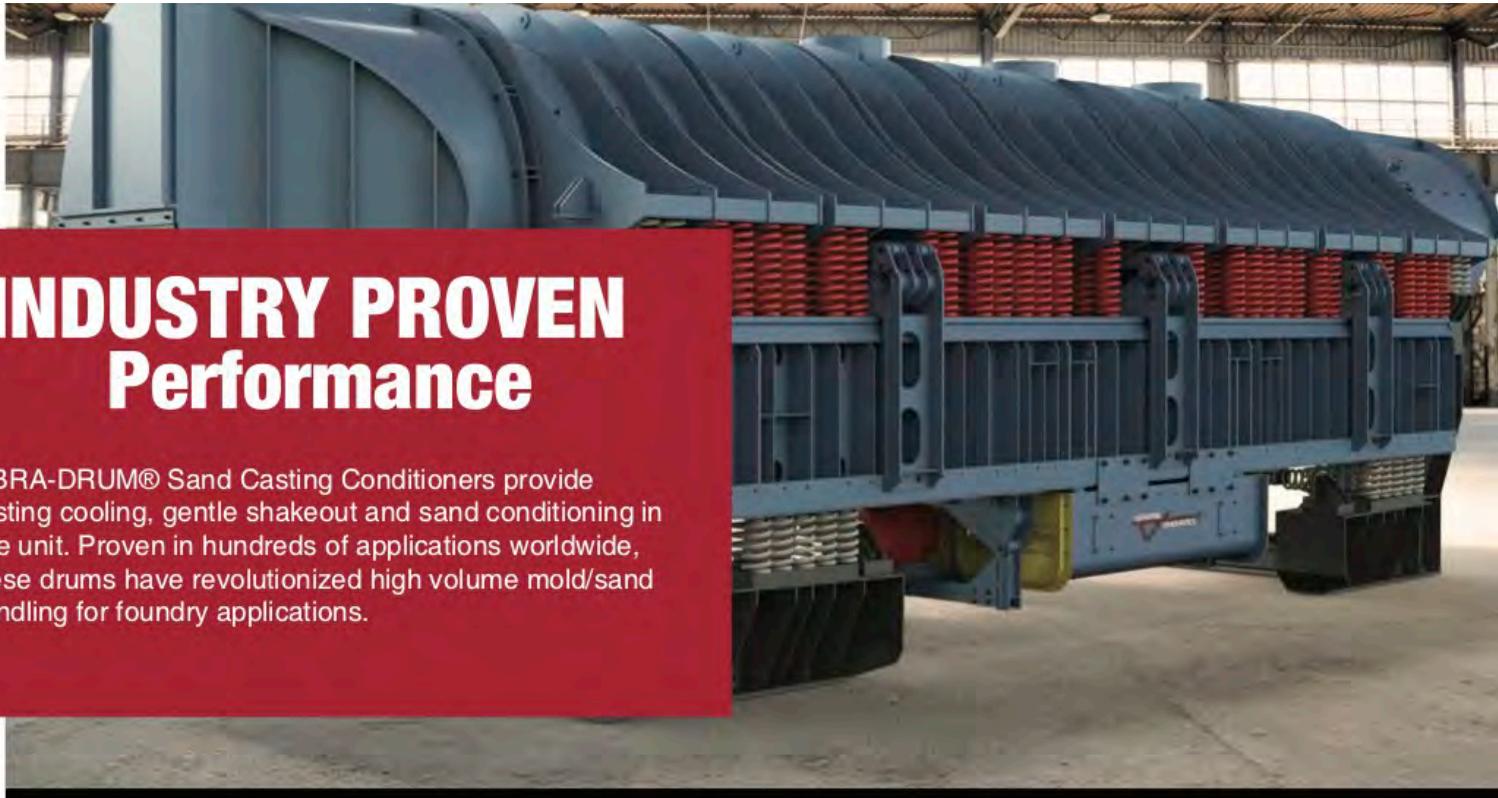
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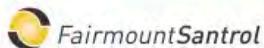
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2019 Tech Session Overview



Session Day	Session Time	Session Room	Topic	Speaker(s)
Thursday, February 14th	8:30 AM - 9:45 AM	Progress	Iron Conversions: Grey Iron to Ductile and Ductile to Grey - Considerations and Concerns	Kevin Pilon- Carpenter Brothers, Inc.
Thursday, February 14th	8:30 AM - 9:45 AM	Prosperity	Extending the Capabilities of Aluminum Castings	David Weiss - ECK Industries
Thursday, February 14th	8:30 AM - 9:45 AM	Inspire	Foundry In a Box: How and Why it's being used to help educate students about Metal casting!	Regs Scheeler
Thursday, February 14th	8:30 AM - 9:45 AM	Clarity	Environmental Compliance for today's Metal casters: The past, present and future!	Ed Callahan - August Mack
Thursday, February 14th	10:30 AM - 11:45 AM	Progress	The Future of Binder Jetted Aggregates	Aaron Howard - Voxeljet
Thursday, February 14th	10:30 AM - 11:45 AM	Prosperity	Evolution from Ferritic 60-40-18 to SSSF Grades	Cesar Braga - Aarowcast
Thursday, February 14th	10:30 AM - 11:45 AM	Inspire	Youth Apprenticeships - How employing high school students can ease workforce shortages!	Amy Phillips - State of WI / Kristin Holtz - Employ Milwaukee
Thursday, February 14th	10:30 AM - 11:45 AM	Clarity	Guidelines for the performance of exhaust systems in a foundry silica exposure control program	Robert C Scholz / Ben Lemley - TRC Solutions
Thursday, February 14th	1:15 PM - 2:30 PM	Progress	Evaluating Alternative Green Sand Molding Media for use in the Foundry Industry	Dr. Sam Ramrattan - Western MI University
Thursday, February 14th	1:15 PM - 2:30 PM	Prosperity	Process and Data Automation for the Mid Sized Foundry	Jim Lagrant - Palmer Foundry Advanced
Thursday, February 14th	1:15 PM - 2:30 PM	Inspire	Understanding Registered Apprenticeships and how they can positively impact your business!	Steve Vander Heyden - State of Wisconsin
Thursday, February 14th	1:15 PM - 2:30 PM	Clarity	Quenching Aluminum for Residual Stress and Distortion Control	D. Scott MacKenzie, PhD, FASM - Houghton International, Inc.
Friday, February 15th	8:45 AM - 10:00 AM	Progress	Latest Metal casting R&D Efforts from UW Platteville	Dr. Kyle Metzloff - UW-Platteville
Friday, February 15th	8:45 AM - 10:00 AM	Prosperity	Foundry education in the arts	Teresa Lind - UW Whitewater
Friday, February 15th	8:45 AM - 10:00 AM	Inspire	Casting process modernization resulting in energy savings	Jim Furness Jr, Furness-Newbauge
Friday, February 15th	8:45 AM - 10:00 AM	Clarity	The Use of Ceramic Molding Materials for Green Sand and Cold Box Applications	Jerry Theil - Director - University of Northern Iowa Metal Casting Center

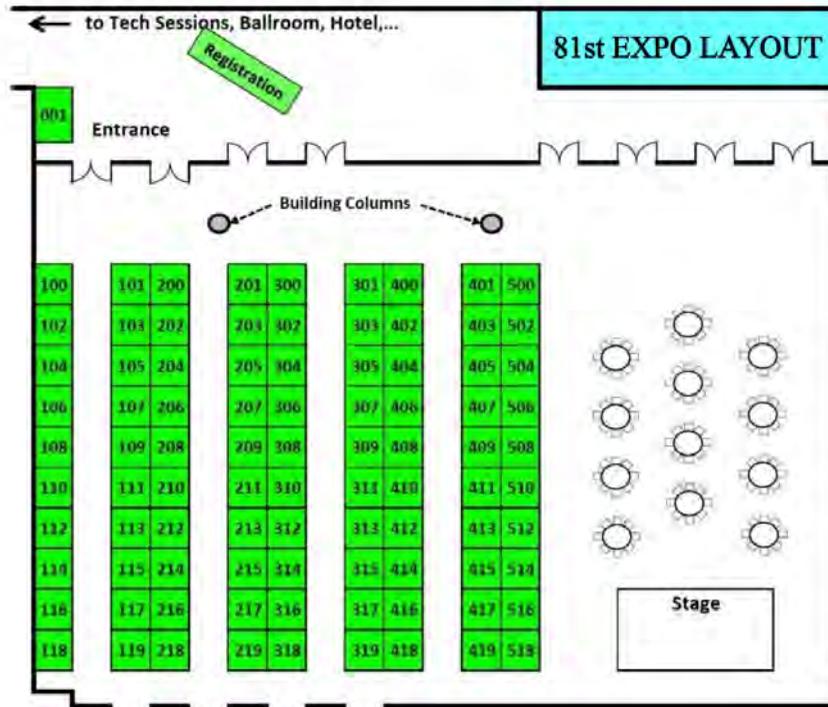


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2019 Exhibitor Map



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101	Carpenter Brothers	211	ThermTech	401	Badger Mining
102	Wheelabrator Group	212	DustMASTER Enviro Systems	402	Sinto America, Inc.
103	LECO Corporation	213	Foseco	403	ABP Induction
104	EMSCO Inc.	214	IRB Inc.	404	Ervin Industries
105	Universal Welding & Engineering	215	Hitachi Hi-Tech Analytical Science	405	HA International
106	Tromley Industrial Holdings	216	ProFound Alloys	406	LaempeReich
107	Maus North America	217	Advanced Tooling Inc.	407	General Kinematics
108	Free Flow Technologies	218	Bronco Blast	408	Into3D LLC
109	Imerys	219	Simpson Technologies Corp	409	Hastings Air Energy
110	I2rPower	300	American Colloid Company	410	Voxeljet
111	FPM Heat Treating	301	Inductotherm	411	Saveway USA Corp
112	Hoosier Pattern	302	B & L Information Systems	412	Midvale Industries
113	Global Precision Group	303	Perfect Patterns, Inc.	413	W Abrasives
114	AFS National	304	International Thermal Systems	414	Focus on Energy/WCMA
115	Great Lakes power Vac	305	Saint-Gobain	415	Guardian Software Systems
116	AFS National	306	New London Engineers	416	Flexovit Abrasives
117	KERAMIDA Inc.	307	Refractory & Insulation Supply	417	Guardian Software Systems
118	United Erie	308	Capital Refractories	418	ExOne
119	Wisconsin Oven Corporation	309	Carrier Vibrating Equipment	419	Finite Solutions
200	Joy-Mark, Inc.	310	Modern Equipment	500	FEF
201	Covia Corp	311	Hunter Foundry Machinery Corp.	502	Michigan Tech University
202	Schust Engineering	312	Sadoff Iron & Metal Co.	504	University of Northern Iowa
203	Blast Cleaning Technologies	313	Marshall W Nelson & Associates	506	UW-Milwaukee
204	Weaver Materiel Service, Inc.	314	Molten Metal Equipment Innovations	508	UW - Milwaukee
205	Versevo	315	NorthStar Products	510	UW-Platteville
206	ITOCHU International Inc	316	EMI	512	Western Michigan University
207	Engis Corporation	317	Pillar Induction	514	UW - Whitewater
208	SPECTRO Analytical Instruments	318	Humtown Products	516	UW - Madison
209	Thermtronix Corporation	319	Ajax-Tocco		