

Connections

NEWS AND INFORMATION FOR AFS MEMBERS AND CHAPTERS



AFS research: Advancing our industry

Not much from 1896 – the year AFS was founded – remains the same in metalcasting today. But despite all the things that have changed since that first Metalcasting Congress, one thing has been remarkably consistent. And ironically, it's the very thing that has transformed our industry so markedly: metalcasting research.

The first meeting of AFS encouraged foundry professionals to gather for the “presentation and discussion of papers on interesting subjects.” Among those interesting subjects from the early days of AFS? Annealing malleable cast iron (“We know that considerable carbon oxide escapes from the pots during annealing, and that both ferric and ferrous oxides are present in the packing”), the future of pig iron (“It is well to remember that even in pig iron, bigness is not everything”), and recent advancements in pipe founding (“Until about 1851, all pipe were cast horizontally, or on an angle of about 10 degrees, the mold being rammed up in green sand in a two-part flask. The core was usually made by pressing green sand on a hollow bar

which was revolved on its axis, a core board being used to bring it to the proper size.”)

Today's research is more advanced, but it builds on the ingenious discoveries of past researchers. AFS continues this legacy by funding innovative projects across all alloys and processes, under the direction of the AFS Research Board and the technical committees which develop them.

Currently, AFS is directly funding 15 active projects in various stages of development:

Determining the Effect of Boron in Gray Iron

Principal Investigators: Dr. Laura Bartlett and Dr. Simon Lekakh, Missouri Univ. of Science & Technology

Division: Cast Iron, Steering Committee Chair: Greg Miskinis, Waupaca Foundry (retired)

Effect of Ceramic Sand on Cast Iron Mechanical Properties

Principal Investigator: Dr. Scott Giese, Univ. of Northern Iowa

Division: Cast Iron

Steering Committee Chair: Brandon Renau, Caterpillar

PVD Coatings to Aid Release for Permanent Mold Castings

Principal Investigator: Dr. Stephen Midson, Colorado School of Mines

Division: Aluminum & Light Metals

Steering Committee Chair: Randy Oehrlein,

Carley Foundry Inc.

Lost Foam Casting Molds Produced Using Additive Manufacturing

Principal Investigator: Marshall Miller, Tesseract4D

Divisions: Lost Foam and Additive

Steering Committee Chair: Jeff Prickett, Metals Alloys & Refractories

Lost Foam Casting Molds Produced Using Polymer FDM & SLA Additive Manufacturing

Principal Investigator: Marshall Miller, Tesseract4D

Divisions: Lost Foam and Additive

Steering Committee Chair: Jeff Prickett, Metals Alloys & Refractories

Dimensional Tolerance Assessment Using 3D-Printed Sand Casting Process

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Casting Connection



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Mark your calendar for an exciting 2023

With 2022 drawing to a close, it's time to focus on the new year. The American Foundry Society and our members have an exciting year ahead planned, and we hope you will make plans to join us in AFS programs.

January. In the first month of the new year, AFS chapters and student chapters will resume meeting, delivering valuable networking and programs at the local level. AFS Institute courses, Members Only Webinars, as well as technical and management committee meetings will also reconvene.

In Washington, AFS will deliver its 2023 Policy Agenda to key policymakers. The Board of Directors will hold its winter meeting in Phoenix. AFS Corporate Members will receive the semi-annual Metalcasting Forecast and Trends to support their business planning.

February. The popular Wisconsin Regional will run Feb. 15-17 in Milwaukee. Then on February 27-28 in Charlotte, the Cast Iron Production Conference, a can't-miss event for ferrous foundries, suppliers, and end-users, will be one of the year's highlights.

March. On March 21-23, AFS will present Introduction to Foundry Environmental Compliance in Schaumburg, IL. On those same dates, the annual Southeast Regional will be presented in Chattanooga. March 16 will be the deadline for student submissions in the IJMC-FEF Stu-

dent Research Competition. *Casting Source* magazine will publish the Metalcasters' Prospectus, a chance for foundries to convey their story to thousands of OEM readers.

April. More than 2,000 people from across the metalcasting supply chain will convene in Cleveland April 25-27 for Metalcasting Congress 2023. AFS President Adam San Solo will present the gavel to his successor, Brad

Muller, as a new Board class also begins its service. It's not too soon to make your reservations!

May. The nomination period for the five national awards opens on May 1 and runs

through June 30. Chapter golf tournaments kick off and will run for several months. On May 9-10, AFS will host the Advanced Air Seminar in Schaumburg.

June. The Government Affairs Conference will be held in Washington on June 20-21. AFS will exhibit at GIFA, June 12-16 in Germany. Nominations are due for the five national awards on June 30. Most committees will hold their last meetings until September. The Casting Source Directory listing all corporate-member found-

ries will be distributed to thousands of casting buyers, specifiers and designers.

July. The annual Management & Development Summit will be held in Schaumburg, July 12-15. As with every month, corporate members will receive Employment Law Update.

August. The 2023 Chapter Officers Conference will be a virtual event this year, held on Aug. 15. The Board of Directors holds its summer meeting in Schaumburg, August 8-9.

September. Committees, chapters, and student chapter events all begin to reconvene. The Foundry Leadership Summit will be Sept. 18-20 in beautiful Asheville, North Carolina. The Copper Alloys Workshop will be presented in Schaumburg, September 27-28. If you work for a supplier, you'll want to ensure that your ad is placed in the Metalcasting Equipment, Products and Services Supplement that will mail to more than 10,000 foundry decisionmakers with *Modern Casting*.

October. The annual Environment, Safety and Health Conference will meet in downtown Chicago, Oct. 3-5.

November. The Additive Manufacturing Conference will be held Nov. 7-8 in Dearborn, Michigan.

December. AFS will continue to deliver webinar programming straight through to December.

The year 2023 promises to be an exciting time for the metalcasting industry. We hope to see you at many events along the way.

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Doug Kurkul

Doug Kurkul

CEO
American Foundry Society
dkurkul@afsinc.org

AFS advocacy supports business climate for metalcasters

Averting a nationwide rail strike is toward the top of the list for AFS

As the midterms come to shape the legislative outlook in Washington, D.C., much of AFS's advocacy is focused on ensuring a healthy business environment for metalcasters.

Among the biggest issues facing the manufacturing supply chain is the threat of a nationwide rail strike. AFS's representatives on Capitol Hill have repeatedly called on the White House to help bring the ongoing contract dispute between the railroads and their unions to a close.

"It is paramount that these contracts now be ratified, as a rail shutdown would have a significant impact on the U.S. economy and lead to further inflationary pressure," AFS and a coalition of trade groups wrote in a letter delivered to President Biden in October. Although some unions have since ratified their contracts, the threat of a strike still lingers. AFS will watch the negotiations and



push for a swift resolution.

For foundry accountants, repealing the last-in, first-out (LIFO) accounting principle for the oil and gas industry is worrying, because it's a move that could threaten the practice for metalcasters and other industries in the future.

AFS is a member of the LIFO Coalition, which urged Senators in September not to repeal or modify LIFO. LIFO is an inventory-costing method wherein the cost of newly produced inventory is the first to be expensed. It is advantageous at times of high inflation and frequent-

ly targeted by lawmakers who want to raise additional tax revenue on the backs of businesses. AFS will continue to oppose any changes to LIFO.

AFS's Health & Safety has been hard at work compiling resources for metalcasters to prevent and treat heat stress in foundries. "Foundry Approaches to Control the Heat Exposure of Workers," a report released this summer, documents specific ways in which foundries have established successful heat exposure control measures. The report was used to author ASTM Standard E3279 – 21, Standard Guide for Managing Heat Stress and Heat Strain in Foundries, published in May 2021. More recently, AFS provided OSHA with information about how it should formulate its new heat rules to ensure worker safety while also taking into account modern metalcasting processes.

The AFS Government Affairs Committee is compiling the 2023 Policy Agenda, which will incorporate regulatory and economic issues important to the industry. Look for this agenda to be released early next year.

AFS EVENTS

Author of 'The Coming Collapse of China' meets with AFS members

Gordon Chang – author, Fox News contributor and expert on U.S.-China relations – spoke at the AFS Foundry Leadership Summit. China is facing a major decline in population in the coming decades that will gradually reduce its power and influence, he explained. Likewise, China's zero-tolerance covid policy makes Chinese manufacturing less reliable. Russia's invasion of Ukraine, Chang said, constituted the formal end of the era of globalization. Although global

trade continued to grow in early 2022, he said that supply-chain interruptions are causing countries around the world to source materials and products closer to their own market.

Chang told AFS members that we are in a dangerous new era in which war can spread quickly and that China is helping to finance Russia's invasion of Ukraine. He said that the Chinese Communist Party

Please see China on Page 14



Gordon Chang talks to Foundry Leadership Summit attendees about the future of Chinese manufacturing capabilities. See more summit photos on pages 6-7.

Exhibit sales underway for Congress 2023

Exhibit sales for Metalcasting Congress 2023 are off to a brisk start, with industry suppliers and North American metalcasters already having claimed well over 100 exhibit spaces.

Coming to Cleveland's Huntington Convention Center on April 25-27, 2023, Metalcasting Congress 2023 will attract thousands of metalcasters, casting designers and buyers, and other manufacturing decisionmakers. In addition to a busy exhibit hall, the annual event, hosted by the American Foundry Society, features presentations and panels on technical and management topics, business networking, educational courses, awards banquets, keynotes, and more.

General exhibit sales opened the morning of Oct. 27 and have already prompted a flurry of activity. Space is limited.

This is the first time since 1974 that AFS has hosted Metalcasting Congress in Cleveland. AFS CEO Doug Kurkul said the city is an ideal location for this event.

"Exhibitors understand the value of North America's premier metalcasting trade event. They are eager to showcase their products and capabilities as well

as to stand side-by-side with the industry's greatest innovators and producers," Kurkul said. "Cleveland's modernized convention and hotel facilities will be the perfect setting for a dynamic Metalcasting Congress 2023."

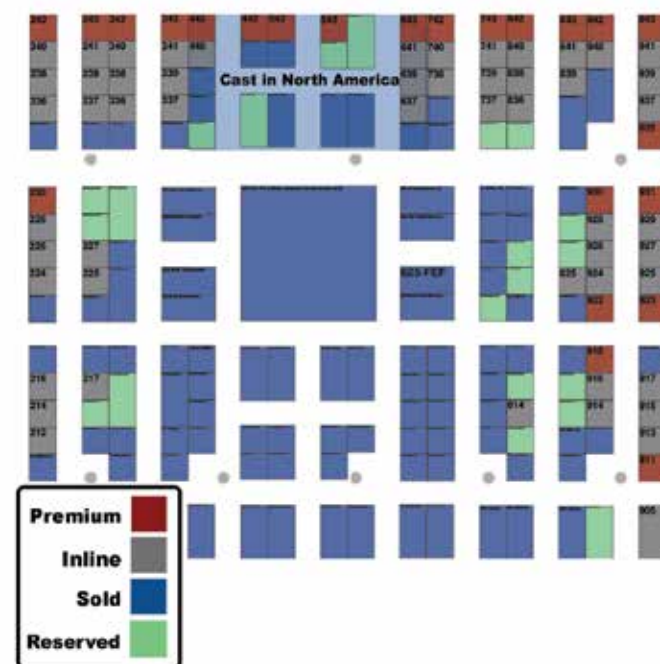
Exhibits are available to worldwide suppliers to the metalcasting industry, as well as to metalcasters based in North America. Companies can choose from three exhibit sizes: 10x10, 10x20, and a new, larger 10x30 option that's perfect for exhibitors wanting to make a big splash on the show floor.

To make your exhibit reservation or

"Metalcasting Congress is one of those events that's marked on the calendars of nearly everyone who works in the metalcasting supply chain – and for good reason," said AFS CEO Doug Kurkul. "It combines a show floor packed with exhibits, exciting new research and technical advancements, management insights from industry leaders, and social gatherings where business gets done. Metalcasting Congress is truly an all-inclusive event for our industry."

Exhibits, presentations, and featured events at Metalcasting Congress incorporate every major alloy, process, and related foundry and manufacturing topic. The event attracts people at all stages of their careers, ranging from executives and managers to technicians, engineers, sales staff, researchers, and educators. In addition to content for metalcasters, a unique series of training sessions just for casting designers and buyers is offered on

Congress 2023 Exhibit Availability
(As of Nov. 28, 2022)



view the current exhibit floor plan, visit www.metalcastingcongress.org. For assistance, email exhibits@metalcastingcongress.org.

METALCASTING CONGRESS 2023

When: April 25-27, 2023

Where: Huntington Convention Center, Cleveland, OH

Web: MetalcastingCongress.org

the exhibit floor, so OEM representatives are encouraged to attend, as well.

To take part in everything Metalcasting Congress has to offer, including every technical and management session, all Institute courses, keynotes, the Hoyt Memorial Lecture, and the exhibit floor, opt for the all-inclusive Education Pass. To view exhibits plus keynotes and the Hoyt Memorial Lecture only, the Exhibits Pass is right for you.

Registration is available at www.metalcastingcongress.org.

Registration now open for Metalcasting Congress

Professionals from every corner of the metalcasting marketplace will network, do business, and share knowledge at Metalcasting Congress 2023, coming to Cleveland's Huntington Convention Center on April 25-27, 2023.

Registration is underway for this major industry event, which comprises exhibits from industry suppliers and North American metalcasters, technical and management sessions, classes, keynote speeches, awards presentations, and networking opportunities. The 2023 theme is "Spark Success."

Q&A

Mitigating risk in a volatile energy market

For many businesses, the current energy landscape has changed the way they approach their energy management. While there is no one-size-fits-all approach or answer, it's wise to take a comprehensive look at your organization's needs and goals. APPI



Dan Forgacs

Energy Vice President of Market Intelligence & Analytics, Dan Forgacs, provides insights into what's causing market volatility, as well as procurement strategies and energy solutions to help mitigate that volatility.

Q: It's been a volatile year to say the least for the energy markets. What are a few of the contributing factors?

A: Yes, it sure has. In fact, 2022 has seen the highest volatility for Henry Hub natural gas prices in 20 years. The war in Ukraine, rebounding economic conditions and hotter-than-average summer temperatures greatly increased demand for U.S. natural gas after years of gas producers scaling back on drilling operations. On the flip side, an explosion and subsequent closure of a liquefied natural gas export terminal increased domestic gas supply for several months, pushing near-term prices lower.

Q: Do you anticipate a relief in energy prices anytime soon?

A: It will be a tough and expensive winter for natural gas users, particularly in the northeast, due to the need to compete with high European prices for liquefied natural gas supplies. Electricity prices this winter

will also be much higher than last year, due largely to high natural gas prices but also the fact that many coal plants have retired and renewables are not quite ready to pick up all the slack. Still, weather is the single largest driver of short-term natural gas prices so a warmer-than-average winter could help bring lower gas and power prices.

Q: For organizations looking to minimize budgetary risk, what procurement strategy would you recommend?

A: As Winter Storm Uri and then the war in Ukraine reminded us, being exposed to volatile energy prices can destroy your annual energy budget in a matter of days. Fixed price energy supply contracts come with a small premium but transfer the risk of higher future costs to the supplier, rather than being on the individual consumer. However, you don't need to put all your eggs in one basket as a qualified energy consultant can help you review the pros and cons of a layered approach (similar to dollar cost averaging) or perhaps locking some costs or terms while "floating" others to help you buy on the inevitable dips in the market.

Q: How do energy curtailment or energy efficiency measures factor in?

A: As they say, the cheapest kilowatt is the one you don't use so any reduction in energy usage can impact the bottom line. Even organizations that switched to LED lighting more than 5 years ago may benefit from improvements in efficiency and life span while utility rebates can help offset costs and increase your ROI. Efficiency measures can also reduce your peak demand, which can help lower both the supply and

About the AFS Energy Program

AFS is proud to partner with APPI Energy to provide our Corporate Members with data-driven, holistic energy management services and custom solutions. APPI Energy is available to analyze Corporate Members' energy usage, evaluate energy bills, deliver a green-apples-to-green-apples comparison of supplier prices and contracts, and negotiate a supply solution for members. Additionally, APPI Energy offers powerful and holistic energy management solutions to reduce demand, reduce costs, and increase sustainability.

To take advantage of this AFS Corporate Member benefit, contact AFS's dedicated Energy Consultant, Drew Pangborn, at APPI Energy at 667-330-1164 or dpangborn@appienergy.com.

distribution sides of your electric bill.

Q: Any advice for organizations looking to reduce energy costs while still making strides towards improved sustainability?

A: The Inflation Reduction Act increases and extends some tax credits for renewable energy projects so it may pay to look at solar or other renewable options for your facility. There are also different ways for an organization to "green up" their energy supply, many of which do not require significant capital expenditures.

AFS to lawmakers: Support electricity transmission competition

As electricity price inflation continues to outpace the Consumer Price Index, AFS joined with more than 80 other trade groups urging the Senate Committee on Energy and Natural Resources to include a legislative provi-

sion as part of permitting reform, which would require competitive processes for all transmission projects that involve the Federal Energy Regulatory Commission (FERC) jurisdictional transmission facilities of 100 kilovolts or greater. Competition drives down costs for families and businesses that are captive consumers.

The coalition letter sent Oct. 31 calls on the Senate committee to require

competitive processes in the Energy Independence and Security Act of 2022. Currently, only about 3 percent of electric transmission projects are competitively bid. The legislation also is needed because the FERC April 2022 notice of proposed rulemaking on transmission and planning rejects competition, protects incumbent monopoly utilities, and reinstates federal anti-competition right of first refusals.

The Greenbrier in White Sulphur Springs, West Virginia, played host to 150 metalcasting leaders and their guests who gathered for the 2022 Foundry Leadership Summit on Sept. 18-20.

In addition to presentations and discussions on the major issues facing metalcasters, the Keating Founders Freedom Award was presented to Tom Teske (retired from EJ) and Jeet Radia (McWane), and the William J. Grede Award was presented to Jiten Shah (PDA).

Next year's Foundry Leadership Summit is scheduled for Sept. 18-20 at the Omni Grove Park Inn in Asheville, North Carolina.



Foundry Leadership Summit attendees enjoy the welcome reception on the terrace at the Greenbrier Resort in White Sulphur Springs, West Virginia.



Industry executives talk "Opportunities and Challenges Facing Metalcasters in 2023 and Beyond" during a panel at the Foundry Leadership Summit. Pictured, from left: Mike Lenahan (Badger Mining), Jason McGowan (D&L Foundry), Tyson Twait (Dotson Iron Castings), Rob Johnson (Waupaca Foundry), and Ryan Burke (Osco Industries).



From left, James Newsome (Waupaca Foundry), Christian Benedict (Asia Forging Supply Co.) and Atsushi Nagai (Sintokogio Ltd.) chat during a networking event.



Holly Cloutier (Waupaca Foundry), left, and Deana McGowan pause for a photo at the summit. Metalcasters and their guests had time to explore the historic resort, which dates back to the 18th century and which has hosted 28 American presidents.



Tom Teske, left, was the 2022 recipient of the Keating Founders' Freedom Award, which honors contributions in government affairs, human resource management, safety and health or education. Teske, who is recently retired from EJ, is pictured receiving the award from Jeff Cook (Eagle Group Manufacturers). A Keating Award also was presented in absentia to Jeet Radia (McWane).



Jiten and Bindu Shah are pictured on the Greenbrier terrace. Jiten Shah (PDA) was honored with the William J. Grede Award, which recognizes major contributions in the fields of management, marketing or education.



AFS CEO Doug Kurkul presents the annual State of the Metalcasting Industry & AFS Address. He noted casting sales are on pace to grow by more than 10% in 2022, making metalcasting a \$47 billion industry by year's end.



Pancho Hall (P&THE Manufacturing), left, and John Link (Cottingham & Butler) talk business following a banquet at the Foundry Leadership Summit. In addition to networking events, the event included a golf tournament, presentations from experts in leadership, industry, and business, and the popular Annual Dinner Banquet.



Jason (D&L Foundry) and Deana McGowan, and Adam (Neenah Foundry Co.), Lisa and Jonathan San Solo smile for the camera during a reception at the Greenbrier Resort. Adam San Solo is President of AFS.



Former White House Press Secretary Ari Fleischer presents "America in 2022: The Political Outlook" at the Foundry Leadership Summit. Fleischer was one of many high-level speakers to address metalcasters at the event.

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Charlotte Pipe & Foundry Inc., and Benton
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Jane Fischer
Manager of Training & Development, Waupaca Foundry



"For various processes, our folks are able to understand and use these terms for creating more effective conversations and discussions both out on the work floor and in planning groups."

Glenn Huneycutt
Safety & Health Manager, Charlotte Pipe & Foundry



"The AFS e-learning courses have afforded me the opportunity to take deeper dives into areas I wanted to improve my knowledge on, whether it's quality, engineering, manufacturing."

John Harvey
Direct Sales, Benton Foundry

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Latest research compiled in *Transactions*

The latest discoveries in metalcasting research are highlighted in *AFS Transactions, Vol. 130*, released this fall by AFS.

AFS Transactions is the definitive collection of technical papers for the metalcasting industry. It compiles all research presented at the annual Metalcasting Congress into a handy reference book, complete with full-color charts, graphs, illustrations, and photos. All papers are approved for inclusion in *AFS Transactions* only after a rigorous peer-review process



to ensure original work of the highest quality is included.

The 130th volume covers research presented in 2022. It includes 41 tech-

nical papers encompassing a wide range of metalcasting topics, including additive manufacturing, aluminum and light metals, cast iron, steel, engineering and smart manufacturing, environmental health and safety, and molding methods and materials.

AFS Transactions, Vol. 130, is available for purchase in the AFS Store at www.AFSinc.org/store. To order by email or phone, contact AFS Customer Service at estoreservices@afsinc.org or call 847-824-0181.

Research continued from Page 1

Principal Investigators: Jiten Shah, PDA; Tyler Nooyen, Waupaca Foundry

Division: Additive Manufacturing

Steering Committee Chair: Jerry Thiel, University of Northern Iowa

Dynamic Testing and Analytics From Working Green Sand Systems

Principal Investigators: Dr. Sam Ramrattan, Dr. Lee Wells, Western Michigan Univ.

Division: Molding

Steering Committee Chair: David Fletcher, Lodge Manufacturing

Disposable, Wireless Sensor Systems for Integration Within Molds and Cores

Principal Investigators: Dr. Eric MacDonald,

Univ. of Texas at El Paso; Jerry Thiel, Univ. of Northern Iowa

Division: Additive Manufacturing

Steering Committee Chair: Rich Lonardo, Defense and Energy Systems Consulting

Low CRI, High CSR Coke Cupola Trials

Principal Investigators: Steve Hay, Hay Melting Solutions; Bruce Blatzer, consultant

Division: Melting

Steering Committee Chair: Alex Croll, Waupaca Foundry

Quantifying Aluminum Casting Quality Through H Gas – (Phase 2)

Principal Investigator: Daniel Hoefert, Eck Industries, Inc.

Division: Aluminum and Light Metals

Steering Committee Chair: Adam Kopper, Mercury Marine

Foundry Emissions Benchmarking Database

Principal Investigator: Craig Schmeisser, Mad River Strategies, LLC.

Division: EHS

Steering Committee Chair: Jeet Radia, McWane, Inc.

Digital Active Clay Measurement in Green Sand

Principal Investigators: Dr. James Springstead, Dr. Sam Ramrattan, Western Michigan Univ.

Division: Molding

Steering Committee Chair: Brian Rachwitz, EJ

NEW RESEARCH PROJECTS

In October, the AFS Research Board approved funding for three new projects:

Refining Austenite in Gray Irons

Principal Investigator: Jingjing Qing, Georgia Southern Univ.

Steering Committee Chair: Leonard Winardi, Charlotte Pipe

It is well known that the properties of cast gray iron (GI) are related to the fineness of the microstructure features, such as graphite particle size, eutectic cells size, and pearlite lamellar spacing. Both graphite refining and distributions via inoculants as well as the refining of pearlite structures using alloy additions have been studied often for their influence on distortion. However, far less effort has been put into studying the refinement of austenite, the proeutectic phase that forms a dendritic structure in cast irons. This study aims to address possibilities with the austenite phase.

Machinability of Solution Strengthened Ferritic Ductile Iron

Principal Investigators: Dave Labyak and Paul Sanders, Michigan Technological University

Steering Committee Chair: Mark Osborne, Wabtec

Some researchers have suggested solution-strengthened ferritic ductile iron (SSF-DI) grades listed can result in a 10%–50% machining cost savings and a 10%–20% weight reduction savings. 500–14SSF-DI and 600–10SSF-DI compared to conventional grades of ductile iron is typically 1%–4% higher for base casting costs. Lack of machining knowledge has impeded the growth of 500–14SSF-DI and 600–10 in North American markets due to machine shops using machining costs associated with conventional ductile iron grades. The purpose of this project is to compare the machinability of SSFDI to conventional ductile irons using drilling, milling, and turning metal removal methods.

Multi-Axial Measurement of Casting Wall Movement During SGI Solidification and Cooling In-Mold

Principal Investigator: Mingzhi Xu, Georgia Southern University

Steering Committee Chair: Vadim Pikhovich, Magmasoft

Spheroidal graphite iron (SGI) has less solidification shrinkage than steel; however, it is significantly higher than that of gray iron. SGI castings can tend to form shrinkage defects and cause geometric distortion. The actual effects of solidification on formation of shrinkage porosity and/or distortion of casting geometry depends on a combination of intrinsic (property of cast alloy) and extrinsic (casting-mold thermo-mechanical interactions) conditions. This research aims to develop an experimental apparatus to perform multi-axial measurements of casting wall movement during ductile iron solidification and cooling. The results could be used in solidification modeling to better predict porosity and geometrical distortion.

AFS Chapter Directory and Updates

AFS provides the means for you to network with metalcasters in your area. Chapters are planning meetings across the country. To see the full calendar, find chapter contact details, or for more information, visit www.AFSinc.org/chapter-events or email Ben Yates at byates@afsinc.org.

Include your chapter's meetings in the AFS Chapter Calendar! Email your event invitation to membership@afsinc.org and we'll take it from there.



MIDWEST

CAC-Ohio

(Cleveland/Akron/Canton, Ohio region)
<http://cacohioafs.org>
The CAC-Ohio Chapter hosted its annual "DRAG" Out Your Irons Memorial golf outing on Sept. 23 in Medina.

Central Illinois

Central Indiana

<https://afscic.org>
The Central Indiana Chapter hosted a dinner meeting on Nov. 15 in Indianapolis. The presentation topic was "OSHA's National Emphasis Program on Heat-Related Hazards."

Central Michigan

<https://www.facebook.com/afscentral-mi>

Central Ohio

<http://www.afscentralohio.org>

Chicago

<https://www.chicagoafs.org>

Detroit/Windsor

<https://afsdetroit.square.site>

Hawkeye

(Iowa region)
<http://afshawkeye.wixsite.com/afshawkeye>
The Hawkeye Chapter's Oct. 18 meeting in Waterloo, IA, featured a presentation from Aaron Kaboff (HA International LLC). On Nov. 15, representatives from Cottingham & Butler presented at their dinner meeting.

Mo-Kan

(Missouri/Kansas region)

<http://www.afs-mokan.org>

Northeastern Wisconsin

<http://www.afsnew.org>
The Northeastern Wisconsin Chapter hosted a dinner and panel discussion on Oct. 10 in Neenah. The discussion centered on Industry 4.0. The chapter's Supplier Night is Nov. 28 in Green Bay. A panel, "Supply Chain Updates: Frustrations and Improvements," will be presented.

Northern Indiana

<http://www.afsnin.org>
The Northern Indiana Chapter had a dinner meeting Oct. 10 in Plymouth featuring technical speaker Paolo Perrucci (Proservice Tech USA). Brian Began (AFS) was the technical speaker at the chapter's dinner meeting on Nov. 14 in Wabash.

Plains States

(Great Plains region)
The Plains States Chapter's Annual Christmas Bash is Dec. 3 in Tonkawa, OK.

Saginaw Valley

<http://www.saginawvalleyafs.org>
The Saginaw Valley and Detroit-Windsor Chapters held a dinner meeting with ASM-Detroit on Oct. 17 in Warren, MI. The chapter's Past Chairman's Night was Nov. 3 in Frankenmuth. On Dec. 1, they'll host a holiday event with members of the GM Retirees Club.

Southwestern Ohio

St. Louis

<http://afstl.org>
On Oct. 20, the St. Louis Chapter held a joint meeting and dinner with the Missouri S&T Student Chapter.

Stateline

(Northern Illinois/Southern Wisconsin region)
The Stateline Chapter held a dinner meeting on Nov. 8 in Beloit, WI.

Toledo

Tri-State

(Oklahoma/Kansas/Arkansas region)

Twin Cities

(Minnesota region)
<http://afstwincities.org>

Western Michigan

<http://westmichiganafs.com>
The Western Michigan Chapter held its Past Presidents' Night on Oct. 11 in Norton Shores, followed by a Comedy Night on Nov. 9 featuring stand-up comedian Billy Ray.

Wisconsin

<https://www.wisconsinafs.org>
The Wisconsin Chapter toured Stainless Foundry & Engineering in Milwaukee on Oct. 17. Jim McGibany, chair of the Marquette University Economics Department, spoke about national and global economic issues. The chapter's Christmas party is Dec. 9 in Milwaukee.

EAST

Central New York

Mid-Atlantic

<https://midatlantic.afschaptersites.com>

New England

<http://www.newenglandafs.com>
The New England Chapter visited Vermont Castings (Randolph, VT) on Oct.

SO CAL HOST GOLF TOURNAMENT



The Southern California Chapter and NADCA Chapter 30 co-hosted their annual golf tournament at Los Serranos Country Club in Chino Hills, California. A total of 96 golfers participated. Pictured is the first place team of Albert Lara, Frank Lujan, and Luigi Lara. Not pictured: Andy Lujan.

7. The chapter's holiday celebration will be Nov. 19 in Windsor, Vermont.

Northwestern Pennsylvania

<http://www.nwpaafs.org/index.html>
On Oct. 18, the Northwestern Pennsylvania Chapter held a meeting in Erie featuring an environmental regulatory update from Buck Baldwin (Environmentthink). Their meeting on Nov. 15 included a presentation from AFS Immediate Past President Mike Lenahan (Badger Mining Corp.).

Pittsburgh

<https://www.facebook.com/AFSPITT>
The Pittsburgh Chapter toured Humtown Additive in Leetonia, OH, on Oct. 13.

SOUTH

Birmingham District

(Alabama region)
<https://www.afsbirmingham.com>
<https://www.facebook.com/afsbham>
The Birmingham Chapter held a meeting, dinner, and technical presentation on Oct. 24 at the University of Alabama. FEF Key Professor Dr. Charlie Monroe and UA students presented. The chapter is hosting a new event,

Cooking With Cast Iron, on Dec. 5 at Publix Aprons Cooking School at Tattersall Park.

Piedmont

(Southeast U.S. region)
<http://afspiedmont.org>
The Piedmont Chapter toured VT-FIRE in Blacksburg, Virginia on Sept. 30-Oct. 1.

Tennessee

<http://www.afs-tn.org>
On Oct. 12-13, the Tennessee Chapter hosted a joint technical meeting with the AFS Coreless and Channel Induction Furnace Committees in Chattanooga. This event included a tour of Mueller.

Texas

<http://www.afstexas.org>

WEST

Northern California
<http://www.afsnorcal.org>

Southern California

<http://www.afssocal.org>

Utah

Student chapter leaders hold digital 'meet-up'

Leaders from a number of AFS's Student Chapters met online on Oct. 25 for a meet-up hosted by Katelyn Stanek, AFS Director of Marketing & Communications. The chapter leaders discussed chapter activities they're most excited about, challenges they are facing, and opportunities to make the most of AFS resources. AFS also participated in November's FEF College Industry Conference in Chicago.



Washington

MEXICO

North Mexico

CANADA

British Columbia

<http://afsbcc.ca>

Detroit/Windsor

<https://afsdetroit.square.site>
The Saginaw Valley and Detroit-Windsor Chapters held a dinner meeting with ASM-Detroit on Oct. 17 in Warren, MI.

Eastern Canada

<http://www.afsestcanada.org>
The Eastern Canada Chapter's 5th Annual Metallurgical Symposium was Nov. 3-4 in Montreal.

Ontario

<http://afsontario.ca>
The Ontario Chapter's Metal Casting Night with FEF/CFA/AFC was Oct. 19 at McMaster Innovation Park in Hamilton.

EHS Division honors industry excellence with awards

The AFS Environmental, Health and Safety Division recognized individuals and companies for their achievements during an awards presentation at the 34th EHS Conference, Oct. 4-6 in Milwaukee, Wisconsin.

The division confers several awards recognizing accomplishments in categories including sustainability, safety, and service.

Green Foundry Award

AFS Green Foundry Awards honor companies which have taken significant and novel approaches to improve sustainability, reduce energy and resource use, decrease or eliminate waste generation, reduce toxicity, identify beneficial re-use options for spent materials, and generally reduce their environmental footprint.

Benton Foundry and Waupaca Foundry each received 2022 Green Foundry Awards. Benton's award honored the

company's sustainability and stakeholder engagement, while Waupaca was honored for its sustainability efforts.

Innovation and Insight Award

Pier Foundry was the recipient of the 2022 Safety and Insight Award. Sponsored by the EHS Division's Safety and Health Committee, these awards recognize projects and programs that improve safety, health, or ergonomics in foundry operations. Pier Foundry's award was presented in recognition of the company's significant achievements in safety initiatives.

Safe Year Award

EJ, JR Hoe, and Wisconsin Precision Casting Corporation each received 2022 AFS Safe Year Awards. These awards recognize AFS Corporate Member facilities which have achieved one year (365 consecutive calendar days) without a lost-time incident or fatality.

Division Service Awards

Three members of the EHS Division earned Division Service Awards: Pete Buczek (WGS Global Services LLC), Kristen Belcredi (Keramida Inc.), and Dan Plant (Metal Technologies Inc.). These awards recognize their significant contributions of time and expertise to the EHS Division.

Gary E. Mosher Outstanding New Member Award

Another individual honor, Gary E. Mosher Outstanding New Member Award, was presented to Ernesto Paulino (U.S. Foundry & Manufacturing Co.) in recognition for his significant contributions to the Safety & Health Committee as a new member of the EHS Division.

Additionally, the division recognized one of its own members, Jeet Radia, for having received the 2022 Keating Founders' Freedom Award in September.

Now accepting entries for Casting of the Year

Show the world – and your customers – what a quality metal casting can achieve when you enter the AFS/Casting Source Casting Competition! Entries are now being accepted for this annual contest, which includes the prestigious Casting of the Year Award, plus honors for Best Newcomer (Rookie of the Year), Best Example of a Casting Conversion, Achievement in a Small Foundry Business, and Best Innovation/Prototype. The deadline to enter is Jan. 31, 2023.

For eligibility requirements and entry forms, visit www.castingsource.com/casting-competition.



The 2022 Casting of the Year was manufactured by Waupaca Foundry Plants 4 and 5 (Marquette, Wisconsin, and Tell City, Indiana). The first-to-market cast iron bucket attachment for a compact utility tractor replaced a steel fabricated bucket with 159 inches of weldment.

Sinto donation funds scholarship for young leaders

Up-and-coming leaders in the metalcasting industry have a new opportunity to support their educations thanks to a generous donation from AFS Corporate Member SintoKogio Ltd.

The new Sinto-AFS Future Leaders of Metalcasting Education Scholarship is funded through a



SintoKogio President Atsushi Nagai announces the scholarship at CastExpo 2022. Atsushi Nagai, President of SintoKogio, announced the establishment of the scholarship fund during CastExpo 2022.

The inaugural Sinto-AFS Future Leaders of Metalcasting Education Scholarship was awarded to Hannah Blansett, a metalcasting student at the University of Alabama-Birmingham. Michael Halsband, President/CEO of Roberts Sinto Corporation and a member of the AFS Board of Directors, presented Blansett with a check for \$4,000 at the 2022 Future Leaders of Metalcasting Meeting on Oct. 11 in Chattanooga, Tennessee.

"AFS is enormously grateful for SintoKogio's support for Future Leaders of Metalcasting," said AFS CEO Doug Kurkul. "This scholarship fund serves as an investment in our industry's future, and we are so appreciative of SintoKogio's generosity. We know these scholarship recipients will go on to do great things for metalcasting."



University of Alabama-Birmingham student Hannah Blansett accepts the Sinto-AFS Future Leaders of Metalcasting Education Scholarship from Michael Halsband, president/CEO of Roberts Sinto Corporation and member of the AFS Board of Directors Class 2022-2026.

IJMC, FEF partner on student research competition

AFS's International Journal of Metalcasting and the Foundry Educational Foundation are again teaming up on a scholarship competition for undergraduate college students. The IJMC/FEF Student Research Competition recognizes excellent undergraduate-level research on metalcasting technology or

molten metal processing topics. Winners will receive scholarship money and have their work published in IJMC, one of the world's leading metalcasting journals.

Unlike many competitions for metalcasting and metallurgy students, this is not a casting contest. Rather, it's a unique competition with a panel of judges who will be

assessing the quality of student research projects. Up to \$4,000 in scholarship money will be awarded.

Submissions are being accepted now through March 17, 2023, with abstracts due Feb. 17, 2023. For information, visit www.afsinc.org/ijmc-fef-student-research-competition.

Management Council names secretary

TJ Costello (Charlotte Pipe & Foundry) recently was named the Sec-

retary for the AFS Management Council. Costello is Vice President, Cast Iron Production at Charlotte Pipe & Foundry, where he's worked for 11 years. Prior to joining the company, he was an infantry officer in the U.S. Marine Corps. Costello has a passion for bringing veterans into the metalcasting industry.

The Management Council oversees the

society's management committees and shared interest groups: Government Affairs, Human Resources, Marketing, Women in Metalcasting and Future Leaders of Metalcasting.



TJ Costello

China continued from Page 3

sees the U.S. as an enemy – an existential threat to the Chinese government. He added that because the West failed to deter Putin from invading Ukraine, this is an encouragement to China to invade Taiwan. Doing so would involve large numbers of Chinese casualties, he said, but Taiwan is not presently adequately armed to defend itself. The current administra-

tion has been slow to provide Taiwan with the arms it needs, as have the previous three administrations, Chang explained. He said the botched withdrawal from Iraq has led to India becoming more closely aligned with Russia as opposed to the U.S.

In terms of advice for AFS members and other business leaders, Chang advises: 1) explore reshoring at every opportunity; 2) support legislation by Sen. Scott (R-FL) and Rep. Baldwin (D-WI) to specify coun-

tries of origin for online purchases; and 3) avoid ownership in stocks and mutual funds holding Chinese companies.

Chang was one of a half-dozen high-level speakers at the Foundry Leadership Summit which was held at the Greenbrier Resort in September.

The dates for the 2023 Foundry Leadership Summit are Sept. 18-20 at the Omni Grove Park Inn in Asheville, North Carolina.

NEW RELEASE! 2022 AFS TRANSACTIONS

The **2022 Transactions** of the **American Foundry Society** includes **41 technical papers** encompassing a wide range of metalcasting technology. These papers cover the latest in metalcasting research and smart manufacturing, process and equipment developments, environmental health & safety, and foundry best-practice case studies. All papers are approved for inclusion in **AFS Transactions** after a rigorous peer-review process to ensure only original work of the highest quality is included. AFS Transactions has been published annually since 1896.

Volume 130 of **AFS Transactions** includes **41 technical papers presented** at the 126th **Metalcasting Congress, April 23-26, 2022**, covering topics such as:

- Additive Manufacturing
- Aluminum & Light Metals
- Cast Iron
- Engineering & Smart Manufacturing
- Environmental, Health & Safety
- Molding Methods & Materials
- Steel

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AFS WELCOMES NEW CORPORATE MEMBERS

Through Nov. 1, 2022



Dynamo Furnaces
Cambridge, Ontario, Canada



FATA Aluminum LLC
Auburn Hills, Michigan



Knight Insurance Agency Inc.
Toledo, Ohio



LPM North America Inc.
Mission Viejo, California



Level 10 Industries
New Berlin, Wisconsin



Midwest Insurance Group LLC
Delafield, Wisconsin



Online Resources Inc.
Lebanon, Indiana



Unimetal USA Inc.
New Castle County, Delaware

AFS EVENTS

2023 Cast Iron Production Conference | Feb. 27–28 | Charlotte, NC
Introduction to Foundry Environmental Compliance | March 21–22 | Schaumburg, IL

Metalcasting Congress 2023 | April 25–27 | Cleveland, OH

2023 Advanced Air Seminar | May 9–10 | Schaumburg, IL

2023 Government Affairs Fly-In | June 20–21 | Washington, D.C.

Management Training and Development Summit | July 12–15 | Schaumburg, IL

INSTITUTE COURSES

Fundamentals of SPC and Process Capability: Live Online | Nov. 29–30 | Zoom
Gating and Riser Design 201 | Dec. 1–2 | Schaumburg, IL

Steel Melting 201: Live Online | Dec. 6–8 | Zoom

Green Sand Molding 201: Live Online | Dec. 14–16 | Zoom

Gating and Riser Design 101: Live Online | Jan. 11–13 | Zoom

Casting Design: Live Online | Jan. 18–20 | Zoom

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Published by AFS, Schaumburg, IL

Member Connections is a newsletter for all current **AFS members**. Send all inquiries to Katelyn Stanek at kstanek@afsinc.org or 847-824-0181 ext. 286.

2023 CAST IRON

◀ PRODUCTION CONFERENCE ▶

FEBRUARY 27 - 28, 2023 | HILTON CHARLOTTE AIRPORT | CHARLOTTE, NC

The **2023 Cast Iron Production Conference** is a can't-miss event for any cast iron foundry, supplier, or end user of iron castings. Sessions will cover a broad range of topics including melting practice and charge makeup, inoculation, treatment, gating and risering, quality control, and finishing considerations. Join the AFS Cast Iron Division in Charlotte this February!