

Foundry 4.0: Prepare for the future of metalcasting

A new conference from AFS explores how digital manufacturing is changing the industry

Are we in the midst of the “Fourth Industrial Revolution”?

Economists, think tanks and self-described futurists have lots of terms for this moment in manufacturing, known broadly as “Industry 4.0.” But nearly everyone agrees factories are undergoing a massive shift toward digital technologies that will make them more connected, more agile, and in the end, more profitable.

So what does this mean for metalcasters? Opportunity.

From robots and co-bots to artificial intelligence and augmented reality, foundries of all sizes can use Industry 4.0 technologies to improve quality, efficiency, and safety. It doesn't mean a plant needs to be re-engineered from the ground up – it means making sure software programs “talk” to each other, using the data you're already collecting



FOUNDRY INDUSTRY 4.0 CONFERENCE

Live online **June 7-10**, streaming on demand through **July 10**
Register: afsinc.org/conferences

to find inefficiencies you'd never noticed, or providing new instruments to

the crew on the shop floor to make their work easier and faster.

These and other 4.0 concepts will be shared at the first-ever Foundry Industry 4.0 Conference, featuring experts who are leaders in the integration of new tech into established manufacturing processes. Attendees of this virtual con-

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AFS provides strong representation in Washington, D.C.

Infrastructure. Labor shortages. Tax policy. Regulatory uncertainty.

Like all U.S. businesses, companies in the metalcasting supply chain are hugely impacted by the decisions made in Washington, D.C. But it's hard for most metalcasters to devote much of their energy to govern-

ment advocacy – there are orders to fill and sales to close, both of which demand more immediate attention than the latest bill to make it out of a House committee.

Still, that bill could represent something major – everything from a much-needed infrastructure project to an onerous tax

hike on businesses. That's why AFS maintains a constant presence on Capitol Hill, where VP of Government Affairs Stephanie Salmon and Jeff Hannapel keep an eye on legislation and regulatory policies affecting metalcasters nationwide. The AFS Government Affairs and EHS divisions, made of up member volunteers, also are vital components when it comes to advocating for the industry.

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An environmental and economic policy success story

This year AFS is celebrating the Society's 125th anniversary, a milestone that would have been impossible without the involvement of generations of AFS members. These days, most AFS members are familiar with the Society's tagline of "Advocate – Educate - Innovate." In fact, many members cite that tagline when explaining their passion for membership and involvement in AFS.

"Advocate" might be the least visible pillar of the tagline, though it encompasses a wide range of vital AFS activities. When AFS explains its position on a legislative or regulatory proposal to policymakers, that's a form of advocacy.

When AFS communicates the career opportunities available in metalcasting to educators, career counselors, and job-seekers, that's a second form of advocacy. When AFS helps opinion leaders understand what castings are, why they're important to national defense and to the modern way of life, and why it's better that they be made here rather than overseas, that's still another form of advocacy.

For today's column, I'd like to share an example of how AFS advocacy contributed to an environmental and economic policy success story. The story starts a number of

years ago, when a federal agency, the Environmental Protection Agency, was required by law to conduct a residual risk and technology review to determine if its National Emissions Standards for Hazardous Air Pollutants (NESHAP) for iron and steel foundries have been effective. In particular, the agency was asked to determine if additional air emissions controls

were needed to protect human health and the environment.

AFS – through our EHS Division volunteers and our environmental expert consultants Jeff Hannapel and Christian Richter at The Policy Group – provided critical

data regarding facility emissions, foundry production processes, and the emission control technologies used at ferrous foundries. These cooperative efforts demonstrated how metalcasters have effectively implemented control measures to reduce emissions.

Based on its review completed

in October 2020, EPA announced that no new emission limits were needed for iron and steel foundries. As Hannapel noted, "This conclusion is testament that foundries have implemented effective control measures to reduce emissions and minimize risks to human health and the environment. In addition, AFS identified for EPA substantial work practices that will continue to advance this environmental success story."

This was an environmental success story based on the improvements made in cleaning our air thanks to the investments made by U.S. foundries, and an economic success story in that the foundries are able to continue to deliver high-quality castings to customers while providing rewarding jobs for their employees.

While this particular example pertained to ferrous foundries, AFS advocacy efforts support the full range of metalcasters, including all metals and all processes.

Our policy advocacy covers the gamut of issues – environmental quality, infrastructure investment, international trade, safety and health policy, tax issues and workforce development. We thank our 900-plus Corporate Members for making AFS advocacy programs possible. There is strength in numbers and member investment makes a major difference.

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Foundry pro's art celebrates 125th anniversary of AFS

N. Mexico Chapter's contribution of oil painting will benefit FEF

Look closely at the molds at the bottom of a new oil painting depicting metalcasting, and you might notice something: They form the number 125.

That's no coincidence. The painting is the work of artist and foundry professional Rodrigo Calderon, and the number represents AFS's 125th anniversary. The plant director at Questum (Santa Catarina, Nuevo Leon, Mexico) painted the impressive 30-by-40-inch artwork, titled "125 Years of AFS," just for the occasion. It took him several months to create.

"I started painting figurative art, and since I work in the foundry business, the contrast and colors of the foundry process has always been impressive to me," said Calderon, who paints professionally under the moniker R.C. Athie. "I have the opportunity to see it every day, and I love it."

The oil painting, which shows four foundry workers hand-pouring metal, was generously donated by the North Mexico Chapter to AFS, where it now hangs proudly in the board room. But you don't need to travel to Schaumburg, Illinois, to see it. The contribution was made with the intention that AFS create prints of the artwork for sale, and then donate the profits to the Foundry Educational Foundation.

"We would like to celebrate and recognize the effort and talent of the thousands of people behind the achievements of our industry throughout all those years, and we would also like to contribute to the new generations behind all of us, who are



Rodrigo Calderon (Questum) is the artist who created this oil painting, "125 Years of AFS." The North Mexico Chapter donated it to AFS to mark the society's anniversary and so that sales of prints could benefit FEF.

selecting this great industry for their professional growth," the North Mexico Chapter wrote in a letter to AFS and FEF.

FEF has its own major anniversary – 75 years – coming up in November.

"FEF has enjoyed sharing the 125th anniversary of AFS, and this painting is a unique and exceptional showpiece of that celebration," said FEF Executive Director Brian Lewis. "Projects like this showcase the continued partnership of AFS and FEF.

It ensures the organizations are providing the resources and funding necessary to support the next generation of engineering talent for the industry."

AFS will begin selling poster prints and greeting cards of "125 Years of AFS" soon, both online at www.afsinc.org/store and at live events as they return. All profits from the sales will benefit FEF.

To view more of Calderon's work, follow him on Instagram at [rodrigo.calderon.athie](https://www.instagram.com/rodrigo.calderon.athie).

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"People often don't realize how many different pieces of legislation Congress considers each session, and how many of those laws could have a meaningful effect on manufacturers, for better or worse," Salmon said. "It's our job to make sure legislators and regulators have all the facts, and that they understand how their decisions will affect metalcasters, especially because they're such an important part of

the country's manufacturing base."

Recent policy victories for AFS include the Senate's overwhelming approval of the Drinking Water and Wastewater Infrastructure Act of 2021, which authorizes the investment of more than \$35 billion in drinking water and wastewater infrastructure projects, and improvements to the Paycheck Protection Program for businesses affected by the COVID-19 pandemic. AFS also weighed in with comments to the U.S. Department of Commerce concern-

ing the impact of the semiconductor chip shortage on the U.S. metalcasting industry.

Other AFS-supported legislation under consideration includes the bipartisan Build America, Buy America Act and BuyAmerican.gov Act, which is included in the broader U.S. Innovation and Competition Act (S.1260) – the vehicle for the Endless Frontier Act and other China competition-focused legislation. This broader piece of legislation currently is being debated on the Senate floor.

A CAREER ENRICHED BY AFS INVOLVEMENT

A career in metalcasting can be extraordinarily rewarding. AFS plays a pivotal role in enriching metalcasting careers at every stage.

PRE-COLLEGE

- Foundry in a Box Demonstrations
- Melting Point, Website and Magazine

COLLEGE

- AFS and FEF Scholarships
- Student Chapters
- FEF Industry Night
- Student Casting Competition
- Student Attendance at Metalcasting Congress
- Joint FEF-AFS Letter to Graduates

CAREER

- Free First-Year AFS Membership
- Best Practices
- Future Leaders in Metalcasting
- Women in Metalcasting
- Publications
- Library Resources
- AFS Institute Courses & e-Learning
- Committee Involvement
- Technical & Management Conferences
- Regional Chapter Meetings
- Committee and Chapter Leadership
- New Technology Development and Research
- Case Study Applications
- Casting Connections Online Peer Network
- Industry Updates Through Member Connections
- Advocacy at AFS Fly-In
- Innovation/Technology at CastExpo & Congress
- AFS Awards
- Service Life Membership



IJMC Honored for Editorial Excellence

AFS's technical and research publication has been recognized for editorial excellence.

International Journal of Metalcasting and Editor-in-Chief Tom Prucha performed in the top 10% of all qualifying journals based on Springer Nature's Journal Author Satisfaction survey, the publisher announced in May.

"AFS is proud to publish IJMC, and we're

pleased to see Editor-in-Chief Tom Prucha recognized for his skilled leadership of this journal," said AFS CEO Doug Kurkul. "IJMC delivers vital metalcasting research to metallurgists, engineers, academics, and other foundry professionals. We thank Springer Nature for this recognition."

IJMC is a peer-reviewed quarterly journal that leads the way in the transfer of research and technology for the global metalcasting industry. It is the official research journal of the World Foundry Organization.

Last year, IJMC's Impact Factor, a widely used metric which reflects the number

of times a journal is cited by researchers, showed IJMC was the highest-ranked journal dedicated to serving the metalcasting industry.

Every AFS Corporate Member receives a subscription to IJMC as a Corporate Member benefit. Individual members can purchase a subscription through AFS. For individual member subscriptions, or to update or renew Corporate Member subscriptions to IJMC, email cusserv@afsinc.org. Non-members can subscribe at www.springer.com/us.

IJMC is published by AFS in partnership with Springer Nature Publications.

FOUNDRY 4.0

Foundry 4.0 Keynote Presentations

"The Future of Work and the Worker: Challenges and Opportunities for Manufacturing and Foundry Industries"

Diran Apelian

Distinguished Professor of Materials Science and Engineering, University of California, Irvine

"Current Trends in Manufacturing 4.0"

David Vasko

Director of Advanced Technology, Rockwell Automation

"How The Industrial Internet of Things is Part of the Cybercrime and Espionage World"

Jonathan Tomek

CEO, MadX

"Digital Twins: Cyber Security and Digital Manufacturing for the Metalcasting Industry"

Federico Sciammarella

President & CTO, MxD

Foundry 4.0 continued from Page 1

ference will come away understanding how to implement these technologies, make better use of their existing 4.0 infrastructure, and invest for the future of manufacturing. Through dynamic presentations and Q&As, speakers will share real-world examples of how foundries and other factories have successfully integrat-

ed technologies.

The Foundry Industry 4.0 Conference is live online June 7-10, with streaming available through July 10. Take part in every session or choose the topics you need most – either way, you'll have access to the full program for a month after the live event concludes. To register, visit www.afsinc.org/conferences/foundry-industry-40-conference.

New for AFS Corporate Members: Cybersecurity Protection

Manufacturers are prime targets for malicious computer hackers, collectively losing billions of dollars to ransomware attacks, phishing schemes, data leaks, and other cybersecurity problems. According to a recent study by Deloitte, 40 percent of manufacturing firms will experience a cyber attack over the course of one year, and over a third of them will suffer damages of \$1 million or more.

It's no surprise, then, that while manufacturers are more eager than ever to purchase cybersecurity protection, a shrinking number of insurers are willing to underwrite those policies. That's why AFS has partnered with the National Association of Manufacturers to offer NAM Cyber Cover, a cybersecurity insurance and risk mitigation program available to most AFS Corporate Members. Besides a traditional insurance policy, Cyber Cover includes a proactive risk assessment that measures a manufacturer's exposure to digital threats and provides tools to stop hackers before they get in.

This program is available to all AFS member foundries, as well as member suppliers who fall within the manufacturing NAICS code ranges of 31-33. To learn more about NAM Cyber Cover and how your company can be protected, visit www.afsinc.org/nam-cyber-cover.

AFS announces additions to Board of Directors

AFS has announced its officers and new board members for 2021-2022. Returning for a second year are the following officers:

- As President, Mike Lenahan, president of KB Foundry Services in Independence, Ohio.
- As Vice President, Adam San Solo, director of sales and engineering at U.S. Foundry & Manufacturing Company in Medley, Florida.
- As 2nd Vice President, Bradford Muller, vice president of marketing at Charlotte Pipe & Foundry in Charlotte, North Carolina.
- As Immediate Past President, Peter Reich, director at LAEMPE REICH, in Trussville, Alabama.

Together with the CEO, Doug Kurkul, they comprise the Society's Executive Committee.

AFS also welcomed four new members to the Board of Directors for four-year terms running through April 2025. They are:

- Kiley Eck Hayon, president of Eck Industries in Manitowoc, Wisconsin. Eck Industries is a prominent non-ferrous foundry and a corporate member of AFS. Ms. Hayon has a master's degree from the University of Wisconsin-Oshkosh and a bachelor's

degree in computer information systems from the University of Wisconsin-Stevens Point.

- Dr. Laura Bartlett, Wolf Associate Professor of Metallurgical Engineering at Missouri University of Science & Technology in Rolla, Missouri. She has a doctorate and a bachelor's degree from the same university.
- Liz Ulman, vice president of Dotson Iron Castings in Mankato, Minnesota. Dotson Iron Castings is a prominent ferrous foundry and a corporate member of AFS. Ms. Ulman has a master's degree in human resources from Central Michigan University and a bachelor's degree in behavioral sciences from the University of Wisconsin-Madison.
- Jay M. Morrison, vice president of equipment sales, for Carpenter Brothers in Comstock Park, Michigan. Carpenter Brothers is a 100-plus year-old company serving the foundry industry and is a corporate member of AFS. He has a master's degree in engineering management and a bachelor's degree in manufacturing engineering, with a cast metals focus, from Western Michigan University.

Rotating off of the Board of Directors is Michael J. Leib, past president and CEO of

Weatherly Foundry and Hazleton Foundry in Pennsylvania. "Mike Leib has made a tremendous contribution to the AFS Board over the past four years," said Mike Lenahan, AFS President. "We thank him for his service and his ongoing friendship."

Continuing to serve on the Board are the following industry leaders:

- Class of 2018-2022: Patrick Carlin (Superior Aluminum Alloys); Sara Joyce (Badger Mining); David Gilson (Sinter-Cast); and Jeet Radia (McWane Inc.).
- Class of 2019-2023: Pat Ameen (Amsted Rail); John P. Haas (Grede Inc.); John Lancaster (General Motors); and Angela Dine Schmeisser (St. Mary's Foundry).
- Class of 2020-2024: Rob Johnson (Waupaca Foundry); Jim Mancuso (Mancuso Chemicals); Andy Renkey (Harmony Castings/TPI Arcade); Peter Satre (Allied Mineral Products).

"AFS benefits from having a strong and diverse Board of Directors," Kurkul said. "During a challenging time for the metalcasting industry and all of manufacturing, the AFS Board has championed the organization's programs and provided sound wisdom in all Board deliberations. AFS is positioned to come out of the pandemic stronger than ever."

Council leaders for 2021-2022 announced

AFS recently announced its Council leaders and Research Board members, who together play important roles in advancing the AFS Strategic Plan.

The AFS committee structure is built around the Technical Council and the Management Council, both of which report to the Board of Directors. These councils help drive the AFS mission of advocacy, education, and innovation. There are 10 technical divisions and several dozen committees under the rubric of the Technical Council. Under the Management Council are five committees.

The 2021-2023 officers of the Technical Council are: Chair, David Weiss of Eck Industries; Vice Chair, Brian Began of Fosco; Secretary, Adam Kopper of Mercury Marine; and Secretary-Elect, Tim Hoyt of Allied Mineral Products.

AFS thanks them, and all of the members of the Technical Council, for their service to AFS and the industry. AFS also thanks outgoing Chair Greg Miskinis, formerly of Waupaca Foundry, for his outstanding leadership over the past two years.

The 2020-2022 officers of the Management Council are: Chair, Teresa Weber of ATEK Metal Products; and Vice Chair, Alexandria Trusov of Alpha Resources LLC. AFS thanks them and all of the members of the Management Council, for their dedication and service.

AFS also thanks past Chair Brad Muller of Charlotte Pipe & Foundry Co. for his leadership as the Council's first Chair.

The AFS Research Board is an independent board, reporting to the AFS Board of Directors, that authorizes, prioritizes and monitors AFS research investments. Currently, AFS has \$557,000 in metalcasting research projects underway, in addition to defense-related research as part of the American Metalcasting Consortium. For 2021-2022, the officers will be: Chair, Jim Archibald, formerly of ASK Chemicals; and members Andy Bain of Ford Meter Box; Don Craig of Watts Water Technologies Inc.; and Mark Osborne of Wabtec. One additional Research Board position is vacant and remains to be filled.

AFS is grateful to immediate past Chair David Jakstis of Spirit Aerosystems for his outstanding leadership and service to the Research Board over the past five years.

To learn more about AFS member involvement opportunities and how to sign up for committees, visit www.afsinc.org/afs-committees.

AFS AND THE INSTITUTE 2021-2022 BOARD OF DIRECTORS



PRESIDENT

Michael L. Lenahan

CEO
KB Foundry Services



VICE PRESIDENT

Adam San Solo

Director of Sales & Engineering
US Foundry & Manufacturing Company



2ND VICE PRESIDENT

Brad Muller

Vice President of Marketing
Charlotte Pipe & Foundry



IMMEDIATE PAST PRESIDENT

Peter C. Reich

Co-Owner
LAEMPE REICH



CEO

Doug Kurkul

CEO
American Foundry Society

DIRECTORS CLASS 2018 - 2022



Patrick Carlin

Sales Manager
Superior Aluminum Alloys



David Gilson

Sales and Marketing Director
SinterCast



Sara Joyce
Vice President of Quality and Technical Assurance
Badger Mining Corporation



Jeet Radia

Senior Vice President
McWane, Inc.

DIRECTORS CLASS 2019 - 2023



Patrick T. Ameen

Vice President Industry Relations
Amsted Rail Company, Inc.



John P. Haas

Plant Manager
Grede



John Lancaster

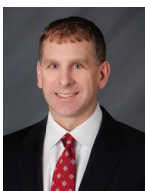
Plant Director
General Motors



Angela Dine Schmeisser

President and CEO
St. Marys Foundry, Inc.

DIRECTORS CLASS 2020 - 2024



Rob Johnson

VP Finance/CFO/
Treasurer
Waupaca Foundry



Jim Mancuso

Vice President
Mancuso Chemicals, Ltd.



Andrew C. Renkey

President
Harmony Castings/TPI Arcade



Peter Satre

Manager - Corporate Engineering
Allied Mineral Products LLC

DIRECTORS CLASS 2021 - 2025



Laura Bartlett, PhD

Wolf Associate Professor of Metallurgical Engineering
Missouri University of Science and Technology



Kiley Eck Hayon

President
Eck Industries, Inc.



Jay M. Morrison

VP of Equipment Sales/Eastern Region Sales Manager
Carpenter Brothers Inc.



Liz Ulman

Vice President
Dotson Iron Castings

Institute's training curriculum continues to evolve

When the AFS Institute launched its first round of Foundry E-Learning modules five years ago, it was new territory. Phrases like “asynchronous learning” hadn't yet entered the lexicon, and many people had never experienced virtual training.

Fast forward to 2021, and online learning is commonplace – and not just because of COVID. More and more universities are offering all-online degree programs, career platforms sell web workshops to everyone from high-schoolers to CEOs, and e-learning is viewed by many employers as an essential tool for workforce development.

The AFS Institute's programming has expanded, too. In the five years since Foundry E-Learning was created, the curriculum has swelled to 110 online modules covering everything from the basics of metalcasting to advanced, alloy- and process-specific concepts. More than 20 courses are available in Spanish, too. And recently, the Institute moved to a new learning management system, Absorb, which allows for better tracking of student progress, among other things.

The Institute's experience in web-based learning also allowed it to quickly pivot to online training in the wake of pandemic closures, ensuring metalcasters continued



Students appear in a Zoom meeting while taking part in a Live Online course from the AFS Institute. Online courses have flourished since they were introduced by the Institute in 2020.

to receive the training they needed even if they couldn't travel to an in-person course.

Recently, AFS marked one year since the launch of the Institute's Live Online courses, which are hosted on Zoom and taught by the same expert instructors who lead classroom courses. The live online classes have proved incredibly popular with students and their employers because they eliminate travel time and expenses while still building key skills and knowledge.

“We have received very positive reviews regarding the Live Online format from students, and we've been able to reach an international audience that wouldn't typically make the trip to Illinois — recently, students from Mexico, Canada, Turkey, and Australia

have attended!” said Jen Christian, Director of Training Solutions for the Institute.

The Institute was able to launch a new course – Process Control for Engineers – this spring, at a time when all courses have been offered online.

Students and employers who prefer hands-on training shouldn't worry. The Institute does plan to bring back in-person classroom courses, as well as in-plant training, when feasible and when companies are ready to welcome instructors.

To learn more about AFS Institute training, including course lists and Foundry E-Learning modules, visit www.afsinc.org/training-excellence-metalcasting. Contact Jen Christian at jchristian@afsinc.org with questions.

AFS EVENTS

Coming soon: Virtual and in-person conferences

AFS has a full slate of conferences scheduled for the coming months, including online and in-person events. Join us for knowledge-sharing, networking, and discussions about the topics that matter most to metalcasters. Register at www.afsinc.org/conferences.

- **Foundry Industry 4.0 Conference | Live online | June 7-10, streaming through July 10**

Learn how metalcasters can use Industry 4.0 innovations and technologies today to

improve productivity, profitability, and safety. This virtual conference features leading experts in areas such as cybersecurity, automation, and artificial intelligence.

- **Molten Aluminum Cleanliness Virtual Workshop | Live online | July 20-23**

Led by aluminum expert Rafael Gallo, this online workshop will provide a comprehensive look at molten quality, molten cleanliness assessment, and inclusions in castings. It covers the effects of common day-to-day melting, and molten handling and treatment practices, upon creation or minimization of hydrogen content, oxides, and inclusions in the melt, which in turn impact the final quality of a casting.

- **2021 Foundry Leadership Summit | Scottsdale, AZ | Sept. 12-14**

Recharge at this in-person summit, where leaders from all corners of the metalcasting industry will gather in an energizing setting for highly rated speakers, thought-provoking

REGISTRATION NOW OPEN

Find more information and sign up at afsinc.org/conferences.

discussions, and rich networking opportunities. Attendees will explore the profound changes sweeping the worlds of manufacturing, technology, economics, trade, and politics.

- **2021 Casting Copper Alloys Workshop | Schaumburg, IL | Sept. 14-15**

This workshop will provide details on commonly poured copper alloys and metallurgy, with emphasis on best practices for melt cleanliness, pouring, and casting process control. It is geared towards foundry management, supervisors and operators to further their knowledge of copper-based alloy casting processes and help with finding solutions for the foundry.

Metalcasting Congress 2021 success: AFS hosts first-ever virtual Congress

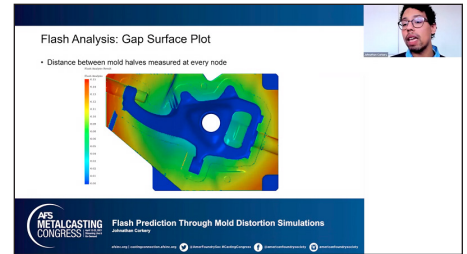
In 125 years of Metalcasting Congress history, perhaps none was as unique as the 2021 installment. This April marked the first time the major metalcasting event was held virtually, the result of ongoing travel and gathering restrictions due to the pandemic.

Despite the unique online “venue,” attendees would have been familiar with most of the offerings.

Metalcasting Congress 2021 still included nearly 70 technical and management sessions covering everything from alloy- and process-specific topics to government affairs issues, plus digital displays from industry exhibitors. AFS thanks the many sponsors, exhibitors,



Left: The virtual lobby of Metalcasting Congress, where attendees navigated after signing in. **Right:** Johnathan Corkery presents "Flash Prediction Through Mold Distortion Simulations," one of nearly 70 sessions at Metalcasting Congress 2021.



presenters, and attendees who made the event a success.

Next year, CastExpo returns in person to Columbus, Ohio, on April 23-26, 2022.

Check for updates and information about this major tradeshow and Congress – the first of its kind since 2019 – at www.afsinc.org/tradeshows/castexpo-2022.

Award-winners honored at Metalcasting Congress

AFS awarded eight international metalcasting awards by video at Metalcasting Congress 2021. The award recipients are:

- 2020: Dr. Kumar Sadayappan, CanmetMATERIALS, Hamilton, ON, Canada (John A. Penton Gold Medal)
- 2020: Cathrine Hartung, Elkem Foundry Products, Kristiansand, Norway (Award of Scientific Merit)
- 2020: Dr. John Campbell, Campbell Technology Ltd., Herefordshire, U.K. (Award of Scientific Merit)
- 2020: Dr. Sam Ramrattan, Western Michigan University, Kalamazoo, MI (Service Citation)
- 2020: Jeff Sorenson, Lee Brass Co., Anniston, AL (Service Citation)
- 2021: Diran Apelian, University of California, Irvine, CA (Award of Scientific Merit)
- 2021: Brian Began, FOSECO, Cleveland, OH (Service Citation)
- 2021: Dr. Russ Rosmait, Pittsburg State University, Pittsburg, KS (Service Citation)



Dr. Russ Rosmait accepts his AFS Service Citation during the Metalcasting Congress awards ceremony.

To view the awards ceremony, visit the AFS YouTube Channel, AFS MCTV.

Casting of the Year: Front subframe engine cradle by Magna

Congratulations to Magna, winner of the Casting of the Year Award announced at Metalcasting Congress 2021. The Battle Creek, Michigan, metalcasting facility used innovative engineering to successfully produce a large perimeter-type aluminum subframe designed for the 2021 Acura TLX, a premium sport sedan developed by Honda Development & Manufacturing of America, LLC.

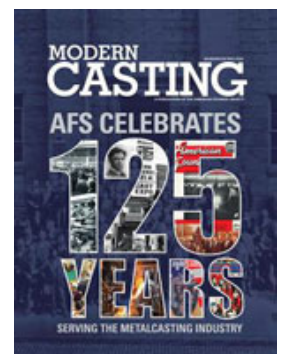


Modern Casting publishes 125th anniversary supplement

AFS traces its history back to 1896, when the first Metalcasting Congress was held in Philadelphia. To commemorate AFS's 125th anniversary, *Modern Casting* compiled a special 92-page issue celebrating the history of AFS and the metalcasting industry.

It's filled with vintage photos, historical highlights, and an exploration of how the foundry industry and AFS have shaped

the broader manufacturing landscape. If you're a *Modern Casting* subscriber, you should have received your own keepsake copy in the mail. To view the digital issue or to subscribe, visit www.moderncasting.com.



PROTECT YOUR DIGITAL ASSETS

**Manufacturers
are a prime target
for hackers.**

**Don't leave your
company vulnerable.**

NAM Cyber Cover through **AFS** gives Corporate Member companies the advantage of insuring some of their most valuable resources – their digital properties – against cyber threats while also providing them with a risk assessment to identify areas of vulnerability.

For more information, visit:
AFSinc.org/nam-cyber-cover

*Get your complimentary risk
assessment today. Scan here.*



AFS WELCOMES NEW CORPORATE MEMBERS

Through May 15, 2021



Doral Corporation
Milwaukee, Wisconsin

**LightSpeed
Concepts Inc.**
Albion, Michigan



Magretech LLC
Bellevue, Ohio



Midland Technologies Inc.
Rogers, Minnesota



Smith Castings LLC
Kingsford, Michigan



TASSCO
Birmingham, Alabama



XSEL Technologies
Dover, New Hampshire

AFS EVENTS

Foundry Industry 4.0 Conference | June 7-10, streaming through July 10 | Online

Molten Aluminum Cleanliness Virtual Workshop | July 20-23 | Online

2021 Foundry Leadership Summit | Sept. 12-14 | Scottsdale, AZ

2021 Casting Copper Alloys Workshop | Sept. 14-15 | Schaumburg, IL

INSTITUTE COURSES

Introduction to Metalcasting: Live Online | June 1-3, 1-5 p.m. CT

Nobake Molding and Coremaking 101: Live Online | June 10-11, Noon-4 p.m.

Design and Optimization for 3D Sand Printing: Live Online | June 15-17, 1-5 p.m.

Green Sand Molding 101: Live Online | June 22-23, 1-5 p.m.

Casting Defect Analysis: Live Online | June 28-30, Noon-4 p.m.

Iron Metallurgy 201: Live Online | July 7-9, Noon-4 p.m.

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CEO
KB Foundry Services

Adam San Solo, Vice President
Director of Sales & Engineering
US Foundry & Manufacturing Company

Bradford Muller, 2nd Vice President
Vice President of Marketing
Charlotte Pipe & Foundry

Peter C. Reich, Immediate Past President
Co-Owner
LAEMPE REICH

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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.



AFS Institute

UPCOMING LIVE ONLINE COURSES

The *AFS Institute* is offering introductory and career-advancing courses *Live Online*. Get the tools and knowledge you need from the comfort of your own home or office via Zoom.

Check out all the *AFS Institute's* upcoming courses online at www.afsinc.org/courses.

Questions?

Contact **Jen Christian**,
Director of Training Solutions, at
jchristian@afsinc.org.

Green Sand Molding 101

June 22 - 23 | 1 - 5 p.m. CT

This course is an introduction to the green sand molding process used within a metalcasting facility.

Casting Defect Analysis

June 28 - 30 | Noon - 4 p.m. CT

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

Iron Metallurgy 201

July 7 - 9 | Noon - 4 p.m. CT

This course provides participants with knowledge and skills regarding terminology, principles, and techniques for the metallurgy of gray and ductile iron casting alloys.

The 10-step Method for Corrective Action

July 13 | Noon - 4 p.m. CT

This course provides participants a basic overview of the casting defect analysis procedure, and an introduction to the 10-Step Procedure for casting defect identification.