New technology meets industry excellence at Metalcasting Congress 2021. For the first time in its 125-year history, the premier conference and trade show for the metalcasting supply chain is going online, bringing the best in industry innovations, sales, and education to browsers worldwide.

From cutting-edge research to interactive exhibits, Metalcasting Congress 2021 is the best way to connect with suppliers, foundries, buyers, and peers. In the office, on the road, or at home — wherever you are, be ready for what tomorrow brings by joining Metalcasting Congress 2021.
The virtual Metalcasting Congress 2021 is your chance to connect with suppliers, peers, and customers. Catch new ideas to excel at your job and improve your business. Take advantage of the heralded technical and management sessions PLUS keynote speakers, the virtual exhibit floor, and designer & buyer-focused sessions.

METALCASTING CONGRESS 2021 DELIVERS:

OUTSTANDING KNOWLEDGE-SHARING
This year’s show features dozens of technical and management sessions covering the latest research and best practices.

Learn from industry experts whose practical advice will help you improve operations, efficiency, quality, and sales.

TOPICS INCLUDE:
• Ferrous and non-ferrous alloys
• Additive manufacturing
• Engineering
• Environmental, health, & safety
• Molding
• Quality control
• Workforce development
• Marketing and sales

CUTTING-EDGE EXHIBITS
Experience fully interactive digital displays from leading suppliers and metalcasters.

Discover products and services to unlock your company’s success. Chat with representatives, get answers to your questions and identify solutions to your manufacturing challenges.

DESIGN & BUYING EXPERTISE
Gain unique insights into casting design and purchasing with the Designers & Buyers Track, a series of informative sessions offered exclusively at Metalcasting Congress. Plus, connect with the best in metalcasting when you visit with Cast in North America exhibitors.

WHO ATTENDS METALCASTING CONGRESS?
Attendees of Metalcasting Congress 2021 include a wide range of industry professionals with enormous purchasing power.

ATTENDEES INCLUDE:
• Purchasing agents
• Consultants
• Metalcasting professionals
• Equipment suppliers
• Designers
• Engineers
• Production managers
• R&D personnel
• Human resources
• Future leaders of metalcasting
• Management
• Casting purchasers
• Marketing professionals
• Corporate executives
• Manufacturing staff
• Production personnel
• Quality personnel

Do you work for an OEM? Find your source for high-quality parts when you explore the Cast in North America exhibit, featuring top North American metalcasters.

EXHIBITS PASS
Get total access to the virtual exhibit floor and the Designers & Buyers Track.

REGISTER EARLY AND SAVE!

Early registration ends March 1.

ALL ACCESS EXPERIENCE
The complete Metalcasting Congress experience includes full access to all technical and management sessions, Hoyt Memorial Lectures, the keynote address, the Designers & Buyers Track, and the full virtual exhibit floor.

EARLY PRICING
(Until March 1, 2021)
$10.00 Exhibits Pass
AFS Member
$15.00 Exhibits Pass
Non-Member
$250.00 All Access Experience
AFS Member
$300.00 All Access Experience
Non-Member

STANDARD PRICING
(Effective March 2, 2021)
$20.00 Exhibits Pass
AFS Member
$30.00 Exhibits Pass
Non-Member
$300.00 All Access Experience
AFS Member
$400.00 All Access Experience
Non-Member

REGISTER ONLINE
www.MetalcastingCongress.org
Every year, industry luminaries, top researchers, and business thought-leaders share their insights as speakers at Metalcasting Congress. From keynote addresses and lectures to research presentations and panel discussions, these experts explore the exciting present and promising future of metalcasting.

**AWARDS PRESENTATIONS**

Awards have always been a big part of Metalcasting Congress. Both the All Access Experience and Exhibits Pass will allow you to view the 2020 and 2021 AFS Awards Presentations. Enjoy fast-paced videos from several honorees upon receipt of their AFS Gold Medal, Service Citation or Scientific Merit Awards. It’s a part of the show experience you won’t want to miss.

**KEYNOTE & HOYT MEMORIAL LECTURE SPEAKERS**

**MONDAY, APRIL 12TH** **HOYT LECTURE KEYNOTE SPEAKER SPONSORED BY LAMPE REICH:**

**GREG HESSKES**
Retired, Waupaca Foundry

“Transformation of the Modern Foundry”

The foundry industry has been in a state of transformation for over 2,600 years. From shapes carved into stone, to topologically optimized and additive manufacturing-facilitated creations, the evolution of metalcasting is easily witnessed. Whether this change has come about by man, method, market or market is debatable. With the gradual shift from personal vehicles with internal combustion engines to semi- or fully autonomous electric vehicles, competing in these shrinking markets will likely require agile and novel foundry solutions. This Hoyt Lecture will examine how foundries have been transformed primarily by shifts in the workforce, market pressures brought by global flattening (competition), environmental, health and safety changes and even by disaster.

**MONDAY, APRIL 19TH** **KEYNOTE SPEAKER:**

**HARRY MOSER**
Founder, Reshoring Initiative

“How to Benefit from Shorter Supply Chains”

Reshoring and foreign direct investment (FDI) have brought back over 700,000 U.S. manufacturing jobs in the last 11 years. At the same time, the COVID crisis has demonstrated the risk of long supply chains. In fact, a recent IDC survey showed that 24% of companies are planning to change how they source or produce, and 22% plan to reshore to the U.S.

Harry Moser, president of Reshoring Initiative, will explore how U.S. foundries can take advantage of the trend toward shorter supply chains and what that means for reshoring and FDI. Plus, discover how Reshoring Initiative’s Total Cost of Ownership Estimator and the Import Substitution Program can help your company land contracts that otherwise would have gone overseas.

**TUESDAY, APRIL 20TH** **HOYT LECTURE KEYNOTE SPEAKER:**

**TOM PRUCHA**
President, MetaMorphasis LLC | Editor-in-Chief, International Journal of Metalcasting

“Metalmorphasis Change and Transition”

Change is constant, as nothing stays the same. Consider the words of the Chinese philosopher Lao Tzu, “Life is a series of natural and spontaneous changes. Don’t resist them—that only creates sorrow. Let reality be reality. Let things flow naturally forward in whatever way they like.” Some changes are the result of biology and the passage of time, within the natural cycle or order of things. Others are self-generated, under our own control and willful effort, or dependent upon encounters with significant others—family, friends, colleagues, and others close to us. Still, other changes occur because of circumstance or fate, a proverbial “date with destiny” and often beyond what we feel is our control. Whether it is our personal life or occupational, like metalcasting, this change can facilitate transition and transformation. Prucha has coined the term metalmorphasis, and this lecture is a reflection of how to embrace change and use it as a vehicle for new opportunities. Beyond the technical, this lecture looks at how we as metallurgists and metalcasters apply change (time, temperature, pressure, chemical reactions, etc.) to transform metals and create metalmorphosis.
<table>
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<th>SESSION SCHEDULE</th>
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<td><strong>MONDAY, APRIL 12</strong></td>
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| Doug Kurkul  
CEO, American Foundry Society |
| **HOYT LECTURE:** Transformation of the Modern Foundry |
| Greg Miskinis  
Retired, Waupaca Foundry |
| **ALUMINUM & LIGHT METALS DIVISION** |
| Relation Between the Porosity Level and the Radiographic Quality in Aluminum A356 Castings  
Franco Chiesa  
Chief Scientist, Quebec Metallurgy Center |
| **CAST IRON DIVISION** |
| Panel: Non-Silica Sands  
Chris Barnes  
Engineering Specialist, Caterpillar Inc.  
Scott Giese  
Professor, University of Northern Iowa  
Jerrod Miller  
Plant Metallurgist and Foundry Engineer, Wear-Tek |
| **CASTING DESIGNERS AND BUYERS** |
| Trends in Reducing Weight in Metalcasting  
Andrew Halonen  
President, Mayflower Consulting LLC |
| **COPPER DIVISION** |
| Lead Contributors in Drinking Water and Beyond: What the Science is Saying  
Justine Parker  
Managing Health Scientist, Cardno ChemRisk |
| **WOMEN IN METALCASTING** |
| 2020 Hindsight: Reflect on Diversity, Equality and Inclusion  
Sandra Calabrese  
Operations Manager, General Motors |
| **TUESDAY, APRIL 13** |
| **ALUMINUM & LIGHT METALS DIVISION** |
| Sprue Bushing Filter Benefits in the Low-Pressure Casting Process  
Rafael Gallo  
Technical Consultant, Pyrotek Inc. |
| **ALUMINUM & LIGHT METALS DIVISION** |
| Melt-Refractory Interactions During Aluminum Melt Processing  
Emre Cinkilic  
Researcher, The Ohio State University |
| **CAST IRON DIVISION** |
| Effect of the Type of Inoculant on the Shrinkage Porosity of High Silicon SG Iron  
Gorka Alonso  
Azterlan |
| **CAST IRON DIVISION** |
| The History and Evolution of Inoculants  
Cathrine Hartung  
Senior R&D Engineer, Elkem Foundry Products |
| **CAST IRON DIVISION** |
| Effect of the Type of Inoculant on the Shrinkage Porosity of High Silicon SG Iron  
Gorka Alonso  
Azterlan |
| **CAST IRON DIVISION** |
| Honorary Lecture: Trends and Challenges for the Iron Foundries  
Patricio Gil  
CEO, MAPPSA |
| **CAST IRON DIVISION** |
| Understanding the Effect of Boron in Gray Iron  
Suyash Pawaskar  
Graduate Teaching Assistant, Missouri University of Science and Technology |
| **CAST IRON DIVISION** |
| Ductile Iron Front End Ultrasonic Nodularity Determination Using Standard Coupons  
Mike Robles, Jr.  
Quality Manager, Grede - New Castle |
| **ALUMINUM & LIGHT METALS DIVISION** |
| Novel Approach to Thermal Processing Development for Precision Sand Casting Process in Aluminum 319 Alloy  
Robert Mackay  
Principal Metallurgist, Nemak Canada Corp. |
| **ALUMINUM & LIGHT METALS DIVISION** |
| Machinability Characteristics of Aluminum Cast Alloys  
Dr. Yasser Zedan |
| **CAST IRON DIVISION** |
| Honorary Lecture: Trends and Challenges for the Iron Foundries  
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Mike Robles, Jr.  
Quality Manager, Grede - New Castle |

**Schedule is subject to change.**
CASTING DESIGNERS AND BUYERS
Finding a Solution With Lost Foam: An Aluminum Case Study
Curtis Taylor
Quality Manager, BRP

GOVERNMENT AFFAIRS DIVISION
Key Metalcasting Issues Moving Through the US Congress and Key Agencies
Stephanie Salmon
Vice President of Government Affairs, American Foundry Society
Eric Meyers
CEO, Oil City Iron Works Inc.

THURSDAY, APRIL 15
STEEL DIVISION
The Value of Scrap, Rework and Yield at Steel Foundries
Roy Stevenson
Ferrous Applications Manager, Magma Foundry Technologies Inc.

STEEL DIVISION
Sand Casting of Surface-alloyed Butterfly Valve with Improved Hardness and Corrosion Resistance by Incorporating Metal Powders In Mold Coatings
Kaustubh Rane
Graduate Teaching Assistant, University of Wisconsin-Milwaukee

ALUMINUM & LIGHT METALS DIVISION
Predictive Analysis of Water Wettability and Corrosion Resistance of Secondary AlSi10MnMg(Fe) Alloy Manufactured by Vacuum Assisted High Pressure Die Casting
Swaroop Behera
Student, University of Wisconsin-Milwaukee

ALUMINUM & LIGHT METALS DIVISION
Thermodynamic Modeling of Solid Flux Interactions with Molten Aluminum
Michael Moodispaw
Graduate Research Associate, Ohio State University

MOLDING METHODS & MATERIALS DIVISION
Cast Magnesium Foam for Energy Absorption and Bone Regrowth
Hannah Ullberg
Student, University of Wisconsin-Milwaukee

MOLDING METHODS & MATERIALS DIVISION
Root-cause Analysis and Problem Solving of Shrink Defects in Aluminum Alloy by Solidification Rate Study
Sritama Kar
Research and Development Manager, ASK Chemicals

STEEL DIVISION
Titanium Master Alloy Effect on 1030
Robert Tuttle
Professor, Saginaw Valley State University

STEEL DIVISION
Potential Applications of Patented Lightweight Steel in Armored Vehicles
Hathibelagal Roshan
Chief Metallurgist, Maynard Steel Casting Co.

STEEL DIVISION
Quantifying the Effect of Filling Conditions on 8630 Steel Casting Quality
Laura Bartlett
Associate Professor, Missouri University of Science & Technology

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Predictive Analysis of Water Wettability and Corrosion Resistance of Secondary AlSi10MnMg(Fe) Alloy Manufactured by Vacuum Assisted High Pressure Die Casting
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ENGINEERING DIVISION
Casting Cooling Technology New Solutions and Applications
Gaetano Coraggio
Technical Sales Engineer, Magaldi Technologies LLC

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How to Benefit from Shorter Supply Chains
Harry Moser
President, Reshoring Initiative

ADDITIVE MANUFACTURING DIVISION
The Preferred Numerical Method for Process Simulation of 3D Printed Sand Mold Castings
Ken Siersma
Software Engineer, EKK Inc.

ADDITIVE MANUFACTURING DIVISION
Wireless Foundry Process Sensors for IOT Applications
Jerry Thiel
Director, University of Northern Iowa
Eric MacDonald
Engineering Professor, The University of Texas at El Paso

MOLDING METHODS & MATERIALS DIVISION
Root-cause Analysis and Problem Solving of Shrink Defects in Aluminum Alloy by Solidification Rate Study
Sritama Kar
Research and Development Manager, ASK Chemicals

MOLDING METHODS & MATERIALS DIVISION
How Any Foundry Can Diversify Into Lost Foam Casting at Negligible Cost
Mark DeBruin
Plant Manager, Skuld, LLC

MOLDING METHODS & MATERIALS DIVISION
Thin Walled Ductile Iron With Carbide Free Microstructure Down to Under One Millimeter In Lost Foam and Nobake Casting
Sarah Jordan
Product Manager, Skuld, LLC

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Sarah Jordan
Product Manager, Skuld, LLC

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CASTING DESIGNERS AND BUYERS
The Underutilized Advantage: Benefiting From Life Cycle Analysis
Jeremy Lipshaw
Product Development Engineer, Unaffiliated

TUESDAY, APRIL 20

LOST FOAM DIVISION
Lost Foam Stainless Steel
Marshall Miller
President, Tesserract4D

MOLDING METHODS & MATERIALS DIVISION
Silver Anniversary Lecture - Air Flow Variations Within a Corebox: A Study of Vent Open Area and Sand Variables
David Gilson
Sales Director, SinterCast Inc.

CASTING DESIGNERS AND BUYERS
Iron Casting Conversion Case Study
Mark Mundell
Director of Sales, Lethbridge Iron Works Co. Ltd.

ENGINEERING DIVISION
Do you have Energy Leeches in your Plant? (Interactive Jeopardy Session)
Bob Baird
Energy Sustainment Manager, General Motors
Zach Meadows
Business Development Specialist, Electric Controls & Systems Inc.

ADDITIVE MANUFACTURING DIVISION
Characterizations of 3D Printed Polymethyl Methacrylate for Expendable Tooling Applications
Nathaniel Bryant
Materials Scientist, University of Northern Iowa

ADDITIVE MANUFACTURING DIVISION
Evaluation of a Low-Cost Material Extrusion Printer for Investment Casting Applications
Tom Mueller
President, Mueller AMS

ADDITIVE MANUFACTURING DIVISION
Lightweighting an Aircraft Casting: A Case Study
Tom Mueller
President, Mueller AMS

MELTING METHODS & MATERIALS DIVISION
Revisiting the Dalton Chart: Predicting the Impact on Green Sand Properties as a Function of Carbonaceous Additive Concentration
Liam Miller
Technical Director, American Colloid Co.

MOLDING METHODS & MATERIALS DIVISION
Evaluating Foundry Molding Emission Reduction Through Use of Slurry From Dust Reclamation
Victor LaFay
Research and Technical Development Manager, Common Sense Applications

WEDNESDAY, APRIL 21

MELTING METHODS & MATERIALS DIVISION
Panel: Coreless Induction Furnace Maintenance
Moderator:
Bradley Meibers
Application Engineer, Saint-Gobain
Panelists:
Chuck Cushing
Installation Sales Manager, EMSCO, Incorporated
Pete Satre
Manager of Corporate Engineering, Allied Mineral Products, LLC

MOLDING METHODS & MATERIALS DIVISION
Revisiting the Dalton Chart: Predicting the Impact on Green Sand Properties as a Function of Carbonaceous Additive Concentration
Liam Miller
Technical Director, American Colloid Co.
ENVIRONMENTAL, HEALTH, AND SAFETY DIVISION
Community Engagement Strategies for the Proactive Metalcaster
Bryant Esch
Director of Environmental Engineering, Waupaca Foundry
Zeydi Gutierrez
Public Affairs Strategic Director, McWane Inc.
Jenny Pappalardo
Environmental Compliance, Charlotte Pipe & Foundry Co.

ENVIRONMENTAL, HEALTH, AND SAFETY DIVISION
Engagement: Safety’s Gold Standard
Dr. Ken Chapman
President, Ken Chapman & Associates

ENGINEERING DIVISION
Beyond the Buzz: A Practical Implementation and Result of Industry 4.0 in Working Foundries
Lizeth Medina-Bailiet
Quality & Technical Services Manager, Neenah Foundry Co.
Eric Nelson
Vice-President, Dotson Iron Castings
Jim Wenson
Product Manager Sinto Analytics, Sinto America, Inc.

CASTING DESIGNERS AND BUYERS
Working With Your Casting Vendor to Reduce Defect Rate
James Bohlen
Advanced Quality Engineer, Allison Transmission

MOLDING METHODS & MATERIALS DIVISION
Smoke Suppression in Phenolic Urethan-bonded Sand Systems Through Use of Sand Additives
Paula Vivas
Research & Development Manager, ASK Chemicals

MOLDING METHODS & MATERIALS DIVISION
Environmentally Friendly Process for Fully Recycling Alkaline Batteries in Cupolas
Bruno Sokoloff
Associate, ECO’Ring

MOLDING METHODS & MATERIALS DIVISION
Sand Processing Methods Show Reduction of Respirable Silica for the Foundry Industry
Sairam Ravi
Project Manager, University of Northern Iowa

MOLDING METHODS & MATERIALS DIVISION
Machine-learning Based Dynamic Compactibility Set-point Control Solution for Improved Casting Outcomes
Deepak Chowdhary
Managing Director, MPM Infosoft Pvt. Ltd.

GOVERNMENT AFFAIRS DIVISION
Navigating Compliance & Enforcement of the Buy America and the Buy American Provisions
Christopher Weld
Partner, Wiley Rein LLP

MELTING METHODS & MATERIALS DIVISION
Panel: Channel Induction Furnace Refractory Troubleshooting
Pat Leper
CEO, Saveway USA Corp.
Tim Hoyt
Manager, Product Services Engineering, Allied Mineral Products Inc.

ENVIRONMENTAL, HEALTH, AND SAFETY DIVISION
Panel: EHS Hot Topics
Greg Kramer
Corporate Environmental Manager, ME Elecmetal
Jeet Radia
Senior Vice President, McWane Inc.
Stephanie Salmon
Vice President of Government Affairs, AFS

CASTING DESIGNERS AND BUYERS
Should You Cast It?
Jiten Shah
President, PDA LLC, Naperville, IL

ENGINEERING DIVISION
Strategic Energy Management Opportunities for Foundries
Michael Stowe
Senior Energy Engineer, Advanced Energy

MELTING METHODS & MATERIALS DIVISION
Statistical Comparisons of 4 Different Thermal Analysis Sample Cup Types for Chemistry Control of Ductile Base Iron
Isaiah Grybush
Process Engineer, Grede-New Castle

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