Foundry Transformations & The Impact of Smart Technologies
Purdue University, West Lafayette, IN,
Stewart Center Rm 214
Tuesday, May 7th, 2024

AGENDA

8:00 AM **Registration & Check-In** (*Breakfast Provided)*

8:30 AM **Purdue & The Smart Mfg. Institute (CESMII) Welcome**
Dr. Ragu Athinarayanan (Professor & Session Lead) & John Dyck (CEO CESMII)

8:40 AM **The Smart Mfg. Institute (CESMII) & the Purdue SMIC: Mission & Scope**
Dr. Ragu Athinarayanan (Director of Purdue SMIC)

9:00 AM **Morning Keynote**: **Michael Halsband, President & CEO, Roberts Sinto Corp.**
Smart Digital Business Transformation

9:30 AM **Presentations:**
Optimizing Casting Quality & Harnessing the Power of Smart Technology
- Foundry Analytics & Enhancing Casting Quality Management – Jim Wenson (Sinto America)
- Harnessing Vision AI for Casting Quality Excellence – Michael Walton (BCD iLabs)
- Digital Twin Innovation: Casting Quality Modeling & Prediction – Dr. Ragu Athinarayanan (Purdue University)

10:45 AM **Break**

11:00 AM **Tour of Purdue Smart Foundry & Manufacturing Facilities**

12:00 PM **Lunch**

1:00 PM **Afternoon Keynote: Derek Fogle, Environmental Coordinator, Waupaca Foundry, Inc.**
Building the Green Foundry: Sustainability Initiatives at Waupaca Foundry, Inc.

1:30 PM **Presentations:**
Foundry Safety & Harnessing Smart Technology Solutions
- Vision AI for Monitoring Safety Compliance – Michael Walton (BCD iLabs)
- Smart Connected Wearable Sensors for Human Fatigue Detection – Dr. Gaurav Nanda & Dr. Sunghwan Lee (Purdue University)

2:20 PM **Break**

2:35 PM **Moderated Panel Discussion (Brian Lewis, FEF: Session Moderator)**
- Smart Technology Deployment in Foundries: Opportunities and Challenges
- Leveraging Partnerships & Forging Linkages for Foundry Advancement

***Panelists**: Susan Bear, Chief Technology Officer, Grede*
Mike Molfenter, Digital Program Manager, Caterpillar Inc.

Michael Halsband, President & CEO, Roberts Sinto Corp.

3:20 PM **Q&A and Open Discussion**

3:30 AM **CESMII Membership Benefits and Resources**
Dr. Ragu Athinarayanan

3:45 PM **Program Close & Adjourn**

Keynote Speaker Bios



Michael Halsband, PhD
President & CEO,
Roberts Sinto Corp.

Michael Halsband is the President and CEO of Sinto America companies, where he has been driving strategic growth since 2017. In this role, he oversees various subsidiaries, including Roberts Sinto Corporation, Roberts Sinto de Mexico, National Peening, Technical Metal Finishing, 3D Ceram Sinto Inc., and Frohn North America. Prior to joining Sinto America, Halsband served as the General Manager at ATS Assembly & Test and held the position of Global Director of Supply Chain at Comau, a company within the Stellantis Group. With a background in engineering, he received his Master of Science degree in Mechanical Engineering in 1990 and PhD in Tribology research for internal combustion engines in 1994 from the University of Hannover, Germany. Throughout his career, Halsband has held various leadership roles in engineering, sales, project management, and supply chain development at ThyssenKrupp companies in both the United States and Germany.



Derek Fogle
Corporate Environmental Coordinator,
Waupaca Foundry, Inc.

Derek Fogle is Corporate Environmental Coordinator for Waupaca Foundry, Inc. responsible for environmental engineering, compliance and sustainability activities for a principal gray and ductile iron metalcaster. Derek has 25+ years of experience in the field of Environmental Health & Safety across a broad range of industrial sectors. He holds a BS degree in Occupational Safety & Environmental Management from Murray State University.

Panelist Bio's



Susan Bear
Chief Technology Officer (CTO),
Grede LLC

Susan Bear is the Chief Technology (CTO) of Grede LLC. Grede is a leader of premier ductile, gray, and specialty iron castings. Susan is responsible for accelerating and ensuring the move and shift into Industry 4.0 through robust processes in Engineering, Quality Program Management, and Information Technology (IT). In addition, she provides strategy and vision for shifting the industry of foundry in the future, through technology, mentorship, and collaboration with industry experts throughout the world. Susan also sits on the board of directors for the American Foundry Society (AFS) for the 2024-2028 term. She joined Grede in July 2018. Prior to that, she spent 14 years at Stabilus GmbH, where she served most recently as Director of Engineering and Program Management. She also held roles in Application Engineering, Program Management, and Sales Management. Susan began her career as a Design Engineer in the manual clutch division at ZF Sachs. She holds a Bachelor of Science in Mechanical Engineering, with highest honors, from Lawrence Technological University in Southfield, Mich., and a Master of Business Administration, with honors, from Wayne State University in Detroit.



Mike Molfenter
Digital Program Manager,
Caterpillar Inc.

Mike Molfenter brings over 16 years of experience in the manufacturing industry to his role as a Digital Program Manager at Caterpillar. At Caterpillar he has held key positions such as Lead Manufacturing Engineer for Block Machining and 6 Sigma Black Belt for the Machining Processes. In his current role, Mike spearheads digitalization initiatives at Caterpillar, leveraging his expertise to steer the facility into the digital era. With a background in continuous improvement, Mike uses 6 Sigma methodologies and has previously served as a Black Belt focusing on driving operational excellence. His skills extend beyond manufacturing to include logistics management, operations management, and computer-aided design (CAD). Mike holds a BS degree in Manufacturing Engineering Technology (MET) and a Master of Business Administration (MBA), both from Purdue University. With his diverse skill set and passion for driving technological advancements, Mike and his team are a driving force behind Caterpillar's ongoing success at the Lafayette plant.