

**Steel Founders' Society of America**  
**National T&O Conference – December 12-14 2019**  
**Wright Ballroom 3-5, Loews Hotel, Chicago, IL**

**Session 1**

**Thursday Morning – December 12**

**9:00 AM**

- 1.1 4.0 Information Management: Touch Screen Data Capture  
*Jean-François Carton, Kyvu Tran, Jean-François Carton, Safe Metal*
- 1.2 Robotic Grinding in a Job Shop  
*John Anderson, Northern Stainless Corporation*
- 1.3 Advances in Cleaning Room Cut-Off Technology  
*Doug Imrie, Southern Cast Products*
- 1.4 Start Somewhere: Digitalization in a High Mix Foundry  
*Michael Oyervides, Ryne Felhofer, MetalTek International Wisconsin Investcast Division*
- 1.5 The Inari of Things (IoT) at POK  
*Giorgio Moreno, Corporacion POK*
- 1.6 Alternative Manufacturing Routes through the use of Predictive Technology and Optimised Organisational Structure  
*Ian Nicholls, Ian Nicholls, Jesus Talamantes-Silva, Sheffield Forgemasters Engineering Ltd.*
- 1.7 Tracking Castings in Cleaning Room with ERP - Part II  
*Daniel Wile, Southern Cast Products, Inc. (Meridian, MS)*
- 1.8 Visual Management for Pouring and Cooling  
*Tammy Chacon, James White, ME Elecmetal (Tempe, AZ)*
- 1.9 Engineering Controls Applied to Work Booth Design to Meet OSHA Requirements  
*Stephen Gear, Bradken (Tacoma, WA)*
- 1.10 Foundry Safety Statistics  
*Ryan Moore, SFSA*

**Industry Luncheon**

**12:00 PM**

**Session 2**

**Thursday Afternoon – December 12**

**1:45 PM**

- 2.0 SFSA Market Forecast (No paper)  
*Steve Cooke, Badger Alloys*
- 2.1 Gimmicks and Gadgets  
*John Cory, Ashland Foundry and Machine Works, LLC*
- 2.2 Use of Thermal Lance for Cutting Big Stainless Steel Risers  
*Emmanuel García Zalapa, Jorge León Murillo, Fundidora Morelia*
- 2.3 Redesign of EAF Gantry Superstructure  
*Kyle Skelly, McConway & Torley, LLC.*
- 2.4 Lessons learned from an 85 Ton Induction Furnace Installation  
*Nate Bird, Naval Foundry and Propeller Center*
- 2.5 Electric Forklifts - An ROI Evaluation  
*David Fazakerley, Eagle Alloy Inc.*
- 2.6 Effect of Microalloying on Plain Carbon Steel Mechanical Properties  
*Brandon Reihle, Spuncast, Inc. (Peaslee Scholarship Intern)*
- 2.7 Improving Melt Shop Operations  
*David Torri, Andritz, Inc. (Peaslee Scholarship Intern)*

▪ SFSA Member or staff

▫ Researcher or industry consultant

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- 2.8 Investigation in Wall Thickness of Steel Cast Railroad Couplers  
*Brandon Reihle, SpunCast, Inc. (Schumo Scholarship Intern)*
- 2.9 The Investigation of Cracking Between Normalize and Quench Operations in a Medium Alloy Steel Grade  
*Jacob Melvin, Harrison Steel Castings Company (Schumo Scholarship Intern)*
- 2.10 Validation of Gage R&R on Optical Emission Spectrometer  
*Alec Opheim, Stainless Foundry & Engineering, Inc. (Schumo Scholarship Intern)*
- 2.11 Predicting Alloy Shrink & Die Expansion for Large Diameter Castings  
*Nik Schumacher, MetalTek International Wisconsin Centrifugal Division (Schumo Scholarship Intern)*
- 2.12 Shop Floor Improvements at Midwest Metal Products, Inc.  
*Spencer Speltz, Midwest Metal Products (Schumo Scholarship Intern)*
- 2.13 Production Green Sand Process: Back to Basics  
*John Bach, McConway & Torley, LLC (Schumo Scholarship Intern)*

**Discussion Session followed by Industry Reception**

**Session 3**

**Friday Morning – December 13**

**9:00 AM**

- 3.1 Closed Coupled Pouring using Zero Harm Ladle  
*Jim Erskine, Progress Rail*
- 3.2 Air Entrainment Comparative Analysis of Ceramic Tubes Vs. Flat Runner on Large Castings  
*Jorge León Murillo, Fundidora Morelia*
- 3.3 Can 3D Sand-Printing help Foundries in Reducing Casting Defects? A Summary of Lessons Learnt And Future Opportunities  
*Tony Badamo, Tony Badamo, Daniel Lepp, Jay Sim, Dr. Paul Lynch  
Dr. Guha Manogharan, Ashland Foundry & Machine Works, LLC*
- 3.4 Exploring the Use and Benefits of 3D Printed Filters  
*Matt Robblee, Bradken (London, Ontario, Canada)*
- 3.5 Filter Trials - A Review of Priming Problems and Capacities  
*Tyler Williams, Bryan Steinbrueck, Omaha Steel Casting Company*
- 3.6 The Cyclop Pouring Ladle  
*Jorge D. Okhuysen, Corporacion POK*
- 3.7 Contact Pouring with Existing Infrastructure  
*Douglas Willsey, Black Cat Wear Parts*
- 3.8 A Direct Comparison: Physical Properties of Traditionally Poured Test Bars vs. Naturally Pressurized Gating  
*David Michalski, Midwest Metal Products*
- 3.9 Test Coupons  
*Abel Ardis, American Foundry Group*
- 3.10 Ductile Failure vs. Fracture Failure  
*Zebediah Dahlke, Charles Monroe, University of Alabama - Birmingham*

**Industry Luncheon**

**12:00 PM**

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- 4.1 Chemistry vs Properties – An Empirical Review  
*Thomas Simpson, Rick Clary, Darren Swinson, Bradken (Atchison, KS)*
- 4.2 Measurements and Predictions of Lower Bound Mechanical Properties of Cast Steels  
*Richard Hardin, Christoph Beckermann, University of Iowa  
Raymond Monroe, Diana David, SFSA and Barbara Allyn*
- 4.3 Ceramic Sand Molding - Year One. Benefits and Challenges  
*Rod Grozdanich, Spokane Industries*
- 4.4 Ceramic Molding Media – Observations on Magma Predictions with CeramCast Dataset  
*Greg Struble, Bryan Steinbrueck, Omaha Steel Casting Co.*
- 4.5 Reclamation and Thermal Properties of Ceramic Molding Media  
Greg Raudenbush, Regal Cast, Inc.
- 4.6 Green Sand Improvements: A Casting Based Approach  
*Amber Nolf, McConway & Torley, LLC*
- 4.7 Variables Search Strategy - The Good, the Bad and the Ugly  
*Paul Rudd, Paul Rudd LLC*
- 4.8 The Anti-Inspector, (Avoiding Over-Inspecting and Overworking)  
*J. Martin Nuñez Ornelas, Corporacion POK*
- 4.9 A Foundry's Process to Impeller Quality Improvement through Potential Process/Product Failure Mode and Effects Analysis (PFMEA)  
*Heather Shuster, William Easterly, Effort Foundry*
- 4.10 Quality Program Implementation Good Practice - ISO, Nuclear, ITAR and others  
*Michael Porfilio, Stainless Foundry & Engineering, Inc.*
- 4.11 Measurement Error - Wet Magnetic Particle Inspection  
*Sharon Lau, Iowa State University*

## Discussion Session

- SFSA Member or staff
- Researcher or industry consultant

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- 5.1 Rapid Pattern Making Machines at Magotteaux... The Continuation  
*Amoldeep Jaggi, Magotteaux Pulaski*
- 5.2 Comparison of Conventional and 3D Printed Cores from a Mechanical Point of View  
*Jean-François Carton, Cécile Nicoli, Jean-François Carton, Castmetal FWF de Mexico / Safe Metal*
- 5.3 Melting Practice Development for CA6NM Steel in Electric Arc Furnace  
*Mario Salvador Terrazas Carpio, Acerlan Matrix Metals*
- 5.4 Advances in 9%Cr Steel Castings for High Temperature Applications  
*Stephen Roberts, Ryan Leese, Goodwin Steel Castings Ltd*
- 5.5 Influence of Composition on the Microstructure of Cast Austenitic Stainless Steels  
*Sean Orzolek, John DuPont, Lehigh University*
- 5.6 Heat Treat and Mechanical Properties of Austenitic Stainless Steels and Austenitic/Ferritic Duplex Stainless Steels  
*Joseph R. Hutto, Howell Foundry LLC*
- 5.7 Grain Refinement of Austenitic Steel Castings: Challenges and Solutions  
*Laura Bartlett, Ron O'Malley, Simon Lekakh, Dustin Arvola, Rairu Vaz Penna, Missouri S&T*
- 5.8 Process Development for Heavy Section Manganese Steel Casting  
*Jorge Luis Rivera Carpio, FUNVESA*
- 5.9 Process Control for Optimizing Properties of Next Generation High Strength Low Alloy Cast Steels  
*Paul Lynch, Penn State Erie: The Behrend College, C.R. Hasbrouck, Penn State University, Diana David, SFSA, Rachel Abrahams, US Air Force*

## Adjourn

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- Researcher or industry consultant

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