

Steel Founders' Society of America
National T&O Conference – December 7-9 2023
Wright Ballroom, Loews Hotel, Chicago, IL

Session 1

Thursday Morning – December 7

9:00 AM

- 1.1 Smart Industry Readiness Index (SIRI) Assessment at Magotteaux
Quentin Bindels, Marc Babineau, Magotteaux SA
- 1.2 Robotically Controlled Oxy-fuel Cutting Robot
George Krummel, Harrison Steel Castings
- 1.3 Leveraging Artificial Intelligence for Efficiency and Quality
in the Foundry Industry
Doug Imrie, Southern Cast Products
- 1.4 Leveraging Cognitive Ergonomics to Combat Changing
Labor Demographics in the Foundry Industry
Nick Knotts, Temperform
- 1.5 Industrialisation of New Dimensional Inspection Technologies
in Foundries
Joe Veale, Joe Cox, Sheffield Forgemasters
- 1.6 Selecting and Implementing Optical Scanning Equipment
Tony Badamo, Ashland Foundry
- 1.7 3D Printing in the Foundry
Brian Miller, Bradken
- 1.8 Use of a Simple 3D Printer for Foundry Prototyping
Daniel Limpert, Ryan Richter, Nicholas Formato, Roman Pankiw, Duraloy
- 1.9 The Use of 3D Printing in Tooling
Ben Bailey, Jacob Reilly, McConway & Torley
- 1.10 A Hybrid Approach Using 3D Printed Ceramic Cores to
Enabling Large Sand Castings
Jorge León Murillo, Donald Deptowicz, Fundidora Morelia
- 1.11 Effort Foundry's Transition from Paper Job Traveler to
Virtual Job Traveler
Heather Shuster, Bill Easterly, Effort Foundry
- 1.12 Process Analysis of Casting Quality - Second Review
Anup Shrestha, Bay Cast Inc.
- 1.13 SFSA Update
David Poweleit, SFSA

Industry Luncheon

2.1 Cast in Steel 2023 Winner

Victor Okhuysen, Cal Poly Pomona

2.2 Developing a Pipeline for Entry Level Trades

Nate Bird, Naval Foundry and Propeller Center

2.3 Employee Recruitment & Retention—What are Foundries Doing

Jeanne Wagner, Midwest Metal Products

2.4 Foundry Performance Management 101

(Or how Eagle Alloy improved performance by 30%)

John Workman, Eagle Alloy

2.5 Implementing Production Processes in a Job Shop

Derek Mixon, Howell Foundry

2.6 Management by Walking Around and Daily Management

George Hartay, SFSA Alumni

2.7 Improvement in Metallurgical Laboratory

Mario Terrazas, POK

2.8 Building Data Integrity Through a LIMS Implementation

Aaron Wilkinson, Christian Hartwell, Bradken

2.9 Safe Pour Ladle

Brian Hudson, ME Global

2.10 Magotteaux's Journey on Sustainability

Elena Luquin, Marc Babineau, Magotteaux SA

2.11 Cybersecurity - Lessons from the Battlefield

Lucas Netto, Magotteaux SA

2.12 Cap Ex and the Reality of Foundry Operations

Ed Kaczmarek, SFSA Alumni

**2.13 Design Concept Development Calculations –
40,000 ton per year Chrome Alloy Cast Metal Plant**

Peter Macler, Peter Macler Consulting

2.14 Investing Through the Ups and Downs of the Industry

Raymond Monroe, SFSA

2.15 SFSA Forecast

Mike Maxeiner, McConway & Torley

Discussion Session followed by Industry Reception

3.1 MMP's Telefeeder Trials

Jeanne Wagner, Midwest Metal Products

3.2 Use of Hot Topping for Investment Casting

Mark Emmendorfer, MetalTek - Wisconsin Investcast

3.3 Use of Hot Topping in Centrifugal Casting

TAC Chadwick, Bret Enslen, MetalTek - Wisconsin Centrifugal

3.4 Large Scale Water Modeling of a Steel Casting Pouring System

Andy Williams, Steve Roberts, Kieran Jones, Goodwin Steel Castings

3.5 Modeling / Simulation 1.0

Raúl García Lazcano, Rodrigo Solis Rodríguez, FYMSSSA

3.6 Validation of an Advanced Shrinkage Porosity Model for Steel Castings

Christoph Beckermann, Robert Donahue, Christoph Beckermann, University of Iowa

3.7 Impact of Solidification Mode on Porosities Population in G20Mn5 Cast Steel and its Effects on Fatigue Life

Antonin Bermond, Jean-François Carton, SAFE Metal

3.8 A Design of Experiments for a Platypus

Paul Rudd, Victor Hernandez, SFSA Alumni

3.9 Effects of the Thermo-Physical Properties of Exothermic Sleeves on Solidification Modeling of Steel Casting: Experiment and Simulation

Amir Baghani, Sarah Lemesh, McConway & Torley

3.10 Phased Array Ultrasonic Testing for Flaw Detection in Castings

Robert Cutone, McConway & Torley

3.11 Challenges and Lessons in Attempting to Reduce Cleaning Room Hours in Steel Castings

Jacob Melvin, Harrison Steel Castings

3.12 Crack Defect Resolution through Simulation Software and Metallurgical Analysis

Iván Martínez Salazar, Caterpillar

Industry Luncheon

4.1 Data Modelling for O₂ Injection

Isaac Clyde, Harrison Steel Castings

4.2 The Effects of High Temperature Aging on Carbide Morphology in Low Carbon Heat Resistant Austenitic Stainless Steel

Adam Falk, MetalTek - Wisconsin Centrifugal

4.3 Optimization of Steel Castings Through Solidifications Software

Josh Gerrans, Eagle Alloy

4.4 Etchants to Reveal Secondary Phases in a Mo-Containing 12% Cr Martensitic Stainless Steel

Hannah Muschinski, MetalTek - Wisconsin Centrifugal

4.5 Risk Abatement - Applications in a High Alloy Foundry

William Porfilio, Stainless Foundry

4.6 Melting Procedures for High Alloy Materials and Associated Documentation

Evan Stachowiak, Stainless Foundry

4.7 Metal Delivery System Organization Effort using 5S as a Continuous Improvement Tool

Logan Wehrli, MetalTek - Wisconsin Centrifugal

4.8 Phenolic Urethane vs Phenolic Ester for Steel Castings: Pros, Cons & Cost at two Steel Job Shop Foundries

Guillermo "Willy" Oyarzabal, Fimex, Oscar Bautista, POK

4.9 Sand System Control

Chase Fisher, ME Global

4.10 Sculpting Efficiency: Integrating Automation into the No-Bake Casting Process

Brandon Roy, Jerrod Miller, Wear-Tek

4.11 Implementation of an Electric Heat Treat Furnace to Increase Efficiency and Energy Saving

Eugenio Longaretti, FGS

4.12 Upgrading Investment Foundry to Modern Cut-off Saw

Nick Gerdes, Fisher Cast Steel Products

4.13 Digital Regulator Implementation of Electrodes in EAF

Joel Reséndiz Benitez, Shrirang Kulkarni, Acerlan Matrix Metals

4.14 Ladle Stopper Rod Investigation

Bryan Staha, Newport News Shipbuilding

4.15 The Design Methods Used Producing Foam Cast IN100 at Waukesha Foundry

Scott Hanson, Waukesha Foundry

4.16 Monel

Charles Werner, Stainless Foundry

Discussion Session

Session 5

Saturday Morning – December 9

8:00 AM

5.1 Metallurgy or Meteorology - Improving your Chance of Success in Humid and Moist Environments

John Cory, Magotteaux

5.2 Pouring Manganese Steel Part by Shroud Technic

Rémi Godfroy, Eric Fleurigeon, Ferry Capitain

5.3 Clean Steel Program at Keokuk Steel Castings (1992 T&O Paper)

Shrirang Kulkarni, Allan See, Bill McTavish, SFSA Alumni

5.4 Measurement and Modeling of Oxide Inclusions in Steel Casting: Production Casting Case Study

Richard Hardin, Christoph Beckermann, University of Iowa

5.5 Mechanical Properties of WCB with Hot Isostatic Pressing

Elliott Yarwood, Bradken

5.6 Pressurized Solidification of Steel Castings

Nathaniel Bryant, Jerry Thiel, University of Northern Iowa
Robin Foley, John Griffin, University of Alabama - Birmingham

5.7 Toughness Factors in Low Alloy Steel

Jack Lilley, SFSA Alumni

5.8 Optimization of HY-80/100 Steel using Computational Design Principles

Clay Houser, Greg Olson, QuesTek

5.9 Toughness Enhancement by Retained Austenite

Emmanuel De Moor, John D. Galuardi, Stuart Miklas, John G. Speer and Kip O. Findley, Colorado School of Mines

5.10 Measles Defects in Duplex Stainless Steel Castings

Justin Chamberlin, Badger Alloys

5.11 Failure Analysis of Large Alloy Steel and White Iron Castings

Robert Schrock, ME Global

Adjourn