

**SUNDAY, NOVEMBER 7, 2021**3:00 p.m. - 6:00 p.m. **REGISTRATION – Lobby Outside of Ambassador Room**6:00 p.m. - 7:30 p.m. **WELCOME RECEPTION - Ambassador Room****MONDAY, NOVEMBER 8, 2021 – 7:00 a.m. Registration at DeVos Place**8:00 a.m. - 8:10 a.m. **WELCOME INTRODUCTION **** 68th Technical Conference & Expo 2021**8:10 a.m. – 9:00 a.m. **Russ Gallagher, ICI Director**
*Bescast, Inc.***Russ Rosmait, ICI Academic Advisor**
*Pittsburg State University***Annual Awards Ceremonies - Scholarships, Casting Contest, Innovator of the Year & Cast in Steel**9:00 a.m. – 9:15 a.m. **Benjamin Fahrney, ICI Intern**
*Pennsylvania State University - Behrend***Paper No. 1**
ICI Intern Project9:15 a.m. - 10:00 a.m. **Jerrod Weaver**
*Non-Ferrous Founders' Society***Booth 212****Paper No. 2**
The Integrated Casting Order Network (ICON)10:00 a.m. – 10:20 a.m. **BREAK**10:20 a.m. – 11:00 a.m. **Chris Whitehouse**
*3M Technical Ceramics, Inc.***Paper No. 3**
Shell Drying – Effect of Ambient Conditions Upon Drying & Shell Properties11:00 a.m. – 11:40 a.m. **Gerald Richard**
MAGMA Foundry Technologies, Inc.
Booth 204**Paper No. 4**
An Investigation into Misrun Defects in Investment Cast Stainless Steel Castings11:40 p.m. - 12:00 p.m. **Gerard Thiel**
*University of Northern Iowa***Paper No. 5**
AM4IC Report Out12:00 p.m. - 1:00 p.m. **Lunch**1:00 p.m. – 1:40 p.m. **Tom Mueller**
*Mueller Additive Manufacturing Solutions***Paper No. 6**
Optimization of an Aerospace Casting: A Case Study1:40 p.m. – 2:20 p.m. **Dan Z. Sokol**
Renaissance Services – PERFECT – 3D
Booth 318**Paper No. 7**
Rapid, Low-Cost Tooling for Small Engine Castings2:20 p.m. – 3:00 p.m. **Lee Chamberlain**
VA Technology Ltd.
Booth 107**Paper No. 8**
Automated Methods of Slurry Testing, Monitoring & Control3:00 p.m. – 6:00 p.m. **EXPO**

TUESDAY, NOVEMBER 9, 2021

68th Technical Conference & Expo 2021

8:00 a.m. - 8:05 a.m.	Greeting	
8:05 a.m. - 8:45 a.m.	Angelika Priese <i>Imerys Fused Minerals Murg GmbH</i>	Paper No. 9 Development of Investment Casting Shells Based on Calcia Stabilised Zirconia for Ti-6Al-4V
8:45 a.m. - 9:25 a.m.	Nip Singh, ICI Director <i>S&A Consulting Group</i>	Paper No. 10 Process Control Standards (PCS) for Investment Castings
9:25 a.m. – 10:00 a.m.	Raymond Monroe <i>Steel Founders' Society of America</i> Booth 512	Paper No. 11 Steel Performance Initiative (SPI) and Digital Innovative Design (DID)
10:00 a.m. – 10:15 a.m.	BREAK	
10:15 a.m. - 10:55 a.m.	Phil Geers <i>Blasch Precision Ceramics</i> Booth 316	Paper No. 12 Implementing Best Practices & Reducing Process Costs For Refractory Use in Investment Casting & Alloy Production Foundries
10:55 a.m. - 11:35 a.m.	Samuel Holt <i>Georgia Southern University</i>	Paper No. 13 The Effect of Firing Temperature & Time on Silica Based Investment Shells Strength
11:35 a.m. – 12:15 p.m.	Iñaki Vicario <i>Consarc Engineering Ltd.</i> Booth 313	Paper No. 14 Process Cycle Time Analysis & Optimisation for Efficient Vacuum Precision Investment Casting Furnaces
12:15 p.m. – 1:00 p.m.	LUNCH	
1:00 p.m. - 1:40 p.m.	Mark Oles <i>Pine Tree Castings</i> Alfred Kaulius <i>Paramelt</i> Booth 309	Paper No. 15 Pattern Cleaning Study of Pattern Formulation Effects on Surface Energy Measurements
1:40 p.m. - 2:20 p.m.	Dr. Sergejs Spitans <i>ALD Vacuum Technologies</i> Booth 202	Paper No. 16 Investment Castings with Unique Levitation Melting Technology FastCast
2:20 p.m. – 3:00 p.m.	Dr. Sam Ramrattan <i>Western Michigan University</i>	Paper No. 17 Analysis of Thermal Distortion Data to Detect Issues in Investment Shell Materials
3:00 p.m. - 6:00 p.m.	EXPO	
6:30 p.m. - 8:00 p.m.	EVENING RECEPTION	

WEDNESDAY, NOVEMBER 10, 2021

68th Technical Conference & Expo 2021

8:00 a.m. - 8:05 a.m. **Greeting**

8:05 a.m. - 9:05 a.m. **Shayla Rivera – Keynote Speaker**

Keynote Address: Awareness Brings Change

9:05 a.m. – 9:45 a.m. **Noel O’Sullivan**
University of Limerick

Paper No. 18
Enhancing Porosity & Permeability of Ceramic Shells
For Investment Casting through Pre-wetting

9:45 a.m. – 10:25 a.m. **Mark White**
IMPRO Industries USA

Paper No. 19
Tensile Bar Castings

10:25 a.m. – 10:30 a.m. **Joseph Fritz**
ICI Executive Director

**Best Paper Award, Closing Remarks and
Adjournment**