



SPECIALTY ALLOY AND FOUNDRY A PRACTICAL TRAINING SEMINAR

IN-PERSON SEMINAR

21-23 SEPTEMBER 2021
Sheraton Columbus Hotel at Capitol Square
Columbus, Ohio, USA
Featured Plant Tour: Fisher Cast Steel Products Inc.

ABOUT THE PROGRAM

This two-and-a-half-day seminar provides an overview of melting, refining, and solidification in stainless and specialty steel mills and foundries. Products, process cycles and safety will be discussed along with alloy chemistry, material selection, induction furnace melting, refractories, refining, ingot casting and remelting.

WHO SHOULD ATTEND

This seminar is geared toward mill or foundry meltshop managers, engineers, operators, suppliers, and students who need an introduction to stainless and specialty steel melting, refining, ingot casting and remelting.

ORGANIZED BY

AIST's Specialty Alloy & Foundry Technology Committee.

PROFESSIONAL DEVELOPMENT HOURS

This course may qualify for up to 13.25 Professional Development Hour (PDH) credits. Each attendee will receive a certificate listing the quantity of PDH credits earned for the course. This course is not approved for PDH credits in New York, Florida, North Carolina and Oklahoma.



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FEATURED PLANT TOUR
Fisher Cast Steel Products Inc.

UPCOMING EVENTS

Maintenance Solutions: Fundamentals and New Frontiers

21-23 September 2021
Embassy Suites San Antonio Riverwalk
San Antonio, Texas, USA

Secondary Steelmaking Refractories – A Practical Training Seminar

5-7 October 2021
The Doubletree Colorado Springs
Colorado Springs, Colo., USA

Digitalization Applications Fundamentals

12-13 October 2021
Renaissance Cleveland Hotel
Cleveland, Ohio, USA

Environmental Solutions: Water Management

9-11 November 2021
Orni Corpus Christi Hotel
Corpus Christi, Texas USA



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REGISTRATION INCLUDES

Breakfasts and lunches Tuesday and Wednesday; breakfast Thursday; reception Wednesday; plant tour with bus transportation; and a course workbook or flash drive including presentations.

HOTEL ACCOMMODATIONS

A block of rooms has been reserved at the Sheraton Columbus Hotel at Capitol Square. Please call the hotel at +1.614.365.4500 by 3 September 2021 to secure the AIST discount rate of US\$129 per night for single/double occupancy.

AIST MEMBERS

US\$895

by 10 August 2021

US\$995

after 10 August 2021

NON-MEMBERS

US\$1,140

by 10 August 2021

US\$1,240

after 10 August 2021

ATTENTION NON-MEMBERS

Non-member registration fees include membership in AIST through 31 December 2022. Membership is not automatic. A completed membership application must be returned to AIST.

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SCHEDULE OF EVENTS



Tuesday, 21 September 2021

7 a.m.
Registration and Breakfast

8 a.m.
Opening Remarks
Raymond Monroe, Steel Founders' Society of America

8:30 a.m.
Markets and Applications for Foundries and Specialty Steels
Raymond Monroe, Steel Founders' Society of America

9:30 a.m.
Break

9:45 a.m.
Induction Preventive Maintenance Procedures
Charles Fink, Inductotherm Corp.
This presentation will cover the recommended procedure typically performed on solid-state induction melting systems. This includes the solid-state power supply, furnace, cooling system, hydraulic system and bus bars that can be found in a meltshop using induction melting equipment.

10:45 a.m.
Break

11 a.m.
Induction Melting Practices
Raymond Monroe, Steel Founders' Society of America

Noon
Lunch

1 p.m.
EAF Steelmaking
Harriet Dutka, SANGRAF International
This session is an introduction to electric arc furnace (EAF) steelmaking. Furnace configurations and their components, critical operating parameters and operational efficiencies are just a few of the topics of discussion. Information on scrap usage, chemical energy utilization and maintenance concepts are introduced. This session provides an introduction to EAF steelmaking for those new to the operation and may even provide some new insights for skilled operators.

2 p.m.
Break

2:15 p.m.
Material Selection
Dennis Rodal, ELG Haniel Metals Corp.
Scrap is the key raw material in electric arc furnace steelmaking, and controlling residuals is essential to making quality steel.

3:15 p.m.
Break

3:30 p.m.
Non-Induction Melting
Allen Chan, Linde
This presentation briefly reviews melting: energy required and forms of energy, basic furnace types, electric arc furnace operations, and safety.

Wednesday, 22 September 2021

7 a.m.
Breakfast

8 a.m.
Steel Refining
Allen Chan, Linde
This presentation briefly reviews the fundamentals of steel refining: degassing, desulfurization, decarburization, quality steel processing techniques and safety.

9 a.m.
Break

9:15 a.m.
Solidification and Casting: Foundry
Raymond Monroe, Steel Founders' Society of America
This presentation will talk about the metallurgy of steel castings. An overview on foundry engineering will be given. The filling and solidification of steel in molds will be discussed. Typical microstructures and casting defects will also be presented.

10:15 a.m.
Break

10:30 a.m.
Casting of Specialty Steel Ingots
Mark Suer, AK Steel Research and Innovation Center
The principles of casting specialty steel ingots will be presented. This presentation will focus on mainly on the operational aspects of bottom-pour casting. Some of the topics that will be discussed are casting hardware, mold and mold life, and casting defects.

Noon
Lunch

1 p.m.
Depart for Plant tour of Fisher Cast Steel Products Inc. 🏭

4–6 p.m.
Reception and Panel Discussion
Moderator: Allen Chan, Linde
Panelists: Dennis Rodal, ELG Haniel Metals Corp.; Raymond Monroe, Steel Founders' Society of America; Mark Suer, AK Steel Research and Innovation Center; and Harriet Dutka, SANGRAF International

Thursday, 23 September 2021

7 a.m.
Breakfast

8 a.m.
Remelting Ingots
Aaron Teske, Consarc Corp.

9 a.m.
Break

9:15 a.m.
Solidification and Casting: Foundry and Elements
Diana David, Steel Founders' Society of America
This presentation will provide an overview of the foundry casting process. The effect of various elements on processing and properties of common cast grades will also be discussed.

10 a.m.
Break

10:15 a.m.
Refractory Fundamentals
Herman Moggee, RHI Magnesita
An introduction to refractory design, production and use in the alloy steelmaking environment.

11 a.m.
Break

11:15 a.m.
Specialty Refractory Shapes
Andrew Pinskey, Holland Manufacturing Corp.
Refractory shapes play an intricate part in the metal process. The usage of refractory shapes for molten metal control and metal processes are explored in this presentation.

Noon
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