

UPCOMING EVENTS

DRI & HBI: Logistics, Production and Utilization Seminar
1–3 March 2021
Virtual Seminar

Long Products Rolling – A Practical Training Seminar
11–13 May 2021
Sheraton Gunter Hotel
San Antonio, Texas, USA

Digital Transformation Forum for the Steel Industry
17–20 May 2021
Orni William Penn Hotel
Pittsburgh, Pa., USA

Maintenance Solutions: Fundamentals and New Frontiers
21–23 September 2021
Embassy Suites San Antonio Riverwalk
San Antonio, Texas, USA

MODERN ELECTRIC FURNACE STEELMAKING

A PRACTICAL TRAINING SEMINAR

IN PERSON OR VIRTUAL

24–28 MAY 2021

Nashville Marriott at Vanderbilt University • Nashville, Tenn., USA
Plant Tour: Hoeganaes Corp.

AIST
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ABOUT THE PROGRAM

This course covers safety, the basics of electrical and mechanical features of electric arc furnaces, refractories, and the role of raw materials. The program will explore the fundamentals of electric furnace steelmaking technology, the use of energy inputs, the steelmaking process, electrodes and environmental concerns for electric steelmaking. Attendees will also have the opportunity to learn how their operation compares to industry benchmarks, and to hear about the latest developing technologies. The midpoint of the conference includes a plant tour followed by an expert roundtable and reception with an open forum to discuss questions and challenges.

WHO SHOULD ATTEND

Those who wish to gain a fundamental understanding of the electrical, thermomechanical and technical aspects of modern electric furnace steelmaking. Electric arc furnace operators, maintenance personnel, upstream/downstream personnel, metallurgists and suppliers would benefit from this comprehensive seminar.

ORGANIZED BY

AIST's Electric Steelmaking Technology Committee.

PROFESSIONAL DEVELOPMENT HOURS

This course may qualify for up to 21.25 Professional Development Hour (PDH) credits. Each attendee will receive a certificate listing the quantity of PDH credits earned for this course. This course is not approved for PDH credit in New York, Florida, North Carolina and Oklahoma.

REGISTRATION INCLUDES

In-person event registration includes welcome reception Monday, breakfast Tuesday–Friday, lunch Tuesday–Thursday, reception Wednesday, plant tour with bus transportation, and a course workbook or flash drive including presentations. Virtual event registration includes Zoom link to access live presentations and online link to download conference materials.

HOTEL ACCOMMODATIONS

A block of rooms has been reserved at the Nashville Marriott at Vanderbilt University. Please call the hotel at +1.615.321.1300 by 10 May 2021 to secure the AIST discount rate of US\$189 per night for single/double occupancy.

AIST MEMBERS
In Person or Virtual
US\$1,195

NON-MEMBERS
In Person or Virtual
US\$1,440



FEATURED PLANT TOUR

Hoeganaes Corp.



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SCHEDULE OF EVENTS



Monday, 24 May 2021

4–6 p.m. CST
Registration

5–6 p.m. CST
Welcome Reception

Tuesday, 25 May 2021

7 a.m. CST
Registration and Breakfast

8 a.m. CST
Introductions

8:05 a.m. CST
The Day We Will Remember

Ricky Rollins, Ricky Rollins Safety Speeches

Ricky Rollins will tell the story of how he almost lost his life on a steel mill start-up and how it would have affected his family if he had died that day. He will also tell four more stories each with a different message/lesson for use at home and work.

9 a.m. CST
Break

9:15 a.m. CST
Chemistry of EAF Steelmaking

10:30 a.m. CST
Break

10:45 a.m. CST
Chemistry of EAF Steelmaking (cont'd)

Noon
Lunch

1 p.m. CST
Chemistry of EAF Steelmaking (cont'd)

2:15 p.m. CST
Break

2:30 p.m. CST
Chemistry of EAF Steelmaking (cont'd)

3:30 p.m. CST
Break

3:45 p.m. CST
Chemical and Electrical Energy Inputs and EAF Performance

Sam Matson, Commercial Metals Company

The presentation will cover the timing and relationship between the electrical energy input and chemical energy input. Tracking energy inputs and losses will be discussed, as well as their relationships to the timing and magnitudes of the energy inputs.

Wednesday, 26 May 2021

7 a.m. CST
Breakfast

8 a.m. CST
Part I: EAF Designs and Operations

Jeremy Jones, CIX Inc.

Part I of this presentation covers the historical developments in electric arc furnace design in the last 25 years.

9 a.m. CST
Break

9:10 a.m. CST
Part II: EAF Technologies – The Path to EAF Optimization

Jeremy Jones, CIX Inc.

Part II deals with methods aimed at electric arc furnace optimization.

10:20 a.m. CST
Break

10:30 a.m. CST
Overall Equipment Effectiveness

Mark Trapp, CIX Inc.

Applying a manufacturing engineering strategy to electric arc furnace steelmaking.

Noon
Lunch

1 p.m. CST
Importance of Scrap Residual Controls

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.

2 p.m. CST
Break

2:15 p.m. CST

Ore-Based Metallics in the EAF

Zane Voss, CIX Inc.

The use of ore-based metallics brings many advantages to the EAF operator. However, these materials need to be well understood in order to use them properly and obtain the most benefit.

3:15 p.m. CST
Break

3:30 p.m. CST

Ladle Metallurgy Furnace – LMF

Helmut Oltmann, Nucor Steel–Berkeley

4:30 p.m. CST

Reception and Roundtable Discussion

Panelists: Eugene Pretorius, Nucor Corp.; Stephan Ferenczy, TCI Consultants Inc.; Jeremy Jones, CIX Inc.; and Sam Matson, Commercial Metals Company

Thursday, 27 May 2021

7 a.m. CST
Breakfast

8 a.m. CST

EAF Maintenance Requirements

Stephan Ferenczy, TCI Consultants Inc.

Typical electrical, mechanical and water-cooled equipment maintenance requirements will be discussed. Root-cause failure analysis techniques and practical solutions will be presented.

9:30 a.m. CST
Break

9:45 a.m. CST

EAF Industry Perspective – Past and Future

Raymond Monroe, Steel Founders' Society of America

10:45 a.m. CST
Break

11 a.m. CST

Environmental Operations for the EAF

Sam Matson, Commercial Metals Company

This presentation will review the main gaseous emissions, which part of the steelmaking process is likely to generate them, and potential ideas for how to reduce them. Also included will be an overview of air pollution control equipment operation.

Noon
Lunch

1 p.m. CST

The Basics of Arc Furnace Regulation System

Reinzi Santiago, Tenova Core

2 p.m. CST
Break

2:15 p.m. CST

Gas/Carbon Injection Systems

Michael Grant, Air Liquide Global Management Services GmbH

This presentation will contain a practical scope and strategy of use of oxygen and gaseous fuels in the electric arc furnace. The importance and strategy of the use of carbon injection will also be covered. Direct reduced iron usage and its implications on oxygen injection and burner practices is emphasized. A strong focus on the hazards of oxygen use in the shop and its safe use will be made.

3:30 p.m. CST

Effective Electrode Usage

Bill Davies, GrafTech International Ltd.

Electrodes are an integral part of the electric arc furnace. This presentation will describe the electrode manufacturing process and review proper electrode handling/furnace addition practices. Attendees will also learn how to get the most out of electrodes and what electrode performance can tell indicate about furnace operation.

4:30 p.m. CST
Adjourn

Friday, 28 May 2021

7 a.m. CST
Breakfast

8 a.m. CST

Plant Tour of Hoeganaes Corp. 🏭

Noon

Return From Plant Tour and Conference Adjourn