Introduction to DRI Processes

HILT CRC

AIST ASSOCIATION FOR IRON & STEEL TECHNOLOGY

10–11 March 2026

Day 1 – Tuesday 10 March, 3 12:30pm to 7.00pm including lunch and networking drinks
Day 2 – Wednesday 11 March, 9:00am to 1.30pm including lunch

Squadron Room
ANZAC Club, Perth, Australia

Course information

This course is designed for engineers and scientists working in ferrous metallurgy who would like to better understand fundamental and practical aspects of direct reduced iron (DRI) production processes. The course will cover the basic chemistry and thermodynamics of DRI production, consider the different DRI technologies developed, and examine the impact of hydrogen fully or partially replacing carbon-based reductants. Practical issues around equipment layout and supply of raw materials will be also be examined. The course will take 6 hours and be delivered over two days. Lecture notes will be provided for attendees.

The major topics to be covered are:

1. Brief history and background of DRI ironmaking
2. Basic chemistry and thermodynamics
3. Different DRI technologies and flowsheets
4. Mass and energy balances
5. Layout/construction of furnaces and auxiliary equipment
6. Supply of power, gases and feed materials
7. Operation of DRI furnaces/process economics
8. Future directions.

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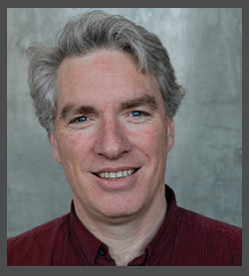
Contact HILT CRC or AIST for the registration password.

About the instructors



Professor Geoff Brooks has published over 300 papers on fundamental aspects of ironmaking and steelmaking and has worked closely with steel companies in Europe, Asia and North America. He is currently the Joint Swinburne/CSIRO Professor of Sustainable Mineral Processing. In 2013, Geoff was awarded the prestigious John Elliott Lectureship Award by the AIST. He was also awarded the 2018 EPD Distinguished Lecturer by the The Minerals, Metals & Materials Society (TMS) and the 2023 Bessemer Medal by the Institute of Materials, Minerals and Mining (IOM3).

Dr Johann Rinnhofer is the CEO of thyssenkrupp nucera Australia, based in Perth. He has 30 years of experience as a CEO in the plant engineering business for the mining & metallurgical industry, including fuel- and induction-heated industrial furnaces and power plant technologies. Johann also serves as an honorary professor at the University of Leoben in Austria, where he lectures Industrial Furnace Technology.