India–Australia

Mineral Scholar Network Program (IAMSN)

presents

Five days Short Term Course (STC)

on

Green Steel

14th-18th February, 2025

Organised By

National Institute of Technology Durgapur, India

in association with

सेल SAIL

Durgapur Steel Plant, SAIL, India

ABOUT IAMSN

“India-Australia Minerals Scholar Network (IAMSN)” program has been included in the Joint statements by Australian Prime Minister Anthony Albanese who visited India to meet with Indian Prime Minister Narendra Modi on March 8, 2023, with the goal of enhancing overall bilateral involvement in a number of areas, including trade, investment, Green Steel and critical minerals. Finally, both Prime Ministers signed a Memorandum of Understanding (MoU) in the 1st Annual Summit, held in New Delhi on March 10, 2023. For the collaborative research on Green Steel & Critical Minerals, India-Australia Mineral Scholar Network program has been announced. NIT Durgapur is the first institution who is been selected for the Green Steel.

ABOUT THE PROGRAM

This short-term course will offer a comprehensive approach to tackling carbon emissions in the steel industry, with a strong focus on sustainability. It will highlight key strategies for decarbonization, including the use of hydrogen-based processes, increasing energy efficiency, and integrating renewable energy sources. The program is structured to educate participants on critical aspects like hydrogen fundamentals, various decarbonization pathways, and their direct impact on steelmaking operations. It will emphasize emerging technologies, such as Direct Reduced Iron (DRI) processes and Electrolytic Routes, which are pivotal in producing "green" steel. Moreover, with global climate goals and agreements like the Paris Agreement driving the urgency for change, the program's insights are highly relevant, not just for Australia but for the global steel industry. This will make the program particularly beneficial for industry professionals, researchers, and policymakers who are committed to fostering a sustainable and low-carbon future in steel production.

The objective of this STC is designed such that it should be able to lighten the research scholars, faculty and industrial participants about the latest developments and research aspects in the field of Green Steelmaking globally.

ABOUT DURGAPUR CITY

Durgapur, located in West Bengal, India, is known as the "Steel City of India" for its prominent industrial base, including the Durgapur Steel Plant. Situated on the banks of the Damodar River, it is a hub for heavy industries and education, housing the prestigious National Institute of Technology (NIT) Durgapur. The city is well-planned, with urban infrastructure complemented by green spaces like Troika Park and the Durgapur Barrage. Balancing industrial growth with serene living, Durgapur remains a vital contributor to India's industrial and educational advancements.

ABOUT NIT DURGAPUR

The National Institute of Technology (NIT) Durgapur, established in 1960, is one of India’s premier engineering institutions. Located in West Bengal, it is renowned for academic excellence, cutting-edge research, and contributions to technology. NIT Durgapur offers undergraduate, postgraduate, and doctoral programs in engineering, science, and management. Known for its vibrant campus and advanced infrastructure, it fosters innovation and holistic development. Its graduates are highly sought after globally, reflecting the institute’s commitment to producing skilled professionals and driving technological advancements. NIT Durgapur is actively involved in low carbon steelmaking research for which NIT Durgapur is developing Green Steel Research centre.

ABOUT DURGAPUR STEEL PLANT

Durgapur Steel Plant (DSP) set up in late fifties is a leading producer of long products and is the pioneer in manufacturing and supply of forged Railway Wheels & Axles in the country. DSP started production with an initial crude steel capacity of 1 MPTA (million ton per annum) in 1959, which has been progressively increased to 1.8 MTPA during the modernization in nineties and further to 2.2 MTPA during recently completed Modernization & Expansion Plan (MEP). DSP is also moving gradually towards the low emission steelmaking routes.

RESOURCE PERSON

1. Prof. Geoff Brooks, Swinburne University, Australia
2. Dr. Nawshad Haque, CSIRO Australia
3. Mr. Keith Vining, CSIRO Australia
4. Dr. Chunlin Chen, CSIRO Australia
5. Prof. Gour Gopal Roy, IIT Kharagpur
6. Prof. Govind Singh Gupta, IISc Bangalore
7. Prof. Somnath Basu, IIT Bombay
8. Dr. Arup Kumar Mandal, NIT Durgapur
9. Dr. R K Dishwar, IIT ISM Dhanbad
10. Dr. Ashok Kamaraj, IIT Hyderabad

COURSE TOPICS

1. Decarbonisation Challenges/Options facing Steel Producers
2. Hydrogen Fundamentals: Production, Combustion & Reduction
3. Hydrogen usage in Blast Furnace and DRI Processes
4. Decarbonisation Options Outside Hydrogen Reduction
5. Impact on Steelmaking Operations
6. Life Cycle Assessment of iron and steel industry
7. Multiphase Equilibrium model calculations for iron and steel industry
8. Green Steel research in context of Indian Condition
9. Green Steel research update in India
10. Industry tour at Durgapur Steel Plant, SAIL, India
11. Networking with course speakers

ORGANIZING COMMITTEE

PATRON

Prof. Arvind Choubey
Director, NIT Durgapur
Shri Anirban Dasgupta
Director in-charge, Bhilai Steel Plant with
Additional charge of DIC Burnpur and
Durgapur Steel Plant

CHAIRPERSON

Prof. Kartik Chandra Ghanta
Dean, (Research and Consultancy)
NIT Durgapur

COORDINATOR

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Project Leader of IAMSN (Green Steel) from NIT Durgapur

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Members

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Mr. V. V. Chaturvedi, Durgapur Steel Plant
Mr. Avash Kumar Saha, NIT Durgapur
Mr. Kashi Nath Malik, NIT Durgapur
Mr Santanu Sengupta, NIT Durgapur
Mr. Raj Kumar Kalshyan, NIT Durgapur
Mr. Rahul Dhibar, NIT Durgapur
Mr. SK MD Arif, NIT Durgapur
Mr. Imran Rizwi, NIT Durgapur
Students of MME Department, NIT Durgapur

How to Register

Registration Fees:

- Academic, Industry & Research Organization: ₹5000
- Students: ₹3000

PAYMENT DETAILS:

Account Name : NIT Society Durgapur
Account Number : 42706623239
Bank Name : State Bank of India
IFSC Code : SBIN0002108
Last date of registration: 10th February 2025
Registraion Link:
https://tinyurl.com/RegisterIAMSN

OR

Scan to Register

Scan to pay

CONTACT US:

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Photo Gallery (IAMSN Activities)