



THE INDIAN INSTITUTE OF METALS
Mumbai Chapter
&
INDIAN INSTITUTE OF TECHNOLOGY, Bombay

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Announcement

Symposium

on



“Critical Non-Ferrous Metals: Establishing the value chain”



15th– 16th April 2019



<https://www.me.iitb.ac.in/~cnfm2019/>



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Announcement & Invitation

Symposium

on

'Critical Non-Ferrous Metals: Establishing the value chain'

The Indian Institute of Metals, Mumbai Chapter in association with Indian Institute of Technology, Bombay is pleased to announce and invite academics, researchers and industry professionals from the field of extraction and downstream processing of critical non-ferrous metals, such as, Rare Earths, Titanium, Zirconium, Hafnium, Tungsten, Niobium, Tantalum, Lithium, Solar PV Silicon, etc. for a two-day symposium titled 'Critical Non-Ferrous Metals: Establishing the value chain'.

The Symposium will be held in April 2019 at IIT Bombay, Mumbai and have presentations covering recent developments and future commercial prospects in mineral processing, metal extraction, alloy development, environmental impact and the waste management. The Organizing Committee cordially invites you to participate in this important event for learning, sharing and networking with the professionals working in this area of non-ferrous metals and value-added products.

About the Symposium

The Indian aerospace, defence and atomic energy sectors have made crucial strides in the past decades and are aiming to commercialise some of the technologies for civil use. Diminishing carbon based resources and environmental concerns have brought renewable energy to the forefront of green energy. Non-ferrous metals, alloys and other value-added products mostly form the crux of these developments. A few notable examples are rare earth (RE) permanent magnets in renewable energy and e-mobility, RE's in Ni-MH batteries, tungsten heavy alloys in anti-tank kinetic energy ammunition, titanium alloys in aerospace structures and propulsion, zirconium alloy tubes in atomic energy, niobium alloys in aerospace propulsion systems, lithium ion batteries, and many non-ferrous metals as alloying elements or catalysts. Some of these emerging developments have been disruptive and changed the demand patterns of several metals & alloys. Nonetheless, the current volumes consumed by the market are limited, reducing the commercial viability.

The proposed two-day symposium will dwell upon the current status of production, supply chain management and applications of critical non-ferrous metals within the country in the context of the emerging markets in the world. It will also highlight the challenges & new opportunities for the Indian industries working in extraction, processing and applications of these materials. The symposium will have invited lectures by experts and specialists and will cover the following themes:

- Emerging trends, including business prospects, for critical nonferrous metals, alloys and other value-added products
- Advances in extractive metallurgy
- Key infrastructure developments and shortcomings
- Alloy development & physical metallurgy, design, manufacturing and applications
- Sustainability challenges – raw materials, energy, waste & effluent treatment
- Mineralogical, chemical and metallurgical characterization.

Organizing committee:

Chairman	: Prof Amol A Gokhale, Vice President IIM and Chairman, Non-Ferrous Division
Vice Chairman	: Shri D Singh, IREL
Advisors	: Dr R N Patra (formerCMD, IREL), Dr Pradip (FormerVP,TCS), Dr B Basu (ABSTC)
Convener	: Dr Vilas Tathavadkar, Aditya Birla Science & Technology Co Pvt Ltd
Co-Convener	: Prof Sushil K Mishra, IIT Bombay and Dr Alok Awasthi, BARC
Members	: Prof I Samajdar, IIT Bombay
	Dr Vivekanand Kain, BARC
	Dr PV Venkitakrishnan, ISRO
	Dr Dinesh Srivastava, NFC
	Prof Manish M. Pande, IIT Bombay
	Dr Ch R V S Nagesh, DMRL
	Dr N R Munirathnam, C-MET
	Dr N Chattoraj, NML.
	Dr S Basu, IMMT
	Prof N B Dhokey, CoEP, Pune

Registration Details: The interested candidates must register online using the link (www.me.iitb.ac.in/~cnfm2019) followed by the payment to the account mentioned below. To complete the registration process, a confirmation mail along with attached payment proof and registered name shall be forwarded to cnfm2019@gmail.com

Bank Account Details	Registration Fee*: + 18% GST	Sponsorship*: + 18% GST (reverse charging)
Acc. Name: CNFM2019 Acc No: 2724201010358 Bank Name: Canara Bank Branch Name: IIT Powai, Mumbai IFSC code: CNRB0002724 MICR code: 400015129	IIM members: ₹ 4000 IIM non-members: ₹ 6000 Students & researchers: ₹ 1500 Souvenir advertisements: * + 18% GST Back page: ₹ 30,000 Inner Cover: ₹ 25,000 Full page: ₹ 15,000 (B&W) Half page: ₹ 10,000 (B&W)	Gold: ₹ 2 Lakhs, (4 registrations free, advt in souvenir, logo) Silver: ₹ 1 Lakh (2 registrations free, advt in souvenir, logo) Bronze: ₹ 50,000 (1 registration free, advt in souvenir, logo) Hall advertisement: ₹ 1 Lakh (2 registrations free, advt in souvenir, logo) Commercial Poster: ₹ 30,000 (1 registration free)

* : Please share your GST No. for Invoice & receipt.

Poster presentations

We invite you to enhance the value of this meeting by contributing to the scientific component as a participant in the poster presentation. The poster should have a portrait layout with a size of around 33 inch (width) x 44 inch (height), that is, A0 size is recommended.

Please review the information and instructions carefully and submit your abstract by April 7th, 2019 to cnfm2019@gmail.com. Only online application submissions will be accepted. We look forward to seeing you in Mumbai.

About Organizers:

Indian Institute of Metals: The Indian Institute of Metals is more than seventy-year-old professional body representing industry, research and academia alike. It holds periodic technical events and exhibitions, conducts examinations for awarding certificates for working professionals, publishes technical journal and gives awards for outstanding individual or team contributions to the profession. The scope of its activities includes theoretical and practical aspects of mineral beneficiation, extraction, alloying, downstream processing, heat treatment, manufacturing of ferrous and non-ferrous metals and alloys, ceramics, composites and other emerging materials. Its membership count is of the order of few thousands. It also collaborates with similar international bodies with a reputation for mutual growth.

About the Mumbai Chapter: IIM Mumbai chapter has over 400 members, comprising academicians, researchers, professionals, industrialists, entrepreneurs, students and others associated with the metallurgical field, and is currently one of the largest and most active of the IIM chapters. Apart from the various activities mentioned above, the chapter annually conducts Brahma Prakash Memorial Quiz for school students of the region and sends the winners to Kalpakkam for the national level event. Industrial visits to metallurgical units in the surrounding region are periodically arranged. The chapter is governed by an Executive Council.

About IIT, Bombay: IIT Bombay is a premier educational institute in the country offering courses in engineering, design and allied disciplines. It has been declared as an Institute of Eminence by the Ministry of HRD, and ranks 162 in world QS ranking, ahead of all other institutions in the country. Its picturesque campus has positioned between hills on one side and the Powai Lake on the other. It's conveniently located at about 10-12 km from Mumbai Airport.

Invited Talks (alphabetically):

1. *"Extraction and refining of refractory and reactive metals - a thermodynamic perspective"*, Dr. Alok Awasthi, BARC, Mumbai
2. *"Lithium extraction from secondary sources such as spent battery"*, Prof. S Basu, Director, IMMT, Bhubaneswar
3. *"Global uncertainties and metals market dynamics"*, Shri G Chandrashekhar, The Hindu Business Line
4. *"Recent work on separation of RE metal and tungsten"*, Dr. I Chatteraj, Director, NML, Jamshedpur
5. *"Zirc alloy tube development"* Dr. Gourahari Das, NFC, Hyderabad
6. *"Extraction of rare earth elements from electronic scrap"*, Dr. Nikhil Dhawan, IIT Roorkee
7. *"Li-ion battery development"*, Dr. R Gopalan, ARCI, Chennai
8. *"Niobium and cobalt based alloys for high temperature space applications"*, Dr. R K Gupta, VSSC, Trivandrum.
9. *"Strategic applications of shape memory alloys"*, Dr. Madangopal Krishnan, BARC, Mumbai.
10. *"Rare earth mineral beneficiation"*, Shri CVR Murty, IREL
11. *"Overview of critical non-ferrous development at MIDHANI"* Dr. S K Jha, MIDHANI, Hyderabad.
12. *"Significant advances in the metallurgy of niobium and tantalum – an Indian perspective"*, Shri. K V Mirji, NFC, Hyderabad
13. *"Hafnium and other critical non-ferrous metals in electronic industry"* Dr. N R Munirathnam, DG, CMET
14. *"Titanium & tungsten extraction metallurgy developments"*, Dr. Ch R V S Nagesh, DMRL
15. *"Structure-property correlation in tungsten heavy alloys"*, Dr. T K Nandy, DMRL
16. *"Titanium alloy isothermal forging of compressor discs for aeroengines"*, Dr. T Raghu, DMRL, Hyderabad
17. *"Development of Nb alloy Cp752"*, VV Satyaprasad, DMRL, Hyderabad
18. *"Overview of critical non-ferrous alloy and special product development for atomic energy"*, Dr. Dinesh Srivastava, CE, NFC, Hyderabad
19. *"Overview of critical non-ferrous alloys development and productionisation for space applications"*, Dr. P V Venkitakrishnan, Director, CBPO, ISRO Hq, Bengaluru.

Panel discussion: Leaders from supplier and user industries: 5-6 invited industry leaders.