



**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”***



**11 - 12 April, 2019**





# THE INDIAN INSTITUTE OF METALS

Mumbai Chapter  
& Indian Institute of Technology, Bombay



First announcement & Invitation

Symposium  
on

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

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

The Symposium will be held during April 2018 and have presentations covering recent developments and future commercial prospects in mineral processing, metal extraction, alloy production, environmental impact and waste management. The Organizing Committee cordially invites you to participate in this important event being held in Mumbai for learning, sharing, and networking in this important sector of non-ferrous metals and value added products.

### About the Symposium

The Indian aerospace, defence and atomic energy sectors have made important 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. Most of these programmes critically depend on non-ferrous metals, alloys and other value added products. 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 in batteries, and many non-ferrous metals as alloying elements or catalysts. These emerging developments have been disruptive, at times, 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 nonferrous 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. The following themes will be covered:

- a. Emerging trends, including business prospects, for critical nonferrous metals, alloys and other value added products
- b. Advances in extractive metallurgy
- c. Key infrastructure developments and shortcomings
- d. Alloy development & physical metallurgy, design, manufacturing and applications
- e. Sustainability challenges – raw materials, energy, waste & effluent treatment
- f. 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
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 Pande, IIT Bombay Dr Ch R V S Nagesh, DMRL Dr N R Munirathnam, C-MET Dr N Chattoraj, NML. Dr S Basu, IMMT

### Registration Fee:

IIM members: Rs 4000

IIM non-members: Rs 6000

Students & researchers: Rs 1500

### 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 repute 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.