

The logo for ICME 2017 is centered at the top. It features the letters 'ICME' in a large, bold, blue sans-serif font. Below 'ICME' is a horizontal blue bar with three vertical white lines on the right side, followed by the year '2017' in a smaller blue font. The entire logo is enclosed within a large blue circle.

# ICME 2017

The logo for the Indian Institute of Technology (IIT) Kanpur is on the right side. It features the text 'IIT KANPUR' in a large, bold, black sans-serif font, with 'Indian Institute of Technology, Kanpur' in a smaller black font below it. To the right of the text is a circular emblem containing a stylized flame or lamp, with the text 'INDIAN INSTITUTE OF TECHNOLOGY KANPUR' around the perimeter.

**IIT KANPUR**  
Indian Institute of Technology, Kanpur

## **International Conference on Materials Engineering (ICME 2017)**

**June 2-4, 2017**

**Indian Institute of Technology Kanpur**

*Organized by*

**Indian Institute of Metals, Kanpur Chapter**

**Indian Institute of Technology Kanpur**

### *Preamble*

The success of design, development and performance of engineering solids, based on metals, ceramics or polymers, the three primary forms of pure solids based on bonding characteristics, or their combinations in the form of composites, principally depends on our ability to create and utilize effective understanding of the correlation among the microstructure-composition-properties-process parameters. For a material of a given composition, properties largely depend on microstructure, a complex concept comprising information related to origin and type of atomic aggregate (crystalline / amorphous), identity/ shape/ size/ morphology/ orientation/distribution of the constituent phases, prior history, and influence of environment or external stimuli. Both equilibrium and metastable microstructure in solids evolves

The logo for ICME 2017 is centered at the top of the page. It features the letters 'ICME' in a large, bold, blue sans-serif font. Below 'ICME' is a horizontal blue bar with three vertical white lines of varying heights on the right side. To the right of this bar, the year '2017' is written in a smaller, grey sans-serif font. The entire logo is enclosed within a large, light blue circular border.

# ICME 2017

The logo for IIT Kanpur is located in the top right corner. It is a circular emblem with a stylized 'IIT' in the center, surrounded by the text 'INDIAN INSTITUTE OF TECHNOLOGY KANPUR' and '1959'.

**IIT KANPUR**  
Indian Institute of Technology, Kanpur

through large scale rearrangement of atoms, called phase transformation during various stages of synthesis or processing and is principally dictated or controlled by the relevant thermodynamic and kinetic factors. Traditionally, this scientific approach of microstructure-property-parameter correlation concerning metals and alloys is referred to as Physical Metallurgy. The world of engineering materials today embraces metals, ceramics, semiconductors, polymers and composites of various forms and origin. However, the aforesaid philosophy and approach of physical metallurgy is equally applicable to and has always been practiced for all classes of engineering solids including ceramics, refractory, semiconductors, insulators, nano-materials, glass and amorphous/glassy solids, aimed either for structural or functional applications in the form of bulk solids, particulates, thin/thick films, coatings, laminates, sponges and hybrids/composites. In other words, physical metallurgy fundamentals are now extended beyond metals and alloys to structural/functional polymers, semiconducting devices or sensors, ceramic tiles, quantum dots, carbon nanotubes and polymer/metal/ceramic matrix composites that has led to the emergence of a much broader and more logical subject domain called Materials Engineering.

Foundation of Materials Engineering is based on thermodynamic principles, kinetic laws, crystallographic details and microstructural and spectroscopic analysis with varying degree of resolution and is correlated with different properties of interest of mechanical (e.g. strength, ductility,

# ICME 2017



IIT KANPUR  
Indian Institute of Technology, Kanpur



fatigue, creep) or functional (e.g. magnetic, electrical, bio-medical, physical) origin.

In view of the above, the Metal Science Division of the Indian Institute of Metals (IIM), the most eminent professional body in India established in 1946 representing all segments of metallurgical and materials engineering sector including academia, industry, research and development, government agency, entrepreneurs, consulting or testing firms and strategic departments, intends to launch a new platform of deliberation and promote the subject domain of Materials Engineering through an International Conference in Materials Engineering (ICME) and intends to hold the first such event at Indian Institute of Technology (IIT) Kanpur on June 2-4, 2017 (Fri-Sun, 2.5 days) as a joint effort of the Indian Institute of Metals Kanpur Chapter and IIT Kanpur with the following main themes:

- Microstructure and Phase Transformation
- Design and Development of Structural Materials
- Design and Development of Functional Materials

***Participation:*** The Conference is designed to restricted participation and audience only by invitation to facilitate close and intense interaction. We intend to invite about 50 plenary/invited experts from India and abroad for oral presentation and 100 scholars for poster presentation. Authors of

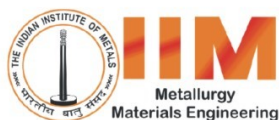
selected posters will be invited to submit full length papers that will be published in a peer reviewed journal.

**Venue:** IIT Kanpur is the venue of ICME 2017. The campus is located off the Grand Trunk Road near Kalyanpur, about 16 km west of Kanpur city.

### ***Themes and Subthemes:***

- I. Microstructure and Phase Transformation
  - I 1: Mechanism of Phase Transformation
  - I 2: Non-equilibrium Processing of Materials
  - I 3: Characterization of Microstructure
  - I 4: Modeling of Microstructural Evolution
- II. Design and Development of Structural Materials
  - II 1: Novel High Strength Alloys
  - II 2: Novel High Formable Alloys
  - II 3: Novel Composites and Non-Metallic Alloys
  - II 4: Novel Surface Engineering Approach
- III. Design and Development of Functional Materials
  - III 1: Energy Harvesting Materials
  - III 2: Sensors and Device Fabrication Materials
  - III 3: Magnetic, Optics and Electronic Materials
  - III 4: Nanomaterials and Composites

# ICME 2017



IIT KANPUR  
Indian Institute of Technology, Kanpur



**Registration:** Registration fee will be paid online. Registration fee will include registration kit, admission to all Sessions, refreshments, lunch/dinner, abstract and program booklet.

Category	Registration Fee
Foreign Delegates	USD 200
Indian Delegates	INR 6000
IIM Members	INR 5000
Students/scholars	INR 2000

**Accommodation and Transport:** Local transportation (transfer from Lucknow airport and Kanpur railway station) and accommodation will be provided by the ICME 2017.

### **Contact details**

Dr. Nilesh P. Gurao and Dr. Sudhanshu Shekhar Singh

Secretariat ICME 2017

Department of Materials Science and Engineering

IIT Kanpur, UP-208016, India

Email: [iim\\_icme2017@yahoo.com](mailto:iim_icme2017@yahoo.com)

Phone: +91-(512)2596688, +91-(512)2596908