

COPEN⁹

International Conference on
Precision, Meso, Micro and Nano Engineering.



December 10-12, 2015

Venue: VMCC - Victor Menezes Convention Centre, IIT-Bombay

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Theme and Objectives

New products and technology developments in the area of strategic, automotive, aerospace, electronics, and bio-medical industries require complex features on products, product miniaturization, precision manufacturing and quality control through advanced metrology. In addition, the demand for miniaturized meso/micro devices with complex design features built with advanced materials has been rapidly increasing. In order to address these demands, precision micro and nano engineering has been developing rapidly in recent years. It is envisioned that such activities will not only facilitate the exponential development of the global economy, but also aid in scientific understanding at a fundamental level.

The miniaturized products/components and high precision requirements often demand innovative manufacturing methods, testing and characterization tools/techniques. Application of precision manufacturing in aerospace, automotive industries and advances in microelectronics and biomedical engineering, look to the processing of advanced materials and fabrication of functional surfaces. The overall challenge is to achieve a synergy among machining, forming and additive manufacturing techniques at micro, nano and meso scales.

The objective of the conference is to provide a common platform for specialists working in precision, meso, micro and nano engineering industries and academic institutions as well as R&D organizations to come together for interaction and exchange of their ideas. The conference also aims at networking of participant institutes/organizations/industries to systematically confront challenges in mutual areas of interest to advance manufacturing technology in these areas. The COPEN conference continues to grow as a platform where manufacturers, researchers and academia gather to connect with the pace of innovation in manufacturing technology.

Participants from academia, R&D organizations and industries are invited to submit research papers (Max of 6 pages) on the following themes. The industry participants are also invited to submit short case studies (2-4 pages) on their R&D activities that will be of immense benefit to the researchers in the field.

Topics for the Research Paper

A. Precision Manufacturing

- Precision machining and forming
- Precision casting
- Assembly processes
- Characterization of functional surfaces and sub-surfaces
- Applications in aerospace manufacturing

B. Multi-Scale Manufacturing

- Micro machining and forming
- Micro scale assembly and systems
- MEMS/MOEMS
- Nano machining and polishing
- Nano scale energy beams and processing
- Chemical and electrolyte processing at nano scale
- Micro/Nano metrology

C. New Materials and Processing

- Composites and inter-metallics
- Ceramics
- Polymers
- Ultra strength alloys
- Materials for aerospace applications

D. Emerging Manufacturing Technologies

- Additive manufacturing
- Manufacturing applications in Biotechnology and Biomedical
- Green and sustainable manufacturing on Micro/Nano scale

Notification of Acceptance of abstracts



Important dates after After submission of abstracts

Notification of acceptance of abstracts	08 Aug, 2015
Submission of final manuscript	15 September, 2015
Notification of acceptance	28 September, 2015

Pre conference workshop on Wed, December 9, 2015

Pre-conference technical workshops will be held for PhD and M.Tech students along with the members of academia and industry.