

AdMet-2011

1st National Conference on Advances in Metrology

(16 to 18) February 2011

Announcement and Call for Papers

Theme: Micro & Nano Measurement Technology



Organized by :



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and



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About the Conference

Measurement Science has always played a key role in the innovation, development of the society, economy and trade. Precision engineering, micro and nano-Technology has put pressing demands on National Measurement System for realization of the physical and chemical standards with highest level of accuracies and traceability to the international measurement systems. With the liberation of economy and globalization of trade, considerable efforts are being made in building the confidence that measurements made in one location in the world are compatible/equivalent to those made in other locations on the same or related products.

To have continual interaction with the fellow metrologists, National Physical Laboratory-India (NPLI) and Metrology Society of India (MSI) have jointly been organizing International Conference on Advances in Metrology (AdMet), once in every two years since 1996 and 7th AdMet – 2009 was held at NPL during February 18-20, 2009. In the last annual General Body meeting held on 20th May 2010 at NPL, New Delhi, it was decided that there will be two national AdMet in the two consecutive years and every third year, there will be International Conference, which will be held at NPL, New Delhi. The present conference at CMTI, Bangalore is the first in the national AdMet series.

The Theme of the Conference

Micro and Nano technology is pervading all the domains of science and technology. Meso takes forward micro and

nano technology to the realm of practical world. Quantum jump is happening in these fields for measurement with the power of digital technology. Realizing the importance and developments happening in the measurement field, the theme of the conference is kept as **Micro and Nano Measurement Technology**.

Measurement science has improved tremendously not only in metal working field but practically in all sectors of the industry. Measurement and testing equipments are either gradually updated or getting transformed into a new generation of measurement tools. Higher order of precision and accuracy is now a common demand. Also, advances in the area of MEMS, Micro-machining, Miniaturization, silicon based fabrication techniques have spurred rapid growth in the field of metrology known as nano-metrology. Factory rejects are now required to be controlled in ppm level with the use of TQM tools. It is therefore of utmost importance that the personnel engaged in operating, maintaining and interpreting the measuring and testing equipments in the industry as well as the laboratory has deeper understanding of the art of measurement and testing including uncertainty in measurements. Global Approach to Conformity Assessment is aimed at Mutual Acceptance of Quality System, Test Results and Test Certificates so that there is minimum technical barrier to facilitate free trade across the member countries of the World. This conference will cover these critical issues in more detail.

Call for Papers

Admet-2011 offers a unique opportunity to learn and share about advances, technology and products in the area of metrology. For this unique National Conference, papers are invited on the following thematic areas.

- Recent advances & Future Trends in Metrology
- Role of Metrology in Quality Control, Quality Improvement and Quality Assurance.
- Relevance of Metrology to Environment, safety, Health and Socio Economic Development
- Measurement System Analysis
- Dimensional Metrology
- Surface Metrology
- Metrology based on Vision Systems
- Calibration of Measuring Equipment and Machines
- Metrology standards for Alternative Energy Sector
- Vibration & Noise Measurements
- Chemical Metrology & Certified Reference Materials
- Flow Measurements
- Mass Metrology
- Force Metrology
- Thermal Metrology
- Optical Metrology
- Radiological Metrology
- Electro Technical Measurements
- Traceability Aspects in Measurements
- Uncertainty of Measurements
- NanoMetrology

Prospective authors are required to submit extended abstract not exceeding two A4 size pages including text, figures, tables, references and their affiliation and address for communication. The abstract can be sent to the following email: admet2011@gmail.com. On acceptance of the abstract, the full paper has to be sent for review. The full paper accepted for presentation for oral/ poster presentation will be included in the proceedings subject to the condition that at least one author registers for the conference. Out of these accepted manuscripts, a few very important papers will be published in the SCI journal "MAPAN" which is published by SPRINGER INC. using the usual process of referring as per the information provided in the website (www.metrologyindia.org)

Important Dates

Abstract Submission	10 th Dec 2010
Notification of Abstract Acceptance	20 th Dec 2010
Submission of Full Paper	10 th Jan 2011
Notification of Acceptance of Full Paper	20 th Jan 2011
Early Registration and Author Registration	25 th Jan 2011

Date, Time & Venue

16th – 18th February, 2011, 0900 -1700 hrs at CMTI Auditorium, Bangalore

Registration

Registration may be done by filling up the registration form and sending the same to the conference organizer. Payment may be made in the form of DD/Pay Order etc., payable to Metrology Society of India, Southern Region (SR) at Bangalore. The registration fee includes the conference materials & lunch. The Conference dinner will be on the 16th February 2011 along with Annual General Body Meeting of MSI.

Registration Fee

- ₹ 3000/- (100US\$ or Equivalent for International participants)
- ₹ 2000/- for MSMEs and MSI Members
- ₹ 1000/- for Student members

About MSI

Metrology Society of India (MSI) was founded in Jan 1984 to promote and disseminate Metrology in its varied aspects. The main objectives of MSI is to provide a forum for exchange of ideas, opinions and experiences of persons and agencies connected with metrology and also assist the Government in formulating legislative and other measures for further growth in metrology in the country. It is publishing a quarterly journal, MAPAN-Journal of Metrology Society of India, exclusively devoted to metrology since 1985.

About CMTI

Central Manufacturing Technology Institute (CMTI) was established in 1962 to support Indian Machine Tool Industry and Machine Tool users. CMTI has developed and assimilated technologies relating to development of general purpose/ special purpose machines including material handling systems, inspection systems, dedicated test rigs for product testing, tooling and manufacturing technology.

The Metrology Laboratory of CMTI, accredited by NABL since 1993, caters to precision measurement and calibration requirements. The laboratory also takes up on-site calibration of metrology equipment and CNC Machine tools. The facilities of the Laboratory are housed in an environmentally controlled underground laboratory built to meet International standards. This is the only laboratory of its kind in this part of the world including South East Asia. To extend its capabilities, CMTI is adding up state-of-the-art Nano Metrology facilities as a part of Nano Manufacturing Technology Centre(NMTC) that is being set up at CMTI. Equipments like Atomic Force Microscope, Scanning Electron Microscope, Optical Profiler, Laser Tracer, Gauge Block Interferometer and Flatness Interferometer are added recently.

About NPLI

NPLI established in 1947, a signatory to the MRA of CIPM, has been assigned the responsibility to carry out the work related to realization, establishment, custody, maintenance, reproduction and improve continuously by research, the standards of Physical and chemical measurements with highest level of accuracies and Traceability to the international measurement system. NPL's objective is to

assist the industries and other agencies of the country in their requirements of precision measurements and calibration of instruments, as well as in the development of related devices, processes and techniques.

Traceability of standards to SI units is achieved either by calibrations performed at the NPL or by getting some of the standards calibrated from BIPM, the International Bureau of Weights and Measures, or the NMI of another country that has achieved less uncertainty in the value of a standard. Equivalence of these national standards with international standards is achieved by participating in international inter-comparisons of standards.

About NABL

NABL has been established by Govt. of India as the accreditation body with the objective of providing Government, Industry Associations and Industry in general with a scheme of laboratory accreditation, which involves third-party assessment of the technical competence of testing and calibration laboratories. This means that the test/ calibration certificates issued by the accredited laboratories have acceptance across the national borders. It operates its laboratory accreditation system and issues Accreditation Certificate to the member laboratories in accordance with ISO/ IEC 17025:2005 and ISO 15189: 2007. National Accreditation Board for Testing and Calibration Laboratories (NABL) is a MRA signatory to International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Laboratory Accreditation Co-operation (APLAC).

About STQC

Standardization Testing and Quality Certification (STQC) Directorate is an attached office of the Department of Information Technology (DIT), Government of India, provides quality assurance services in the area of Electronics and IT through countrywide network of Laboratories and centers. Besides testing and calibration STQC has specialized institutions such as Indian Institute of Quality Management (IIQM) for quality related training programmes. Centre for Reliability (CFR) for reliability related services and Centre for Electronics Test Engineering (CETE) for skill based trainings. In the area of Information Technology STQC provides assurance services through its six IT Centres for Software Quality testing, Information Security and IT Service Management by conducting testing, training, audit and certifications.

About Quality Council of India

Quality Council of India (QCI) was set up in 1997 jointly by the Government of India and the Indian Industry represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI), to establish and operate national accreditation structure and promote quality through National Quality Campaign. The Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, is the nodal ministry for QCI. Accreditation facilitates international trade

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by way of establishing equivalence and global acceptance of certification, inspection and testing being undertaken by various conformity assessment bodies, in areas of quality, environment, food safety etc.

Target Group

It is aimed for all the personnel engaged in conformity assessment, Quality System Management, Calibration and Testing in all sectors of industry such as Steel, Aluminum, Automobile, Engineering, Industry, Electronics and Telecommunication, Chemical Industry, Power, Foundry, Aeronautical etc. This is also important for NABL accredited testing and calibration laboratories in various disciplines including pathological laboratories. They are expected to gain much from the topmost experts in Quality System Management and Metrology in this country.

Accommodation for Participants

A number of decent hotels are available close to conference venue and also near the bus stand/ railway station, which is about 10km from CMTI. Also, very limited accommodation

is available at CMTI Guest House, IISc Guest House, and ETDC Guest House for the interested participants on chargeable basis.

Weather in Bangalore

Located 949m above sea level, Bangalore enjoy a salubrious climate throughout the year. The city boasts of spacious gardens, parks, tree-lined avenues, a profusion of flowering trees, lakes and parks, earning it the sobriquet of "Garden City." Bangalore is a city of contrasts, going by several other aliases: India's Silicon Valley, Shopper's Paradise, Garden City, Air-conditioned City and Gourmet's Delight. The city plays host to several international IT companies, Public sector enterprises, Defence organizations, and reputed educational and research institutions. Some of the tourist attractions of the city are Vidhana soudha , Lalbagh garden, Visveswaraya Industrial and Technological museum, HAL Heritage Center and Aerospace Museum, Jawaharlal Nehru Planetarium, National Gallery of Modern art, Venkatappa Art Gallery, Ulsoor Lake, Sankey Boat Club, ISKCON Temple and Bull Temple.

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