# NDE2002 Pre-Conference Workshop

# WORKSHOP ON Materials Characterisation through Ultrasound

Hotel Taj Connemara, Chennai – 600 002 December 2-4, 2002 Indian Society for Non-Destructive Testing

### Workshop on Materials Characterisation through Ultrasound

The workshop on Materials Characterisation through ultrasound (Dec 2-4, 2002) has been specially designed for engineers and scientists with practical experience, as well as for the new entrants to the field from relevant disciplines. This conference will assemble researchers, academicians and practitioners concerned with making measurements of material properties on a wide range of engineering materials and structures. Ultrasonic methods have the potential for making mechanical, physical, and chemical measurements both in laboratory as well as in the field. These techniques are being used in the characterization of a wide range of materials, from traditional materials such as metals and wood to new materials such as composites and electronic wafers. Material characterization measurements are required in every facet of a product life cycle, i.e. from the materials development and design to manufacturing to failure analysis. The workshop will introduce the fundamental theories on ultrasonic NDE methods, and will cover a wide range of topics on the methods used in the materials characterization process.

It is expected that the participants to the Workshop would be involved in all areas of product life cycle including materials development, product design, manufacturing, maintenance, and failure analysis.

#### **SCOPE**

During the workshop, the following topics would be covered by eminent faculty drawn from international academic, research and industrial institutes.

- 1. Fundamentals of Ultrasound
- 2. Theory and Models for Ultrasonic NDE
- 3. Generation Mechanism for ultrasonic NDT
- 4. Instrumentation & Data Processing
- 5. Inverse Methods in NDE
- 6. Guided Waves Basics and Applications
- 7. Measurements in Metals using Ultrasound
- 8. Ultrasonic Characterisation of Interfaces and adhesive bonds
- 9. Ultrasonic Characterisation of Composites:
- 10. Non-Linear Acoustics and Acoustic Microscopy
- 11. Stress Measurement
- 12. SAW devices and Measurements
- 13. Process Parameter Measurement using ultrasound
- 14. Ultrasonic Monitoring of Manufacturing Process

All the participants will receive a copy of the lecture notes.

#### **NDE-2002**

The workshop is followed by National Seminar on Non-Destructive Evaluation (NDE-2002) during December 5-7, 2002 at the same venue. The focus of the seminar is on: Predicting materials behaviour and life of industrial and civil structures and plants; Assuring the quality of components and safe operations; and Improving the reliability of products and increasing scientific understanding of the discipline. The Seminar is expected to have about 150 technical papers (including Invited and Contributed), over 800 delegates (200 overseas) and 100 Exhibition Stalls. A number of topics related to NDE and its applications in process and power industry are planned to be covered in the seminar. **Full details and brochure on NDE-2002 can be obtained on request from:** 

Shri V. Pari
Convener NDE 2002 & Honorary Secretary, ISNT
Indian Society for Non Destructive Testing
E-1, Second Floor, J. P. Tower, Nungambakkam High Road
Chennai - 600034

Phone: 0091-44-8265984 Fax: 0091-44-8265984 Email: isntho@eth.net

scaanray@md3.vsnl.net.in

#### **VENUE**

Hotel Taj Connemara, Binny Road, Chennai, 600 002

#### REGISTRATION

It is possible to accommodate only a limited number of participants for the Workshop. Hence, the registration for the participation in the Workshop will be done on "First-come First-serve" basis. The last date for registration for the Workshop is November 20, 2002. The Workshop registration fee should be sent along with the request for registration. All those who intend to participate in the Workshop may also send the duly filled in registration form (available in the brochure) for further communications.

Non-residential fee structure per participant as indicated below (includes Workshop notes, participant's kit, lunch & refreshments) shall be remitted in advance by Demand Draft drawn in favour of "ISNT-NDE 2002" payable at Chennai.

Workshop only (2-4, Dec. 2002) - Rs. 5000.00 Workshop + Seminar (2-4 & 5-7, Dec. 2002) - Rs. 6000.00

(For ISNT Members)

Workshop + Seminar (for Non-Members) - Rs. 6500.00

#### ACCOMMODATION

Participants are advised to make their own arrangements for accommodation. However, arrangements for booking Hotel accommodation for a limited number of participants may be entertained on chargeable basis. Such accommodation requests with full details should reach the Convener@nde2002.org, well in advance but not later than November 15, 2002.

#### **FACULTY**

Prof. Peter Cawley, Department of Mechanical Engineering, Imperial College, London, UK

Prof. Walter Arnold, Fraunhofer Institute for Nondestructive Testing, Saarbrücken, GERMANY

Dr. Satish Shamachary, University of Dayton Research Institute, Dayton, OH, USA

Prof. Sung-Jin Song, Safety and Structural Integrity Research Center, Sungkyunkwan University, Suwon 440-746 KOREA

Dr. Claudia Korpas Hughes, NDE Research Leader, US AirForce Research Laboroatory, Wright-Patterson AFB, Dayton, OH, USA

Dr. Salahuddin Ahmed, Pacific Northwest National Laboratory, WA, USA

Dr. C. Rajagopalan, Indira Gandhi Centre for Atomic Research, Kalpakkam, INDIA

Dr. V. Rajendran, Department of Physics, Mepco Schlenk Engineering College, INDIA

Dr. C.V.Krishnamurthy, Centre for Nondestructive Evaluation, Indian Institute of Technology Madras, Chennai, INDIA

Prof. Krishnan Balasubramaniam, Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai, INDIA

And other eminent experts in the field of NDE.

#### CORRESPONDENCE

All correspondence with regard to Workshop on Materials Characterisation through Ultrasound shall be addressed to:

Prof. Krishnan Balasubramaniam
Convener - Workshop on Materials Characterisation through Ultrasound
Professor, Department of Mechanical Engineering
Head, Centre for Nondestructive Evaluation
MDS 301
Indian Institute of Technology Madras
Chennai 600 036, Tamil Nadu, India

Phone: 91-44-257-8588 or 91-44-257-0125 (x5516)

FAX: 91-44 – 257-0545 E-MAIL: ut@nde2002.org

# WORKSHOP ON MATERIALS CHARACTERISATION THGOURH ULTRASOUND

# Pre-Conference Workshop

# **December 2-4, 2002**

# Hotel Taj Connemara, Chennai – Tamilnadu

## **REGISTRATION FORM**

|    | I intend to participate in the Workshop.  |            |
|----|---|------------|
|    | I intend to participate in the Workshop and Seminar. Please send me a copy of the detailed announcement of the NDE 2002 Seminar |            |
| 1. | Name  | :          |
| 2. | Designation   | :          |
| 3. | Organisation  | :          |
| 4. | Address   | :          |
| 5. | Phone   | : (O)      |
|    |   | : (R)      |
| 6. | Fax   | :          |
| 7. | Email   | :          |
| 8. | Registration fee enclosed   | : YES / NO |
|    | Amount  | :          |
|    | Demand Draft No   | :          |
|    | Drawn on  | :          |
|    | Signature   | :          |

Please send the registration form to: Prof. Krishnan Balasubramaniam Professor, Department of Mechanical Engineering Head, Centre for Nondestructive Evaluation MDS 301 Indian Institute of Technology Madras Chennai 600 036, Tamil Nadu, India

E-MAIL: ut@nde2002.org