Announcement

Pre-Conference Tutorial

NDE2002

WORKSHOP ON
NDE OF CONCRETE STRUCTURES

Hotel Taj Connemara, Chennai – 600 002

December 2-4, 2002

Indian Society for Non-Destructive Testing
WORKSHOP ON NDE OF CONCRETE STRUCTURES

The workshop on NDE of Concrete Structures (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 nondestructive evaluation (NDE) of concrete structures such as highways, bridges, dams, pavements, airport runways, nuclear containment structures, buildings and monuments. In the recent times, because of ageing of various civil infrastructure, emphasis is being laid on their integrity assessment on a wider statistics through nondestructive evaluation (NDE) techniques in addition to limited semi destructive testing techniques and penetration techniques. Starting with ultrasonic pulse velocity and rebound hammer techniques, a host of new advanced NDE techniques have been developed for reliable inspection of civil structures. Not only the ageing phenomenon, requalification of damaged structures for their continued safe usage, consequent to earth quakes, floods, fire, cyclone etc. also require NDE. Because of greater awareness of damage mechanisms and stringent construction practices being followed, it has become essential to qualify new civil structures for their reliable long term performance. The workshop will provide an unique opportunity for the participants to interact with leading specialists from India and abroad on key aspects of design, construction and repair technologies adapted for civil structures, in addition to NDE of concrete structures. The conference is designed to promote the exchange of information among researchers, practitioners and infrastructure owners on the application of NDE technologies for concrete structures. The objective of the presentations would be to introduce the civil engineers to NDE techniques and also to educate the practitioners, consultants and researchers from basics to the state of the art NDE technologies and emerging trends in new NDE techniques.

It is expected that the participants to the Workshop would be a mix up of those having exposure to either only civil structures or NDE technologies. Hence, the technical content of the Workshop would also cover overviews on the design and construction of civil structures and fundamentals of NDE techniques, as can be seen from the 'Scope' of the workshop given below.

SCOPE

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

1. Design of concrete structures including reinforced and pretensioned structures
2. Trends in construction methodologies
3. Degradation mechanisms of concrete structures
4. Destructive and semidestructive testing techniques
5. Qualification of damaged structures due to earthquakes, fire, floods, cyclones, ageing and accidental overload
6. Repair technologies for degraded structures
7. Requalification methods and standards for renovated/ refurbished buildings
8. International standards and qualification procedures for NDE of concrete structures.
9. NDE of road bridges, rail bridges, roads, pavements, aircraft runways, dams, buildings, nuclear structures etc.
10. Specific topics on NDE techniques for assessment of concrete structures, including ultrasonics, rebound hammer, impact echo, radiography, acoustic emission, infrared thermography, vibration spectral analysis, ground penetrating radar, nuclear magnetic resonance tomography and potential/ impedance measurements
11. Case studies

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 (December 2 - 4, 2002)	Rs. 5000/-
Workshop and NDE2002 Seminar 2-4 and 5-7, 2002 (for ISNT Member)	Rs. 6000/-
Workshop and NDE2002 Seminar 2-4 and 5-7, 2002 (for Non-ISNT Members)	Rs. 6500/-

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, well in advance but not later than November 1, 2002.

FACULTY

Dr. Baldev Raj, Indira Gandhi Centre for Atomic Research, Kalpakkam, India

Dr. G. Dobmann, Fraunhofer Institute of Non Destructive Testing (IZFP), Saarbruecken, Germany (also Scientific Advisor to the Workshop)

Dr. D. K. Bhattacharya, National Metallurgical Laboratory, Jamshedpur, India

Dr. J-L. Chazelas, French Public Works Research Laboratory, Bouguenais Cedex, France

Mr. S.Heruc, Delft University of Technology, Delft, The Netherlands

Dr. S.K. Kaushik, Indian Institute of Technology, Roorkee, India

Dr. N. P. Mailvaganam, Canadian National Research Council's Institute for Research in Construction (IRC), Ottawa, Canada

Dr. K. Mani, Structural Engineering Research Centre, Chennai, India

Dr. B.K. Raghu Prasad, Indian Institute of Science, Bangalore, India

Dr V.S. Ramachandran, National Research Council of Canada, Ottawa, Canada

Mr. A. Ramakrishna, Larsen & Toubro, Chennai, India

Dr. V. Ramakrishnan, Technological University of South Dakota, USA

Mr. S. A. Reddi, Gammon India Ltd., Mumbai, India

Dr. G. M. Sabnis, Howard University, Washington DC, USA

Mr. S. Srinivasan, Central Electrochemical Research Institute, Karaikudi, India

Dr. rer. nat. H. Wiggenhauser, Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

PROFILE OF FACULTY

Baldev Raj, FNAE, FASc., FNASc.
(b 1947), BE (Ravishankar University), Ph.D. (IISc), Distinguished Scientist & Director, Metallurgy & Materials, Chemical and Reprocessing Groups, Indira Gandhi Centre for Atomic Research, Kalpakkam 603102, Tamil Nadu. Steers the activities and programmes of about 900 science and technology personnel in multi and inter-disciplinary programmes of the Centre. His specializations include materials characterization, testing and evaluation using nondestructive evaluation methodologies, materials development and performance assessment and R & D management. He has 30 years of experience, which has led to many first of its kind observations and discoveries in laser, acoustic and magnetic methods of materials characterization and applications.

He has won numerous awards including NDT Man of the Year 1985 and National Metallurgist 1986. He has also won Materials Research Society of India Medal 1992, Sir C.V. Raman Award 1992, Keith Hartley Memorial Award 1992, Vasvik Award 1994, AEWG Gold Medal 1994, G.D. Birla Gold Medal 1996; M.S. Narayan Memorial Award 1999 and SAIL Gold Medal 1999.

He has more than 380 publications in leading national and international journals, referred books, status articles, honour, plenary, key note and invited lectures, 20 books (4 books, 3 monographs and 13 edited), 4 Indian Standards to his credit and has filed 11 patents in the area of NDT. He has contributed 6 articles in Encyclopedia of Materials Science and Technology. He also has numerous publications in Conference Proceedings and popular articles. He has been invited to be a Subject Editor in the area of Materials Testing: Mechanical and Non destructive - Encyclopedia of Materials Science & Technology, published by Elsevier Science Publications, Oxford, UK.

Dr. D.K. Bhattacharya

is presently heading Materials Characterisation Division, National Metallurgical Laboratory, Jamshedpur, India. He is a BE (Metallurgy) 1969 from B.E. College, Calcutta, Ph.D. (Metallurgy) from Indian Institute of Science, Bangalore in 1994. ASNT Level 3 Certificate holder in Ultrasonic Testing, Radiography and Magnetic Particle Testing. His experiences include 1969-1974, Bhabha Atomic Research Centre as a Nuclear Metallurgist, 1974-93: Indira Gandhi Centre for Atomic Research, Kalpakkam heading a Section engaged in NDT, Failure Analysis and Remaining Life Assessment (RLA), from 1994 - to date he is with National Metallurgical Laboratory as a Divisional head responsible for NDT, failure analysis and RLA.

Other achievements: Chief Editor of the Journal of NDT&E of ISNT, Member of MTD21 Committee of Bureau of Indian Standards, on Nondestructive Testing, Convener, MTD21.4 Sub-committee of Bureau of Indian Standards on Advanced NDT techniques and Member, National Certification Board of Indian Society for NDT. He has been awarded the National NDT Man of the year (1992) by Indian Society for NDT. He has about 50 publications in International Journals on various topics related to NDT, Failure analysis, and RLA.

Dr. J-L. Chazelas

Doctorate in Civil Engineering, is the Deputy Head of the Division for Soil Mechanics and Site Survey of the French Public Works Research Laboratory (Laboratoire Central des Ponts et Chaussées). Graduated from the Ecole Nationale des Travaux Publics de l'Etat in 1975. He began his career in the management of hospital constructions. For ten years, I worked as a researcher in a Public Works Regional Laboratory, in developing methods for global health building assessment. During this period I taught "restoration" in a School for Architecture and received a doctorate in wood material characterisation using ultrasonics and microwaves. My research interests include soil-structure interaction assessment for health evaluation of structures and material characterisation through NDE.

Dr. G. Dobmann
(October 3, 1946, Germany) from Fraunhofer Institute for Non Destructive Testing (IZFP) Saarbruecken, Germany is a Ph.D. in Applied Physics, 1988, Organiser of the 3rd International Symposium on 'Materials Characterization' and Co-editor of the Conference Proceedings. Since 1989 Deputy of the Institute Director. Since 1991, responsible for the Research Plan of the IZFP, i.e. the Institutes strategy to the development of new technologies, scientific activities, market research and investments planning. Director of the Division for Scientific Projects, since 1997. Regional Editor for Europe and Africa of the Journal NDT & E International of Elsevier Publishers. His publications include 3 in the field of theoretical electrodynamics in co-operation with Prof. K.-D. Becker and Dr. K.-J. Langenberg. More than 100 in the field of NDT. Author of 3 chapters in specific monographs to NDT. Chairman of a Working Group of Commission V (Testing) in the International Institute of Welding (IIW) and editor of the 'Handbook on the Magnetic Examination of Welds' (published in 1988 by the British Welding Institute) and author of the 'IIW-Handbook on the Non-destructive Measurement and Analysis of Residual Stresses in and around Welds' (published in 1993 by the US American Welding Council). **Patents:** 3 German Patents, 4 European Patents, 2 USA Patents, 2 Japan Patents. **Memberships:** Personnel member of the German Society for Non-destructive Testing (DGZfP). Chairman of the local working Group of the DGZfP at Saarbruecken. Deputy Chairman of the Committee for 'NDT in Civil Engineering' of the DGZfP. Chairman of the Subcommittee 'Weld Inspection based on Electrical, Magnetic, and Optical Methods' of IIW. German Delegate in Commission V of the IIW. Since 1999, Chairman of Commission V of the IIW, 'NDT and Quality Assurance' Member of the ASTM Committee E7, Non-destructive Testing. Fellow of the Institution of Electrical Engineers, London and Chartered Engineer.

Mr. S.Heruc
is an associate lecturer at the Delft University of Technology, Faculty of Civil Engineering, The Netherlands. He graduated at the Technical University of Zagreb (BSc of Geotechniques) and earned a Master's degree at the University of Technology, Delft, in the field of monumental restoration (Faculty of Architecture). For two years, he has been a research assistant of Prof. D.Almesberger (Faculty of Civil Engineering, Trieste, Italy), who is one of the world pioneers in the field of non-destructive testing of historical monuments.

He has been and is still involved in national and European research projects on conservation of historical buildings and development of testing tools. He is a member of International Scientific Committee for Analysis and Restoration of Structures of Architectural Heritage (ICOMOS).

Dr. S.K. Kaushik
is a Professor of Civil Engineering at Indian Institute of Technology, Roorkee, India. His areas of research include Reinforced and Prestressed Concrete, Development of Performance Evaluation of New Concrete and Composite Materials, Ferro-cement and Fiber Reinforced Concrete Technology Development and Applications, Non-destructive Testing and Evaluation and Repair/ Rehabilitation of Structures. He was President of the Indian Concrete Institute during 1995-1997, Indian Society of Construction Materials and Structures during 1996-1998; Vice President of Indian Society of Earthquake Technology and Association of Consulting Civil Engineers (India), 1999-2001. Dr. Kaushik has published 50 research papers in referred International and National Journals and more than 175 Conference research papers, 2 laboratory manuals, 65 technical reports and has supervised 19 Ph.D. thesis and over 100 Masters dissertations. He is an eminent consulting Structural Engineer, Registered Loss Assessor and Surveyor of Govt. of India, Valuer and a Registered Professional Engineer. He is presently Vice-President of International Ferrocement Society (Hong Kong) 2001-2004 and President of International Centre for Fiber Reinforced Cement Composite Building Materials and Ferro-cement International Network (India).

Mr. K.Mani
is a Director Grade Scientist and Head of Construction Engineering Laboratory, Structural Engineering Research Centre (SERC), Chennai and has 30 years of experience in R&D in various fields, which include industrialized construction techniques, development of precast products for housing, concrete technology, investigation and rehabilitation of distressed concrete structures, nondestructive testing of concrete for field investigation and quality assurance. Mr. Mani's current interest is in development of methodology for a systematic condition assessment of corrosion-affected structures, methodology for service life prediction and standardized test methods for performance evaluation of corrosion protection materials.

Dr. N. P. Mailvaganam
is a Principal Research Officer at the Canadian National Research Council's Institute for Research in Construction (IRC), Ottawa, Canada. His research focuses on repair materials and concrete admixtures. Prior to joining IRC, he held senior R&D management positions in various private industries. He has worked in the U.K, USA, Middle-East, and Canada in Precast and Chemical Building Products Industries. He has written 2 books on Repair and 2 books on Chemical Admixtures and published several papers in learned Journals. He is a member of ACI, ASTM, CSA and RILEM Committees.

Dr. B. K. Raghhu Prasad
(12th July 1946) Professor, Department of Civil Engineering, Indian Institute of Science, Bangalore, India. He has graduated in Civil Engineering (1967) from Bangalore, and has done his Post graduation in Structural Engineering (1969). He has done his Ph.D. from IISc, Bangalore. He is specialized in Fracture Mechanics of Concrete, Structural Dynamics, Earthquake Resistant Design, and Finite Element and Boundary Element Methods. He has so far guided over 13 Ph.D., 3 M.Sc. (Engg.), and 30 ME. students.

His publications include**:** 30 in Journals, 56 Presented at Conferences/ Seminars/ Symposia, 12 Submitted for Publication and 2 Reports/Monographs. Some of his other publications include: 38 Consultancy technical reports, 4 Invited lectures – Workshops and short term courses and 8 Invited papers in conferences.

Dr V. S. Ramachandran
is a Distinguished Researcher and a Researcher Emeritus at the National Research Council of Canada Ottawa. He is an international authority in the fields of Cement Science and Technology, and a world leader in Concrete Admixtures - Science and Technology. Dr. Ramachandran has established inter-relationships between chemistry, surface chemistry, microstructural and physico-chemical phenomena in cement systems that are of great theoretical and practical significance. He has received innumerable awards and honours. He was elected recently as a Fellow of the Royal Society of Canada. He is the recipient of the three highest forms of recognition from the National Research Council, viz., President's medal, Distinguished Researcher status and appointment as Researcher Emeritus. Dr. Ramachandran is the author/editor of twenty books (some of which have been translated into other languages), more than 200 research papers and 20 Chapters.

Mr. A. Ramakrishna
(December 20, 1939) is a Civil Engineering Graduate from the Andhra University and M.Sc. in Structural Engineering from the College of Engineering, Guindy, Madras in 1961. Joining Engineering Construction Corporation Limited (then a wholly owned subsidiary of Larson & Toubro and since amalgamated with the parent company) in 1962 as Junior Engineer, Mr. Ramakrishna has risen to his present position of President, Operations and Deputy Managing Director.

As an eminent design engineer and concrete technologist, he has several engineering firsts to his credit in the areas of roof systems, precast concrete bulk storage structures, slip-formed concrete towers, precast/ prestressed concrete bridges, mechanized housing systems and construction methods. He is widely known to represent the construction industry's viewpoint and

is closely associated with many national/international bodies and professional organisations. Some of the positions he holds are **Vice Chairman**, Construction Industry Development Council (CIDC) established by the Planning Commission, Government of India, along with leading construction organisations and **Vice Chairman**, National Academy of Construction (NAC), an apex Institution established by the Government of Andhra Pradesh, for providing training facilities to workmen, contractors and engineers.

Notable among many awards received by Mr. Ramakrishna include: ICI-Fosroc Award for Outstanding Concrete Technologist – 1993 from Indian Concrete Institute; Outstanding Contribution to Construction Industry – 1993, from Builders' Association of India; Prestressed Concrete Design Award – 1995, from the Institution of Engineers (India); and Honorary Degree of Doctor of Science from the Andhra University.

Dr. V. Ramakrishnan
is the Regents Distinguished Professor at the Technological University of South Dakota, Rapid City, USA. He graduated with two D.I.C degrees and a Ph.D. from the Imperial College of Science and Technology, University of London in 1960. He has done extensive research and applications using concrete fiber composite for the past 30 years. He has been consultant to all the major fiber producers (both steel and synthetic) in U.S.A. He has authored or co-authored 3 books and more than 250 papers of which more than 10 papers were on non-destructive testing of concrete. He has done a lot of research and has field experience in using non-destructive testing techniques for evaluating concrete. Dr. Ramakrishnan has received numerous awards including ACI/CANMET Award for his contributions in fiber reinforced Concrete and CRC Robert Phileo Award for excellence in research from the ACI.

Dr. Ramakrishnan, an international consultant, has been invited thrice by the Chinese Government in 1987, 1989 and 1997. He visited China as consultant for a fiber distribution company. He presented papers and lectures in Australia, Japan, U.K, Canada, all countries in Europe, India, Thailand, Taiwan, Singapore, Trinidad, Jamaica, Egypt, Mexico, Brazil, Mongolia etc.

S. A. Reddi
is the Deputy Managing Director of Gammon India Limited, Mumbai, having over 50 years of exposure in Engineering and Management. Fellow of Indian National Academy of Engineering and several other technical institutions. Distinguished Visiting Professor at School of Building Science and Technology, Ahmedabad and Anna University. Member of UNDP (HABITAT) Consultant in Iran for Project Management, President of Indian Concrete Institute (93-95), Member of Fib Commission on Concrete, Member of Performance Appraisal Board for CSIR and IIT Madras and Member of Research Council of SERC Madras. Published over 300 papers in National and International media. Recipient of several awards, notable among them include Sir Arthur Cotton Gold Medal, ICI - FOSROC award for Most Outstanding Concrete Technologist and Prestressed Concrete Design award by Institutions of Engineers (India).

Dr. G. M. Sabnis
is professor of Civil Engineering at Howard University, Washington, DC USA. He is doctorate from Cornell University. He has vast experience in design, inspection and construction management of bridges and highways. His professional achievements include: Principal owner and CEO of a consulting firm for 18 years, the firm he started and made it grow. Consultant to several companies for rehabilitation and construction. Developed energy-efficient concrete house, which won ACI award. Dedicated and well-respected teacher and mentor for minority students for more than 25 years. Member of numerous committees of ASCE, ACI, PCI and ASEE and produced a large number of important documents and special publications. Registered professional engineer in more than 10 states including New York, California and Maryland; President of civic community and professional organizations. He is author and coauthor of a number of books and published more than 100 research papers. 'Concrete Repair and Maintenance' by P.H. Emons and G M Sabnis is the most recent book published in 2001 by M/s. Galgotia Publishers, New Delhi.

Notable among numerous awards received by Dr. Sabnis include: Edmund Friedman Award, ASCE (1999), Engineer of the Year, ASEI (1997), Award for Innovative Use of Concrete by ACI/NCC (1997), Award of Our World in Concrete & Structures, Singapore (1991), Best Teacher Award by ASCE HU Student Chapter (1990, 1974), Percy L. Julian Research Award, Sigma Xi (1987), First Chapter Activities Award, ACI (1976) and James Berkeley Gold Medal and Award, University of Bombay (1961).

Mr. S. Srinivasan
holds a Master Degree in Structural Engineering. He has fifteen years of teaching experience and has been working in the field of 'Concrete Corrosion and its Control' at Central Electrochemical Research Institute, Karaikudi, since over twenty two years. His main fields of interest are assessment of corrosion damage, monitoring, corrosion prevention and rehabilitation of concrete structures. He has published more than 100 research papers and has five patents. He has received six prestigious awards. He has worked in more than fifty projects on various aspects of corrosion in prestressed and reinforced concrete structures. He is the Life Fellow of Society for Advancement of Electrochemical Science & Technology. He is the Life Member of Indian Society for Construction Materials and Structures. He is a Member of the following committees: (1) Member of concrete sectional committee, BIS, (2) Member of committee for repair and rehabilitation, Indian Road Congress, New Delhi and (3) Member of committee for durability of concrete structures, Railway Board, New Delhi.

Dr. rer. nat. H. Wiggenhauser
(March 5th, 1954), Physicist with degree from Technical University, Berlin, Ph.D. from Fritz-Haber-Institute of the Max-Planck-Society (1986). Post-Doctoral-Research Fellow at the Lash-Miller Chemical Laboratories, University of Toronto, Canada (1987/88). Since 1989, Scientist at the Federal Institute for Materials Research and Testing (BAM) in Berlin in the area of "Non-Destructive Testing in Civil Engineering", Chairman of DGZfP Technical Committee "NDT in Civil Engineering" and RILEM TC on "NDE of Concrete Structures", Organizer of several National and International Conferences and Symposia. Research experience in NDE methods: Ultrasound Pulse Echo, Impact-Echo, Radar, Thermography, Microwave applications and LIBS. Special interest is the combination of NDE techniques to improve the reliability of the assessment of existing concrete structures using NDT methods. Recent research includes the development of Scanning Impact-Echo technique and its applications to testing the grouting condition of tendon ducts. Joint projects with the Federal Highway Research Institute (BASt) and addressed the condition assessment of post tensioned concrete bridges. Quality control of non-ballasted high speed train tracks is researched with the German Rail (DB AG). Coordinates several projects funded by the European Commission (EC) and the German Research Foundation (DFG) that deal with the fundamentals, applications and automation of NDE for concrete structures and historical monuments.

CORRESPONDENCE

All correspondence with regard to Workshop on NDE of Concrete Structures shall be addressed to:

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ORGANISING COMMITTEE

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Dr. G. Dobmann, Fraunhofer IZFP, Saarbrücken, Germany	Scientific Advisor
Mr. Anish Kumar, Indira Gandhi Centre for Atomic Research, Kalpakkam	Member
Dr. S. K. Kaushik, Indian Institute, of Technology Roorkee	Member
Dr. K. Mani, Structural Engineering Research Centre, Chennai	Member
Dr. M. Palanichamy, Mepco Schlenk Engg. College, Sivaksai	Member
Dr. B. K. Raghu Prasad, Indian Institute of Science, Bangalore	Member
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Dr. A. Santhakumar, Anna University, Chennai	Member
Mr. D. Srinivasan, Indian Concrete Institute, Chennai	Member
Mr. P. A. Venkatachalam, Indira Gandhi Centre for Atomic Research, Kalpakkam	Member
Dr. T. Jayakumar, Indira Gandhi Centre for Atomic Research, Kalpakkam	Convener

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December 2-4, 2002
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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:

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Head, NDT&E Section
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Email: tjk@igcar.ernet.in