



CONFERENCE PROGRAM

Conference and Exhibition on Non-Destructive Evaluation & Enabling Technologies (NDE 2024)

www.isntnde.in

Organised by **Indian Society for Non-Destructive Testing (ISNT)**

V6, Date of release: 30th Nov 2024; This program will be reconciled on 4th Dec 2024 based on the registration of paper presenters

DAY 1: THURSDAY, 12th DEC 2024

NDE CONFERENCE INAUGURATION

THURSDAY, 12TH DECEMBER 2024 - 9:15 - 10:45 HRS

EXHIBITION INAUGURATION

12TH DECEMBER 2024 - 10:45 - 11:00 HRS

TEA BREAK

12TH DECEMBER 2024 - 11:00 - 11:30 HRS

MEMORIAL TALKS

12TH DECEMBER 2024 - 11:30 -13:00 hrs

| Hall | Hall A: BHABHA | | | |
|----------------------|---|---|---------------------|--------------------------------|
| Session Chairperson: | Shri K Viswanathan, Past President-ISNT, Trustee- Qunest Foundation | | | |
| Time | Memorial Talk | Title of the talk | Name of the Speaker | Organization |
| 11:30-12:15 | Mr Ramesh Bhai Parikh Memorial Talk | Vande Bharat and ICF efforts in NDT | Sri U. Subba Rao | GM, ICF-Chennai |
| 12:15-13:00 | Dr. Baldev Raj Memorial talk | Novel Methods for Improving the Quality of Additively Manufactured Components | Prof. Satish Udpa | Michigan State University, USA |

Lunch

12TH DECEMBER 2024 – 13:00 -14:30 hrs

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PLENARY SESSION: I

12TH DECEMBER 2024 - 14:30 -16:00 hrs

| | | | |
|----------------------|--|---------------------|--------------------------------|
| Session Number | Plenary Session : 1 | | |
| Hall | Hall A: BHABHA | | |
| Session Chairperson: | | | |
| Time | Title of the talk | Name of the Speaker | Organization |
| 14:30-15:00 | NDT Personnel Certification Trends & Harmonization- How Do You Recognize the Needs of Personnel Certification in your Industry | Dr.Sajeesh Babu | ICNDT |
| 15:00-15:30 | Multi-Modal, In-Motion Rail Damage Detection and Characterization | Prof. Lalita Udpa | Michigan State University, USA |
| 15:30-16:00 | Detection of Early-Stage Corrosion in Reinforced Concrete Using Ultrasonic and Electromagnetic Methods | Prof. David Z Fan | NTU, Singapore |

OPEN SESSION (Poster Session-I, Visit to Exhibition & Tea Break)

12TH DECEMBER 2024 - 16:00 -17:00 hrs

| S.No | Abstract No. | Title of the Poster | Name of the Speaker | Organization |
|------|--------------|---|----------------------------------|----------------------|
| 1 | CP143 | Electromagnetic Simulation Studies for The Detection of Defects In Magnetic Steel Using Third Harmonic Analysis Method | Dr., Chandra Sekhar, Angani | GITAM |
| 2 | CP97 | PZN-PT Based Surface Acoustic Wave Transducer for NDE Application | Dr., Sarguna, R M | IGCAR, DAE |
| 3 | CP19 | Development Of a Novel Laser Assisted Alignment Procedure for The Erection of EOT Cranes | Mr., Kaliamoorthy, Govindarajan | IGCAR, DAE |
| 4 | CP137 | In-Situ Phased Array Ultrasonic Evaluation for Characterizing Solid-Liquid Interface During Continuous Casting of Steel | Mr., KARTIK, RAMESH, PAGE | IIT-Madras |
| 5 | CP138 | Guided Wave Phased Array Imaging for Thin Plate Inspection Using Full Matrix Capture and Virtual Array Source Aperture | Mr., Kaushal, Jagannath, Bachhav | IIT-Madras |
| 6 | CP64 | Eddy Current Thermography Technique for He Cooled Plasma Facing Components | Mr., Kedar, Satish, Bhope | IPR-Gandhi Nagar |
| 7 | CP16 | Robotics And Automation In NDE | Mr., KULDEEP, SHARMA | Dura-Bond Industries |
| 8 | CP134 | Study And Comparison of Different Staggered EMAT Configuration to Generate Ultrasonic Guided Wave in Pipe Structures | Mr., Pranaydeep, Garewal | IIT-Madras |
| 9 | CP133 | Development of a Noise-Based Passive Structural Health Monitoring System for Composite Structure | Mr., Rahul, Kumar, Pandit | IIT-Madras |
| 10 | CP139 | Eccentric Virtual Array Source Aperture (EVASA) Ultrasound Imaging Technique Using Phased Array Excitation | Mr., Setu, Rameshbhai, Thacker | IIT-Madras |

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| | | | | |
|----|-------|---|---------------------------------------|------------|
| 11 | CP59 | Qualification of Thin-Walled Nickel Tubes for Hydrogen Detection Using Helium Leak Testing | Mr., SP, Manivannan | IGCAR, DAE |
| 12 | CP129 | Enhancing SNR In Bulk Wave EMATs Through Concentrated Static Magnetic Field in Eddy Current Regions | Mr., Vinay, Mudapaka | IIT Madras |
| 13 | CP132 | Application Of Extreme Learning Machine (ELM) Algorithm for Predicting Life Expectancy of Concrete Structures Using Non-Destructive Test Results: A Comparative Study | Dr., Lukesh, Parida | IIT-Bombay |
| 14 | CP171 | DPAI: Data-driven Simulation-Assisted-Physics learned AI for Modelling Heat Diffusion in Voronoi-Based Polycrystalline Materials | Ms., Nishi, Rajesh, Bhemani | IIT-Madras |
| 15 | CP168 | To estimate the thermo-physical properties of the hidden defects in the materials using ML models | Ms., Jasleen, kaur | IIT Delhi |
| 16 | CP88 | Advancement in Quantification of Early-Stage Local Damages in Metals through Nonlinear Ultrasonic Inversion and Bayesian Analysis | Mr., Pravinkumar, Ramchandra, Ghodake | IIT-Bombay |

SCIENTIFIC WRITING BY SPRINGER

12TH DECEMBER 2024 - 16:00 -17:00 hrs

| | |
|----------|--|
| Hall | Hall C: RAMAN |
| Speaker: | Ms. Swati Meherishi, Editorial Director – Applied Science and Engineering, Springer Nature |

APFNDDT BOARD MEETING

12TH DECEMBER 2024 - 15:30 -18:30 hrs

| | |
|------------|-----------------------|
| Board Room | Board Room No: ## CTC |
| Attendees | APFNDDT Board Members |

STRUCTURAL HEALTH MONITORING

12TH DECEMBER 2024 - 17:00 -18:30 hrs

| | | | | |
|----------------------|---------------------|-------------------|---------------------|--------------|
| Session Number | 1A | | | |
| Hall | Hall A: BHABHA | | | |
| Session Chairperson: | Prof. Ik Keun Park | | | |
| Keynote Speaker(s): | Dr Andrey Bulavinov | | | |
| Time | Abstract No. | Title of the talk | Name of the Speaker | Organization |

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ISNT-NDE 2024: Conference Program

| From | To | | | | |
|-------|-------|-------|---|---------------------------|----------------------------------|
| 17:00 | 17:25 | IT01 | Novel trends in the ultrasonic imaging for non-destructive material evaluation: quantitative, automated, real-time | Dr Andrey Bulavinov | ACS-INT-bulav-INOvational.comruy |
| 17:25 | 17:38 | CP79 | Implementation of Structural Health Monitoring using Distributed Fiber Optic Sensing on Composite Aircraft Structure | Dr.Amitabha Datta | NAL, Bangalore |
| 17:38 | 17:51 | CP141 | Baseline-Free SHM of Thin-Walled Structures using Non-Contact Sensing | Mr. M. Kannusamy | CSIR-SERC, Chennai |
| 17:51 | 18:04 | CP46 | Evaluation Of Measurement Uncertainty Of Silicon Elastomer Based Impression Technique For Quality Control Of Fine Defect Standards For NDT Sensor Calibration | Ms. Samadrita Chakraborty | BARC, Mumbai |
| 18:04 | 18:17 | CP108 | Wavelet Packet Transform-based Bridge Monitoring under Moving Loads using Limited Sensors | Dr. J. Prawin | CSIR-SERC, Chennai |
| 18:17 | 18:30 | CP160 | Towards Optimal Safety Factors in Hydrogen Vessels | Prof., Yoshihiro Mizutani | Institute of Science Tokyo |

NDE FOR AEROSPACE: METALLIC COMPONENTS-I

12TH DECEMBER 2024 - 17:00 -18:30 hrs

| Session Number | | 1B | | | |
|----------------------|-------|------------------------|---|------------------------|-------------------------------------|
| Hall | | Hall B: KALAM | | | |
| Session Chairperson: | | Dr Srinivas Kuchipudi | | | |
| Keynote Speaker(s): | | Smt M R Vijaya Lakshmi | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 17:00 | 17:25 | IT02 | Role of NDE in Damage Tolerant Design | M R Vijaya Lakshmi | GTRE, DRDO |
| 17:25 | 17:38 | CP123 | Application of Automated inspection using Phased Array Ultrasonics for the Assessment of Weld joints of Aluminium alloy Propellant tanks of Satellite Launch Vehicles | Mr., SYAMKUMAR, S | LPSC, ISRO |
| 17:38 | 17:51 | CP100 | Ultrasonic Inspection Methods in Aerospace Industry and the Benefits of Reverse Phasing Contour Adaptation Technique for Composites | Mrs., Neelam, Bhagasra | Waygate Technologies, Baker Hughes, |
| 17:51 | 18:04 | CP37 | An Ultrasonic Figure of Merit Perspective for Airworthiness Qualification of High Pressure Turbine Rotors | Dr. Phani Mylavarapu | DMRL, DRDO |
| 18:04 | 18:17 | CP77 | Enhancing Subsurface Defect Detection in AA2219 Aluminium Alloy Welds: A Comparative Study of X-ray Radiography Techniques | Mr., Kamesh Guru, G | ISRO Propulsion Complex |
| 18:17 | 18:30 | CP33 | Development of an FDTD tool for wave propagation simulations in 3D polycrystals | R Sooraj | IIT-Madras |

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NDE FOR ENERGY SECTOR-I

12TH DECEMBER 2024 - 17:00 -18:30 hrs

| Session Number | | IC | | | |
|----------------------|-------|----------------------|--|--|-------------------------------|
| Hall | | Hall C: RAMAN | | | |
| Session Chairperson: | | | | | |
| Keynote Speaker(s): | | Mr. Mohammed Abufour | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 17:00 | 17:25 | IT03 | Optimizing Oil & Gas Quality Assurance with Cutting-Edge Advanced NDT Technologies | Mohammed Abufour | Saudi Aramco |
| 17:25 | 17:38 | CP2 | Robotic inspections of storage tanks, pressure vessels, boilers using PetroBot Robots Field Experiences | Mr., Sahab, Singh, Gurjar | PETROBOT TECHNOLOGIES PVT LTD |
| 17:38 | 17:51 | CP10 | Problem of proxy radiography of weld joints and its solution | Mr., VIKASH, PRATAP, SINGH | NTPC, New Delhi |
| 17:51 | 18:04 | CP182 | Tethered Intelligent Pigging | Mr., Amar, Raghoba, Naik | NDT Technologies (P) Ltd |
| 18:04 | 18:17 | CP118 | Automation of ID visual inspection of 30m long Alloy 800 steam generator (SG) tubes for 700 MWe PHWRs At Nuclear Fuel Complex, Hyderabad | Mrs., Tirumala Sudheer Kumar, Vuddanti | NFC, Hyderabad |
| 18:17 | 18:30 | CP35 | Regaining the lost capacity of Boilers in power plant using NDE techniques | Dr., R, J, PARDIKAR | TWI INDIA PVT LTD |
| 18:30 | 18:37 | CP24 | Non-Destructive Examination of Actively Cooled High Heat Flux Components Produced by Vacuum Brazing | Mr., Ravi, Pandey | IPR, Gandhi Nagar |

*Short Paper

ADVANCES IN RADIOGRAPHY IMAGING

12TH DECEMBER 2024 - 17:00 -18:30 hrs

| Session Number | | ID | | | |
|----------------------|-------|----------------------|--|--------------------------------|-----------------------|
| Hall | | Hall D: SARABHAI | | | |
| Session Chairperson: | | R Gunasekaran | | | |
| Keynote Speaker(s): | | Mr. Hajo Schulenberg | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 17:00 | 17:25 | IT04 | Industrial 4.0 – NDT 4.0 – AI - Is this enough to have a good X-ray system ? | Hajo Schulenberg | Visi Consult, Germany |
| 17:25 | 17:38 | CP38 | Radiography Inspection of Weld on Pipe using Flexible Detectors | Mr., Sheri, George | Baker Hughes |
| 17:38 | 17:51 | CP153 | Discovering bendable detectors in NDT | Mr., Steven, Wissels | Waygate Technologies |
| 17:51 | 18:04 | CP32 | Study of NDE Imaging Qualities of High-Energy RT System | Dr., Lakshminarayana, Yenumula | BARC |

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| | | | | | |
|-------|-------|-------|---|----------------------|------|
| 18:04 | 18:17 | CP114 | Automatic X-Ray Based PHWR Fuel Pin Scanning System | Mr., Sayan, Banerjee | BARC |
| 18:17 | 18:24 | CP151 | Performance Evaluation of Array Based Digital Detector Used in Radiography Testing of End Plug Welds of Fast Breeder Reactor Pins | Mr., Altaf, Ali | NFC |
| 18:24 | 18:31 | CP55 | End Plug Weld Evaluation of FBTR Fuel Pins by Computed Radiography | Mrs., Jyoti, Gupta | BARC |

Short Paper

CULTURAL PROGRAMME & NETWORKING DINNER

12TH DECEMBER 2024 - 18:30 Onwards

END OF DAY I

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DAY 2: FRIDAY, 13th DEC 2024

PLENARY SESSION: II

13TH DECEMBER 2024 - 09:00 -10:30 hrs

| | | | |
|----------------------|---|----------------------------|---|
| Session Number | Plenary Session : II | | |
| Hall | Hall A: BHABHA | | |
| Session Chairperson: | | | |
| Time | Title of the talk | Name of the Speaker | Organization |
| 09:00-09:30 | Data Management in Ultrasonic Assessment of Concrete Structures | Prof. Herbert Wiggerhauser | Consultant in NDT in Civil Engineering |
| 09:30-10:00 | NABL Accreditation delivering confidence to NDT Laboratories | Anuja Anand | Director, Head Operations Testing, NABL |
| 10:00-10:30 | Panel Discussion on Indian NDT Certification | | |

TEA BREAK

13TH DECEMBER 2024 - 10:30 -11:00 hrs

INDUSTRY SESSION-NUCLEAR

13TH DECEMBER 2024 - 11:00 -12:30 hrs

| | |
|---------------------|----------------|
| Session Number | 2A |
| Hall | Hall A: BHABHA |
| Keynote Speaker(s): | |

INDUSTRY SESSION: EV & BATTERIES

13TH DECEMBER 2024 - 11:00 -12:30 hrs

| | |
|----------------|----|
| Session Number | 2B |
|----------------|----|

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| | |
|---------------------|---------------|
| Hall | Hall B: KALAM |
| Keynote Speaker(s): | |

INDUSTRY SESSION: AEROSPACE

Tackling Material Inspection Challenges with Cutting-Edge NDE Innovations

13TH DECEMBER 2024 - 11:00 -12:30 hrs

| | |
|---------------------|---------------|
| Session Number | 2C |
| Hall | Hall C: RAMAN |
| Keynote Speaker(s): | |

INDUSTRY SESSION: OIL & GAS

13TH DECEMBER 2024 - 11:00 -12:30 hrs

| | |
|---------------------|------------------|
| Session Number | 2D |
| Hall | Hall D: SARABHAI |
| Keynote Speaker(s): | |

JOINT SESSION OF PROFESSIONAL SOCIETIES

13TH DECEMBER 2024 – 11:00 -12:30 hrs

| | |
|---------------------|---------------------|
| Session Number | 2E |
| Hall | Hall E: BOSE |
| Session Moderator: | Dr M T Shyamasunder |
| Keynote Speaker(s): | |

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Lunch

13TH DECEMBER 2024 – 12:30 -14:00 hrs

STUDENT SESSION

NDT for Career Opportunities & Enabler for Entrepreneurship

13TH DECEMBER 2024 – 14:00 -15:30 hrs

| | | | |
|--------------------|---|----------------------|-----------------------|
| Session Number | 3A | | |
| Hall | Hall A: BHABHA | | |
| Session Moderator: | | | |
| Time | Title of the talk | Name of the Speaker | Organization |
| 14:00 – 14:30 | NDE Overview & Career Opportunities | Dr Prabhu Rajagopal | IIT Madras |
| 14:30 -14:40 | How I landed up here – An NDE Career in Aerospace | Dr Esha Sengupta | GE Aerospace Research |
| 14:40 – 14:50 | Career Pathways in Non-Destructive Evaluation | Dr Jyotirmayee Dash | Tera Lumen Solutions |
| 14:50 – 15:00 | A Journey on the less travelled | Dr Menaka | IGCAR |
| 15:00 – 15:10 | Unlocking Potential: A research Scholar's path in NDE | Loheshwaran Chandran | CNDE, IITM |
| 15:10 – 15:30 | Q&A Session | | |

NDE FOR AEROSPACE: METALLIC COMPONENTS-II

13TH DECEMBER 2024 – 14:00 -15:30 hrs

| | | | | | |
|----------------------|------------------|--------------|--|---------------------|--------------|
| Session Number | 3B | | | | |
| Hall | Hall B: KALAM | | | | |
| Session Chairperson: | | | | | |
| Keynote Speaker(s): | Dr Esha Sengupta | | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT05 | From X-rays to THz: The Evolution of Aerospace Inspection | Esha Sengupta | GE Aerospace |
| 14:25 | 14:38 | CP162 | Non-Destructive Evaluation Approach for Linear Bellow Systems in Indian Launch Vehicle Heat Shield Separation Mechanisms | Mr., Rajeev, J | VSSC, ISRO |

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|-------|-------|-------|---|---------------------|-------------------------|
| 14:38 | 14:51 | CP116 | AUTOMATION OF PROCESSING OF X-RAY FILMS FOR RADIOGRAPHY OF SOLID PROPELLANT MOTORS | Mr., NAGARAJAN, K | VSSC, ISRO |
| 14:51 | 15:04 | CP72 | Optimization of Film-to-X-ray Source Distance for Enhanced Subsurface Indication Detection in Multi-Layered Specimens using Radiography | Mr., ANTONY, PRABHU | ISRO Propulsion Complex |
| 15:04 | 15:17 | CP180 | Analysis of DCSP-TIG weldment of Aluminium alloy AA2219 by phased array ultrasonic technique (PAUT) with and without flushing of weld beads for circumferential seam welds of propellant tankages for launch vehicles | Mr., PRAVIN, ROY | LPSC, ISRO |
| 15:17 | 15:30 | CP90 | Application of Phased Array Ultrasonic Testing in NDE of Liquid Propulsion Systems: Case Studies | Mr., M., ANVER, ALI | LPSC, ISRO |

ADVANCES IN UT: PHASED ARRAY-I

13TH DECEMBER 2024 – 14:00 -15:30 hrs

| Session Number | | 3C | | | |
|----------------------|-------|---------------------|--|-------------------------|---|
| Hall | | Hall C: RAMAN | | | |
| Session Chairperson: | | Dr Paritosh Nanekar | | | |
| Keynote Speaker(s): | | Prof.Ik-Keun Park | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT06 | Development of Simulation-Based Phased Array UT(PAUT) Demonstration Technology – Improvement of Inspection Accessibility and Replacement of RT with PAUT | Prof.Ik-Keun Park | Seoul National Univ of Science and Technology |
| 14:25 | 14:38 | CP161 | Girth weld inspection with DLA probes and Adaptive TFM | Mr., Cyril, Thibault | TPAC |
| 14:38 | 14:51 | CP92 | Solving 2D Corrosion Mapping Ultrasonic Inspection Challenge | Mr., Ajay, Bhatt | Evident Scientific pvt. Ltd. |
| 14:51 | 15:04 | CP179 | Ultrasonic Imaging Technique for NDE: Arbitrary Virtual Array Source Aperture using Sign Coherence Factor | Dr., Thulsiram, Gantala | IIT-Hyderabad |
| 15:04 | 15:17 | CP135 | Development of Phased Array Ultrasonic Inspection Methodology for Inspecting Keyways in the Turbine Rotor Wheel Hubs | Dr., GMSK, CHAITANYA | IGCAR |
| 15:17 | 15:30 | CP69 | Comparative study on over 150m of welded joints using established (PA/TOFD) and emerging (PCI/TFM) ultrasonic imaging methods | Florin, TURCU | Evident Scientific |

APPLICATIONS OF NDE IN ENERGY SECTOR-II

13TH DECEMBER 2024 – 14:00 -15:30 hrs

| Session Number | | 3D | | | |
|----------------------|----|-------------------------|-------------------|---------------------|--------------|
| Hall | | Hall D: SARABHAI | | | |
| Session Chairperson: | | Mohammaed Abufour | | | |
| Keynote Speaker(s): | | Dr. S. Thirunavukkarasu | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |

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|-------|-------|-------|---|-----------------------------|--------------------------------|
| 14:00 | 14:25 | IT07 | Multi-NDE Inspection of Heat Exchanger Tubes | Dr. S. Thirunavukkarasu | IGCAR |
| 14:25 | 14:38 | CP14 | Role of NDE in Qualification of Structural and Fuel Cladding Tubes for Nuclear Applications | Mr, Swarup, Acharya | NFC |
| 14:38 | 14:51 | CP29 | Helium Leakage Measurement in a Set up for Permeation Rate Study | Mr., Hardik, R, Prajapati | Plasma and Vacuum Technologies |
| 14:51 | 15:04 | CP42 | Quality Assurance challenges during Manufacture of Taper Roller Bearings for High Temperature Applications | Mr., Ramesh, G | IGCAR |
| 15:04 | 15:17 | CP178 | Application of NDT Technique for Detecting Weld Joint Defects in Small Bore Connections and Dead Ends in Refinery and Chemical Plant Facilities | Aishwarya Gupta | HPCL-Mittal Energy Ltd. |
| 15:17 | 15:24 | CP25 | Non-Destructive Examination & Testing of Integrated Vacuum Vessel Components | Mr., ATUL, KUMAR, PRAJAPATI | IPR, Gandhi Nagar |
| 15:24 | 15:31 | CP31 | Ultrasonic Evaluation of Explosion Welded Joint with SS-Cu-Al | Mr., Ashutosh, Srivastava | BARC |

Short Paper

COMPUTED TOMOGRAPHY

13TH DECEMBER 2024 – 14:00 -15:30 hrs

| Session Number | | 3E | | | |
|----------------------|-------|-------------------|--|------------------------------------|----------------------------------|
| Hall | | Hall E: BOSE | | | |
| Session Chairperson: | | V Manoharan | | | |
| Keynote Speaker(s): | | Sri R Gunasekaran | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT08 | Computed Tomography for NDE of Ordnance Systems in Indian Space Programme | R Gunasekaran | VSSC, ISRO |
| 14:25 | 14:38 | CP49 | Development of a Fluoroscopy-Based Cone Beam CT System: Design and Implementation | Mr., ANANT, MITRA | BARC |
| 14:38 | 14:51 | CP111 | Gamma-ray Computed Tomography System for NDE of Industrial Object | Mr., RAMAR, R | IGCAR |
| 14:51 | 15:04 | CP48 | Comparative Evaluation of Fluoroscopy-Based and Flat-Panel Detector CT Systems: Performance and Application Insights | Mr., ANANT, MITRA | BARC |
| 15:04 | 15:17 | CP63 | Implementation and Operational Safety of a High-Energy Radiation Application Facility for Non-Destructive Testing | Mr., Rajesh, V, Acharya | BARC |
| 15:17 | 15:30 | CP62 | HeXRyNet: A foundation model for Automatic Defect Recognition In Digital Radiographic Images Of Castings | Mr., Soumendra, Prasad, Dhane | V J Imaging Technologies Pvt Ltd |
| 15:30 | 15:37 | CP172 | Multi- Format CT | Mr., Digambar, Chandrakant, Raskar | MQS Technologies |

SHORT PAPER

ICNDT IEC MEETING

13TH DECEMBER 2024 - 14:00 -16:00 hrs

| | |
|------------|-----------------------|
| Board Room | Board Room No: ## CTC |
| Attendees | ICNDT IEC Members |

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OPEN SESSION (Poster Session-II, Visit to Exhibition & Tea Break)

13TH DECEMBER 2024 - 15:30 -16:30 hrs

| S.No | Abstract No. | Title of the Poster | Name of the Speaker | Organization |
|------|--------------|---|---------------------------------------|------------------------|
| 1 | CP156 | Studies showing the significance of dual-mode second-harmonics (DMSH) generated on plate and cylindrical structures | Dr., Krishnadas, V, Kanakambaran | IIT Madras |
| 2 | CP21 | A Novel Compact Thermal Imaging System for Coating thickness Estimation | Mr., AAshik, Sk | KLEF |
| 3 | CP20 | Accelerating The Total Focusing Method using Sparse Arrays with nth Coherence Factor Weighted Delay and Sum Beamforming | Mr., Abhinav, Kumar, Singh | IIT Gandhinagar |
| 4 | CP75 | Microcrack Formation In Steel Fiber Reinforced Concrete Under Uniaxial Compression By Monitoring Acoustic Emissions | Mr., Anuj, Meena | IISc-Bangalore |
| 5 | CP176 | A Novel Approach to Frequency Modulated Thermal Wave Imaging Data Analysis: Constrained Autoencoder for Enhanced Defect Visualization | Mr., Ishant, singh | IIT-Delhi |
| 6 | CP158 | Inspection of Barely Visible Impact Damage in Carbon Fibre Reinforced Composite plate using an Acoustic camera | Mr., Manish, Sharma | NIT-Rourkela |
| 7 | CP67 | Evaluating 3D-Printed Concrete Beams With Weak Interfaces Under Bending: Insights Into Crack Dynamics From Acoustic Emission (AE) And Digital Image Correlation (DIC) | Mr., Murali, Duddi | IIT-Hyderabad |
| 8 | CP173 | Complementary Golay Coded Thermal Wave Imaging Scheme for Detection of Sub-Surface Corrosion in Metallic Sample. | Ms., Sameeha, Sharma | IIT-Delhi |
| 9 | CP4 | Wave Scattering Dynamics in Clusters of Nonlinear Solid and Elastically Hollow Inclusions | Mr., Pravinkumar, Ramchandra, Ghodake | IIT-Bombay |
| 10 | CP23 | GPR Inspection of Concrete for Delamination Detection, Mapping and Localization | Mr., RISHIKESH, YADAV | IIT-Jammu |
| 11 | CP89 | Microwave Non-Destructive Evaluation of Bituminous Concrete (BC) Pavement Layer Using Machine Learning | Mr., Shankar, Aenagandula | VNIT-Nagpur |
| 12 | CP52 | GPU-Accelerated Implementation of Rotated Vector Sum Algorithm to Mitigate Intensity Fading in Distributed Acoustic Sensing | Mr., Sumeeth, C, Muchandimath | IIT Madras |
| 13 | CP136 | Nonlinear Ultrasonic Wave Mixing Technique for Detecting Micro-Damage Evolution in Concrete | Mr., Abhishek, Sharma | IIIT-Jammu |
| 14 | CP130 | Feature Extraction in Quadratic Frequency Modulated Thermal Wave Imaging for Defect Identification in CFRP-Strengthened Steel: A Numerical Study | Dr., Vesala, G.T | Malla Reddy University |
| 15 | CP110 | Monitoring of Prestress Loss using Nonlinear Ultrasonic Methods | Ms., Sukanya, Basu | CSIR-SERC |
| 16 | CP170 | Impact of LED-Based Heating on Defect Detection in Active Thermography of Metal Samples | Mr., Suresh, Kumar, Bhambhu | IIT-Delhi |
| 17 | CP185 | Assessment of Localised Material Nonlinearity in Isotropic Media Using Non-Collinear Wave Mixing | Mr., Akhil, Balachandran | IIT Madras |

Conference and Exhibition on Non-Destructive Evaluation & Enabling Technologies (NDE 2024)

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ELECTROMAGENTIC NDE**13TH DECEMBER 2024 - 16:30 -18:00 hrs**

| Session Number | | 4A | | | |
|----------------------|-------|-------------------------|---|--------------------------------|---|
| Hall | | Hall A: BHABHA | | | |
| Session Chairperson: | | Dr. S. Thirunavukkarasu | | | |
| Keynote Speaker(s): | | Dr. Jyotirmayee Dash | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 16:30 | 16:55 | IT09 | Terahertz Technology for Non-Destructive Testing and Real-Time Monitoring: Applications in Composites and Lithium-Ion Battery Electrode Coating | Jyotirmayee Dash | Tera Lumen |
| 16:55 | 17:08 | CP9 | Non-Contact Magnetometric Diagnostics of Pipelines Using the Metal Magnetic Memory Method | Mr., Sergey, Kolokolnikov | Energodiagnostika Co. Ltd |
| 17:08 | 17:21 | CP68 | Deep learning model for pipeline feature detection using MFL signal | Mr., Roshan, R, Sahu | Bhabha Atomic Research Centre |
| 17:21 | 17:34 | CP93 | Thickness Profiling of Multi-layer Functional Coating using THz-Time Domain Spectroscopy System | Mr., Rishi, Ranjan | CSIR-Central Electronics Engineering Research Institute, Chennai Centre |
| 17:34 | 17:47 | CP12 | Distortion and Harmonic Analysis of Magnetic Excitation Signal (DHAMES) A Simplified New Approach in Magnetic Measurements for Evaluation of Ferromagnetic Steel Components | Dr., MOORTHY, VAIDHIANATHASAMY | SAVI3M, Chennai, India |
| 17:47 | 18:00 | CP91 | THz Image Enhancement Techniques for Non-destructive Evaluation of GFRP Composites | Mr., Rishi, Ranjan | CSIR-Central Electronics Engineering Research Institute, Chennai Centre |

**NDE FOR AEROSPACE:
NON-METALLIC COMPONENTS****13TH DECEMBER 2024 - 16:30 -18:00 hrs**

| Session Number | | 4B | | | |
|----------------------|-------|---|---|-----------------------|--------------|
| Hall | | Hall B: KALAM | | | |
| Session Chairperson: | | Dr Andrey Bulavinov | | | |
| Keynote Speaker(s): | | Dr Srinivas Kuchipudi, Dr. Digendranath Swain | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 16:30 | 16:55 | IT10 | Non-destructive Evaluation of High-Energy Materials and Interfaces Using Low-Frequency Proton NMR | Dr Srinivas Kuchipudi | ASL, DRDO |
| 16:55 | 17:20 | IT11 | The emergence of India Make Portable and Real-time Shearography System (IMPRESS) | Digendranath Swain | VSSC, ISRO |
| 17:20 | 17:33 | CP36 | Non-Contact Non-destructive Testing for Characterizing Low Velocity Impact Damage in Composite Structures | Mrs., Aparna, Aradhye | CSIR-NAL |
| 17:33 | 17:46 | CP115 | Mapping of Brittle Failure of A Composite Structure using Acoustic Emission Technique | Mr., B BINU, . | VSSC, ISRO |

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ISNT-NDE 2024: Conference Program

| | | | | | |
|-------|-------|-------|--|------------------------|---------|
| 17:46 | 17:59 | CP112 | DeFinder: Advanced Shearography Solution for Precise and Efficient Non-Destructive Testing of Composites and COPVs | Mr., Laurent, Malfaire | Optrion |
|-------|-------|-------|--|------------------------|---------|

ADVANCES IN UT: PHASED ARRAY-II

13TH DECEMBER 2024 - 16:30 -18:00 hrs

| Session Number | | 4C | | | |
|----------------------|-------|--------------------------|---|---------------------------------|-----------------------|
| Hall | | Hall C: RAMAN | | | |
| Session Chairperson: | | Dr Anish Kumar | | | |
| Keynote Speaker(s): | | Prof., Anthony, Croxford | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 16:30 | 16:55 | IT12 | Data based techniques to enhance phased array performance | Prof., Anthony, Croxford | University of Bristol |
| 16:55 | 17:08 | CP109 | Phase Coherence Imaging (PCI) Of SS Cladding | Mr., Peter Santan, F, Rodrigues | BHEL, Trichy |
| 17:08 | 17:21 | CP30 | An adaptive approach of the total focusing method for the inspection of parts with a complex shape | Sandeep | TPAC |
| 17:21 | 17:34 | CP105 | Smart Inspection Of Rail Wheels Using Matrix Array Ultrasonic Probes | Mr., SANDEEP, BHANDARI | Waygate Technologies |
| 17:34 | 17:47 | CP65 | UT is UT: Understanding Advanced Ultrasonic Technologies and How They Compare to Each Others. | Mr., Prasanth, Geddam | Evident Scientific |
| 17:47 | 18:00 | CP103 | Phased Array UT Solution For Composite, Corrosion And Sheet Metal Applications With Innovative Ultra-Portable Electronics | Mr., Anish, DSouza | Waygate Technologies |
| 18:00 | 18:07 | CP94 | Reliable & Efficient Flaw Detection In Battery Components using Phased Array Ultrasonic Testing | Mrs., Sangeetha, Mylswamy | Waygate Technologies |

APPLICATIONS OF NDE IN ENERGY SECTOR-III

13TH DECEMBER 2024 - 16:30 -18:30 hrs

| Session Number | | 4D | | | |
|----------------------|-------|-------------------|---|---------------------|--------------|
| Hall | | Hall D: SARABHAI | | | |
| Session Chairperson: | | Dr V H Patankar | | | |
| Keynote Speaker(s): | | Dr. Christian Els | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 16:30 | 16:55 | IT13 | A practical concept for using AI in NDE applications - Introducing CID (Critical Image Detection) and SIDA (Single Image Detail Analysis) | Christian Els | Sentin AI |
| 16:55 | 17:08 | CP56 | NDE 4.0 & QC aspects in Thermal Power Generation- Present scenario and Way forward | Mr. Vinay Gaddu | ADANI POWER |

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| | | | | | |
|-------|-------|-------|--|----------------------------------|--------------------------------|
| 17:08 | 17:21 | CP121 | Development of High Frequency Guided Wave based Methodology for Inspection of Drywell Liner Vessel of Boiling Water Reactor | Dr., DHAYALAN, R | IGCAR |
| 17:21 | 17:34 | CP18 | Heat Exchanger and Boiler Tube Inspection using APRIS | Mr., Vignesh, Sivanandam | TALCYON PTE LTD |
| 17:34 | 17:47 | CP8 | On the resilience and re-use of Spring Energised Metallic seal joints by Helium Leakage Rate measurements under Pressure and Vacuum conditions | Dr., Venkat, N, Ramani | PLASMA AND VACUUM TECHNOLOGIES |
| 17:47 | 17:54 | CP155 | Detection of Surface Opening Flaws Using Eddy Current Array Technique | Mr., Praveen, Dattatray, Bhosale | NPCIL |
| 17:54 | 18:01 | CP74 | Development and Application of Eddy Current Testing for Helical Coiled Tubes of Steam Generator | Mr., Manojit, Shaw | Bhabha Atomic Research Centre |

Short Paper

SENSORS FOR NDE

13TH DECEMBER 2024 - 16:30 -18:30 hrs

| | | | | | |
|----------------------|-------|-------------------------|---|--------------------------------|--|
| Session Number | | 4E | | | |
| Hall | | Hall E: BOSE | | | |
| Session Chairperson: | | Lalita Udpa | | | |
| Keynote Speaker(s): | | Prof. Balaji Srinivasan | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 16:30 | 16:55 | IT14 | Opportunities for Distributed Fiber Sensors for 3P in Industrial Environments | Prof. Balaji Srinivasan | IIT-Madras |
| 16:55 | 17:08 | CP51 | Design of a Wireless Antenna Sensor with Resonator Array for Real-Time Structural Health Monitoring | Dr., Neeraj, Rao | Visvesvaraya National Institute of Technology - Nagpur |
| 17:08 | 17:21 | CP149 | CFD Simulation and Analysis of Natural Gas Leakage in Buried Pipelines: Development of Temperature-Based Leak Detection and Monitoring using Distributed Temperature Sensing (DTS) Technology | Dr., Arsath, Abbasali, Ayubali | IIT-Madras |
| 17:21 | 17:34 | CP3 | AI Flow Scanner Technology for Oman's Water Transmission Pipeline Monitoring and Management | Dr., Arthur, Davis, Nicholas | University of Technology and Applied Sciences, Oman |
| 17:34 | 17:47 | CP101 | Ultrasonic waveguide sensors for fluid level and temperature simultaneous measurements | Dr., Suresh, Periyannan | NIT-Warangal |
| 17:47 | 17:54 | CP146 | Investigation of Sensitivity and Real-Time Processing of Distributed Acoustic Sensing Data | Mr., Kishore, Kumar | IIT-Madras |
| 17:54 | 18:01 | CP26 | Application of derivative based methodology for accurate estimation of TOA (Time of Arrival) along with distinguishing multiple loose parts on structure for Loose Part Monitoring System | Mrs., VIDYALAKSHMI, R | IGCAR |

Short Paper

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OPEN SESSION (Poster Session-III, Visit to Exhibition), ISNT AGM (Only for ISNT Members)

13TH DECEMBER 2024 - 18:00 -19:00 hrs

| S.No | Abstract No. | Title of the Poster | Name of the Speaker | Organization |
|------|--------------|---|--------------------------------|----------------|
| 1 | CP175 | Testing and Evaluation of Carbon Fiber Reinforced Polymers using frequency modulated thermal wave imaging | Mr., Suresh, Kumar, bhambhu | IIT-Delhi |
| 2 | CP66 | Understanding the Temperature Effects on PZT-Based Embeddable Transducers | Mr., Tejas, S., Shelgaonkar | NIT-Warangal |
| 3 | CP39 | Deep Anomaly Detection Enhancement in Non-Stationary Thermal Wave Imaging of Solids | Mrs., M, N, Swapna | KLEF |
| 4 | CP82 | Optimizing Defect Detection In Non-Destructive Testing Through Constrained Shallow Convolutional Autoencoders | Mrs., Naga, Prasanthi, Yerneni | KLEF |
| 5 | CP70 | Thermal Imaging of Electron Beam Welds | Mrs., Sirisha, Chandu | KLEF |
| 6 | CP28 | Nonlinear Guided Waves for Debond Imaging in FRP-Strengthened Concrete Beams | Mrs., Udita, Pant | IIT-Bombay |
| 7 | CP150 | Evaluation on Autonomic Self-healing of Micro- Crack Using Non-Destructive Monitoring Technique. | Ms., MADHUMITHRA, ELANGO | CSIR-CBRI |
| 8 | CP53 | Acoustic Emission Data Filtering and Analysis Using Simple and Complex Approaches for Different Materials | Mr., Nikhil, Holsamudrkar | IIT-Bombay |
| 9 | CP40 | On-field Testing of Pipes with Multiple Defects using a Smart FPGA-based Ultrasonic Guided Wave SHM System | Ms., Sheetal, Shivaji, Patil | IIT-Bombay |
| 10 | CP45 | From Self-Sensing to Self-Awareness: Advancements in Monitoring Hydration and Microstructure in Conductive Cementitious Composites | Dr., Amarteja, Kocherla | NYU, Abu Dhabi |
| 11 | CP177 | Design and development of an EMAT probe to determine the remnant thickness of the pipeline | Mr., MOHAMAD, AHMAD, ALALI | IIT Madras |
| 12 | CP142 | A Robust Data Driven Framework for The Automated Identification of Weld Damage in Portal Steel Frames Using Impedance-Based Diagnostics | Dr., Lukesh, Parida | IIT-Bombay |
| 13 | CP174 | Pulse Compression Favorable Thermal Wave Imaging Techniques for Detection of Sub-Surface Corrosion in Metallic Sample | Ms., Sameeha, Sharma | IIT-Delhi |
| 14 | CP152 | Role of NDE in Qualification of Biocompatible Implants | Mr., Subhash, N. N. | IIT Madras |
| 15 | CP131 | In-Situ Process Monitoring of Newtonian Fluids Using a Portable Ultrasound Viscosity Sensor | Mr., Shashank, Sisodia | IIT Madras |
| 16 | CP128 | Enhanced Subwavelength Ultrasonic Imaging with Structured Channel Metalenses and Array Transducers | Mr., Loheshwaran, Chandran | IIT Madras |
| 17 | CP184 | Super-Resolution Ultrasonic Imaging of Biological Tissues Using Structured Channel Metamaterial Lenses | Mr., Sreehari, K C | IIT Madras |

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GALA DINNER

13TH DECEMBER 2024 - 19:00 Onwards

END OF DAY II

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DAY 3: SATURDAY, 14th DEC 2024

PLENARY SESSION: III

14TH DECEMBER 2024 - 09:00 -10:30 hrs

| | | | |
|----------------------|--|------------------------|-------------------|
| Session Number | Plenary Session : III | | |
| Hall | Hall A: BHABHA | | |
| Session Chairperson: | Satish Udpa | | |
| Time | Title of the talk | Name of the Speaker | Organization |
| 09:00-09:30 | Automation & Data Engineering in NDE and Beyond | Prof. Prabhu Rajagopal | IIT-Madras |
| 09:30-10:00 | Data to Decision through Digitalization: Trending paradigm in NDE | Dr M T Shyamsunder | Azeriri |
| 10:00-10:30 | Manual Inspection or R2-D2? – Robotics and AI boosting the trend towards fully automated NDT | Marc Kreuzbruck | Univ of Stuttgart |

TEA BREAK

14TH DECEMBER 2024 - 10:30 -11:00 hrs

NDE FOR CONCRETE INDUSTRY-I

14TH DECEMBER 2024 - 11:00 -12:30 hrs

| | | | | | |
|----------------------|---|-------------------|--|---------------------------|--------------|
| Session Number | 5A | | | | |
| Hall | Hall A: BHABHA | | | | |
| Session Chairperson: | Sauvik Banerjee | | | | |
| Keynote Speaker(s): | Dr Ernst Neiderleithinger, Saptarshi Sasmal | | | | |
| Time | Abstract No. | Title of the talk | Name of the Speaker | Organization | |
| From | To | | | | |
| 11:00 | 11:25 | IT15 | Paths towards digitalization in NDT for Civil Engineering | Dr Ernst Neiderleithinger | BAM, Germany |
| 11:25 | 11:50 | IT16 | Nonlinear Ultrasonics- A Powerful NDE Tool for Early-Stage Damage Detection in Concrete | Saptarshi Sasmal | CSIR-SERC |
| 11:50 | 12:03 | CP183 | Phase Space Dissimilarity Measures of Nonlinear Vibration Responses for Detection of Subtle Damages in Concrete Structures | Dr., Srinivas, Voggu | CSIR-SERC |

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| | | | | | |
|-------|-------|-------|--|--------------------------|-------------|
| 12:03 | 12:16 | CP147 | Elastic Reverse Time Migration for Improved Ultrasonic Imaging of Concrete Constructions | Maria, Grohmann | BAM-Germany |
| 12:16 | 12:29 | CP126 | Feasibility of Monitoring Bond Integrity in GFRP-Concrete Members Using Impedance-Based Monitoring Systems: A Novel Power Spectral Based Approach | Dr., LUKESH, PARIDA | IIT-Bombay |
| 12:29 | 12:36 | CP144 | Experimental Investigations on the Scale Model of Prestressed Concrete Bridge Girders to Study the Effect of Prestressing Force on the Time and Frequency Domain Responses | Mrs., SEETHALAKSHMI, B R | CSIR-SERC |

ADVANCES IN ULTRASONICS: INSTRUMENTATION & ACQUISITION

14TH DECEMBER 2024 - 11:00 -12:30 hrs

| | | | | | |
|----------------------|-------|------------------|---|------------------------------|--|
| Session Number | | 5B | | | |
| Hall | | Hall B: KALAM | | | |
| Session Chairperson: | | Phani Mylavarapu | | | |
| Keynote Speaker(s): | | Sri V Patankar | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 11:00 | 11:25 | IT17 | Ultrasonic Instrumentation for NDE of Components & Structures and Way Forward | V Patankar | BARC |
| 11:25 | 11:38 | CP104 | In-House Development of a PC-Based Ultrasonic Flaw Detection System for Nuclear Component Testing | Mr., Nageswara, Rao, T.S.V.R | NFC |
| 11:38 | 11:51 | CP11 | Enhancing Ultrasonic NDT Machines: Addressing Bottlenecks and Improving Inspection Efficiency | Mr., Niko, Bayer | Ultrasonic Sciences Ltd |
| 11:51 | 12:04 | CP140 | Scalable Open Software and Hardware Platform for Conventional, Phased-array, Full Matrix Capture and Advanced Ultrasonic Testing. | Mr., Tibin, Thomas | TPAC (The Phased Array Company), India |
| 12:04 | 12:17 | CP98 | Testing Machines for Highspeed In-Line Ultrasonic Inspection of Bar and Wire Stocks | Mr., Balaji, Ramamoorthy | Waygate Technologies, Baker Hughes |
| 12:17 | 12:30 | CP117 | Characterization of Ultrasonic Test Signals for Inspection of PHWR Fuel End Cap Welds | Mr., Mohit, Narang | NFC |

NDE 4.0- WAY FORWARD

14TH DECEMBER 2024 - 11:00 -12:30 hrs

| | | | | | |
|----------------------|----|-------------------|-------------------|---------------------|--------------|
| Session Number | | 5C | | | |
| Hall | | Hall C: RAMAN | | | |
| Session Chairperson: | | Marc Kreutzbruck | | | |
| Keynote Speaker(s): | | Pranay Wadayalkar | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |

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| | | | | | |
|-------|-------|-------|--|---------------------------|------------------------------------|
| 11:00 | 11:25 | IT18 | NDE N_Ext for Future Labs | Pranay Wadayalkar | OMS Software, Australia |
| 11:25 | 11:38 | CP96 | Conventional Ultrasonic Imaging Applications Using Ultra-Portable Ultrasonic Device | Mr., Kshitij, Shrivastava | Waygate Technologies, Baker Hughes |
| 11:38 | 11:51 | CP164 | NDE 4.0. Realizing zero-defect mass production of spotwelds by integrating AI into the advanced ultrasonic quality monitoring process. | Mr., ROUSLAN, RAKHOUTINE | Tessonics Inc., |
| 11:51 | 12:04 | CP43 | How AI, Image Processing, and Automation are offsetting NDT challenges | Mr., Kathiravan, Selvam | Waygate Technologies |
| 12:04 | 12:17 | CP166 | Evaluation of Data Processing Techniques for Enhanced Defect Detection in Active Thermography of composite material | Mr., Ishant, Singh | IIT-Delhi |
| 12:17 | 12:24 | CP122 | Scalable Deep Learning Model for Detecting and Classifying Welding Defects in Radiographic Images of Pressurized Cylindrical Welds. | Mr., SAMUEL, KUMARESAN | SALPHAN ENERGY PVT LTD |
| 12:24 | 12:31 | CP167 | To design a Deep-Learning Architecture for fast and reliable defect detection in solids | Ms., Jasleen, Kaur | IIT-Delhi |

Short Paper

INFRARED THERMOGRAPHY

14TH DECEMBER 2024 - 11:00 -12:30 hrs

| Session Number | | 5D | | | |
|----------------------|-------|--------------------------------------|---|----------------------------|--------------------------------------|
| Hall | | Hall D: SARABHAI | | | |
| Session Chairperson: | | Ravibabu Mulaveesala | | | |
| Keynote Speaker(s): | | Dr Shruti Bharadwaj, Dr.Vanita Arora | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 11:00 | 11:25 | IT19 | Thermography as a Diagnostic Tool: Exploring its Applications in Healthcare | Dr Shruti Bharadwaj | IIT-Delhi |
| 11:25 | 11:50 | IT20 | Advances in Infrared Vision Systems for Thermal Non-Destructive Testing and Evaluation Applications | Dr.Vanita Arora | SS Automation Solutions Pvt Ltd |
| 11:50 | 12:03 | CP5 | Application of Image Enhancement in Pulsed Thermography Testing on Carbon Fibre Reinforced Plastic (CFRP) Sandwich Composites | Mr., Sobhanan, M, B | Vikram Sarabhai Space Centre |
| 12:03 | 12:16 | CP157 | Infrared Thermal Imaging of Composites by cooling | Mrs., Navita, Gupta | Satyakiran Engineers Private Limited |
| 12:16 | 12:29 | CP61 | High Resolution Lock in Thermography Using Structural IR-Excitation | Prof., Marc, Kreutzbruck | University of Stuttgart |
| 12:29 | 12:42 | CP154 | A unique approach to identify surface and sub-surface flaws by IR imaging | Dr., Govind, Kumar, Sharma | IGCAR |

NDE FOR STRUCTURAL INTEGRITY-I

14TH DECEMBER 2024 - 11:00 -12:30 hrs

| | | | | | |
|----------------|--|--------------|--|--|--|
| Session Number | | 5E | | | |
| Hall | | Hall E: BOSE | | | |

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| Session Chairperson: | | Dr Anthony Croxford | | | |
|----------------------|-------|----------------------|---|-------------------------|------------------------------------|
| Keynote Speaker(s): | | Dr. Sanjay Kumar Rai | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 11:00 | 11:25 | IT21 | Synchrotron Radiation: An Emerging Tool for Non-Destructive Assessment of Stress and Microstructure in Engineering Components | Dr. Sanjay Kumar Rai | RRCAT, Indore |
| 11:25 | 11:38 | CP54 | NDE Tools for In-situ Measurement of the Effectiveness of the Shot Peening for Improvement of Steam Oxidation Resistance of Austenitic Stainless Steel Boiler Tubes | Mr., ANIL, KUMAR, DAS | NTPC, Netra |
| 11:38 | 11:51 | CP165 | X-ray Fluorescence Method-A Rapid and Reliable Alternate for Thickness Measurements on Multi-layer metallic coatings | Mr., Raju, G | VSSC, ISRO |
| 11:51 | 12:04 | CP102 | Use of Backwall Echo Attenuation Method in Ultrasonic Testing of Ductile Iron Castings | Mrs., Madhu, Bala | Waygate Technologies, Baker Hughes |
| 12:04 | 12:17 | CP85 | Radiography Evaluation Of Defects In Carbon Composite Motor Case At Different Processing Stages | Mr., MOIDEENKUTTY, K, K | VSSC, ISRO |
| 12:17 | 12:30 | CP186 | Fuzzy Logic-Based Computational Analysis of Ultrasonic NDT Data for Accurate Failure Prediction | Joseph, J, Kakkassery | Vel Tech |

Lunch

14TH DECEMBER 2024 - 12:30 -14:00 hrs

NDE FOR CONCRETE INDUSTRY-II

14TH DECEMBER 2024 - 14:00 -15:30 hrs

| Session Number | | 6A | | | |
|----------------------|-------|----------------------|--|------------------------------|----------------|
| Hall | | Hall A: BHABHA | | | |
| Session Chairperson: | | Herbert Wiggenger | | | |
| Keynote Speaker(s): | | Prof Sauvik Banerjee | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT22 | Condition Assessment of Reinforced Concrete Structures Using NDT: Field Experiences and Laboratory Studies | Prof Sauvik Banerjee | IIT-Bombay |
| 14:25 | 14:38 | CP189 | Image-Based Correlation Technique for Characterization of Fracture Related Properties of Engineered Concrete | B S Sindu | CSIR-SERC |
| 14:38 | 14:51 | CP145 | Applications of Multi-Channel Ultrasound System for Assessing Large Concrete Structures | Dr., Ernst, Niederleithinger | BAM, Germany |
| 14:51 | 15:04 | CP159 | Embedded Sensors for Quality Control and Structural Integrity Monitoring of Large-scale 3DCP Structures | Dr., Amarteja, Kocherla | NYU, Abu Dhabi |
| 15:04 | 15:17 | CP188 | In-Situ Stress Evaluation of Pre-stressed Concrete and Masonry Structures through Non-Destructive Methods | B Arun Sundaram | CSIR-SERC |
| 15:17 | 15:30 | CP95 | High-Resolution and Real-Time Localization of Steel Rebars in Reinforced Cement Concrete Structures using Finite Mixture Models to Analyze Pulsed Eddy Current Sensor Data | Prof., Siddharth, Tallur | IIT-Bombay |

Short Paper

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ADVANCES IN UT: IMPACT OF AI, GUIDED WAVE, NON-LINEAR ULTRASONICS

14TH DECEMBER 2024 - 14:00 -15:30 hrs

| Session Number | | 6B | | | |
|----------------------|-------|--------------------------|--|-----------------------------|-------------------------|
| Hall | | Hall B: KALAM | | | |
| Session Chairperson: | | Saptarshi Sasmal | | | |
| Keynote Speaker(s): | | Anandmurugan Subramaniam | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT23 | Futuristic Role of Artificial Intelligence at the different stages of UT Inspection | Anandmurugan Subramaniam | GE |
| 14:25 | 14:38 | CP57 | Optimised detection and sizing of pipe corrosion at supports using guided wave technology | Dr., Chien, An, Chua | Guided Ultrasonics Ltd. |
| 14:38 | 14:51 | CP78 | Nonlinear Ultrasonic Inspection of Areca Nut Natural Fiber Reinforced Composite Balustrades | Dr., Kiran, Kumar, Amireddy | CBIT, Hyderabad |
| 14:51 | 15:04 | CP106 | Analysis of Ultrasonic Guided Wave Resonance Based Technique in Localizing Defects in Thin Metallic Plates | Mr., Supriya, Gain | TCS Research |
| 15:04 | 15:17 | CP107 | Noncontact NDE: Flaw Detection in Metal Structure Using Nonlinear Ultrasonic Features | Dr., Thirumalaiselvi, A | CSIR-SERC |
| 15:17 | 15:30 | CP119 | Finite Element Simulation of Ultrasonic Wave Propagation in Anisotropic Austenitic Stainless Steel Weldments | Mr., Deepak, Patel | IGCAR |

APPLICATIONS OF NDE IN THE PROCESSING INDUSTRY

14TH DECEMBER 2024 - 14:00 -15:30 hrs

| Session Number | | 6C | | | |
|----------------------|-------|---------------------------------------|--|--------------------------------|---------------------------------------|
| Hall | | Hall C: RAMAN | | | |
| Session Chairperson: | | M T Shyamsunder | | | |
| Keynote Speaker(s): | | Devarshi Kumar Gaur, Dr S Balamurugan | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT24 | NDE IN INDIAN RAILWAYS-Present Status | Devarshi Kumar Gaur | Indian Railways |
| 14:25 | 14:50 | IT25 | NDE and Industry 4.0 for Steel Industry | Dr S Balamurugan | TATA Steel |
| 14:50 | 15:03 | CP71 | Progressive Web App for AWS D1.1 UT Environment | Mr., Dinesh, Gupta | Satyakiran Engineers Private Limited |
| 15:03 | 15:16 | CP80 | Normalizing Rolling Of Plates And Its Significance To NDT | Mr., Swapnil, Shivaji, Bhosale | Reliance Industries Limited |
| 15:16 | 15:29 | CP84 | ROLE OF NDE IN DETECTING QUALITY PROBLEM IN HEAVY STEEL FORGINGS | Mr., KRISHNA, KANT, JHA | CHAKAN TESTING AND RESEARCH LAB, PUNE |
| 15:29 | 15:36 | CP50 | Challenges in NDE of Nuclear Steam Generator Forgings | Mr., RAHUL, ARVINDBHAI, BHUVA | L&T SPECIAL STEEL AND HEAVY FORGING |

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Short Paper

TRAINING FOR EMPOWERMENT- IMPACT OF AI AND THE WAY FORWARD

14TH DECEMBER 2024 - 14:00 -15:30 hrs

| Session Number | | 6D | | | |
|----------------------|-------|-------------------------------------|--|---------------------------|---|
| Hall | | Hall D: SARABHAI | | | |
| Session Chairperson: | | Sajeesh Babu | | | |
| Keynote Speaker(s): | | Shri Diwakar Joshi, Ajay Pasupuleti | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT26 | NDE Training Centres- A Key Factor in Qualification and Certification Process of NDE Personnel | Shri Diwakar Joshi | IQS |
| 14:25 | 14:50 | IT27 | Entrepreneurship in NDT Industry | Ajay Pasupuleti | Ooga Technologies, USA |
| 14:50 | 15:03 | CP13 | SNT-TC-1A and its Application | Mr., Prakash Gokulanandam | ASNT |
| 15:03 | 15:16 | CP17 | NDT Professionals Employability Outlook in Respect of Future Deployment of Automation, Artificial Intelligence and Machine Learning in the Service Industry. | Mr., Sujit, Chakravarty | Velosi (M) Sdn. Bhd. |
| 15:16 | 15:29 | CP124 | NDE Using Drone | Suvendu Lenka | NDT Training Consultancy & Inspection Services Pvt. Ltd |
| 15:29 | 15:36 | CP27 | Enhancing NDE with Digital Ecosystems: Bridging Gaps in Procurement, Training, and Asset Management | Srijan Tiwari | IIT-Madras |

Short Paper

NDE FOR STRUCTURAL INTEGRITY-II

14TH DECEMBER 2024 - 14:00 -15:30 hrs

| Session Number | | 6E | | | |
|----------------------|-------|-----------------------------------|--|---------------------|--------------|
| Hall | | Hall E: BOSE | | | |
| Session Chairperson: | | Sanjay Rai | | | |
| Keynote Speaker(s): | | Paresh Haribhakti, Nishal Ramadas | | | |
| Time | | Abstract No. | Title of the talk | Name of the Speaker | Organization |
| From | To | | | | |
| 14:00 | 14:25 | IT28 | What, When, and How to Inspect : Unlocking the Secrets to Effective Asset Integrity | Paresh Haribhakti | TCR Advanced |
| 14:25 | 14:50 | IT29 | Powering the future: Ultrasonic NDT for in-line inspection of battery quality in gigafactories | Nishal Ramadas | Azeriri |
| 14:50 | 15:03 | CP58 | Leveraging Digital Solutions to Optimize Asset Integrity Management | Mr., Anurag, Gautam | BPCL,Kochi |
| 15:03 | 15:16 | CP190 | Comprehensive Evaluation of Austenitic Stainless Steel Weld Indications in Ultrasonic Testing using advance NDE Techniques | Mr., S, Sarath | L&T, Hazira |

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| | | | | | |
|-------|-------|------|--|--------------------------------|-------------------------------|
| 15:16 | 15:23 | CP81 | Assessment of Integrity of FCCU Cold Wall Riser thru Finite Element Analysis | Mrs., NAMRATA, KESHRI | INDIANOIL CORPORATION LIMITED |
| 15:23 | 15:30 | CP41 | Advanced Condition Monitoring of Studs and Bolts | Mr., Gnanasekaran, Selvanandam | spXtra advance system |

Short Paper

VALEDICTORY FUNCTION

14TH DECEMBER 2024 - 16:00-16:30 hrs

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