

The Orchid Hotel, Pune
Maharashtra, INDIA

theme
Transformative NDE:
Unleashing the Power of
Advanced Technologies

**33rd Annual Conference &
Exhibition on
NON DESTRUCTIVE EVALUATION &
ENABLING TECHNOLOGIES**



CONFERENCE PROGRAM

CONFERENCE INAUGURATION

THURSDAY, 07TH DECEMBER 2023 - 09:30 - 10:45 HRS

EXHIBITION INAUGURATION

07TH DECEMBER 2023 – 10:45 - 11:30 HRS

MEMORIAL TALKS

07TH DECEMBER 2023 - 11:30 -13:00 hrs

Hall	Hall A: BHABHA			
Session Chairperson:	Shri K. Viswanathan, Past President ISNT, Trustee- QUNEST Foundation and Dr. R.J. Pardikar, Past President ISNT			
Time		Title of the talk	Name of the Speaker	Organization
11:30-12:15	Dr. Baldev Raj Memorial talk	Rise of Indian Space Program – Pride of our Nation	Dr. V Narayanan, Director	LPSC, ISRO
12:15-13:00	Mr Ramesh Bhai Parikh Memorial Talk	NDT's connect with the world of tomorrow	Shri Ashish Bhandari	MD &CEO, Thermax Group

PLENARY SESSION: I

07TH DECEMBER 2023 - 14:00 -15:30 hrs

Session Number	Plenary Session : I		
Hall	Hall A: BHABHA		
Session Chairperson:	Dr. Krishnan Balasubramaniam, Professor, IIT-Madras and Dr. M Shyamsunder, Azeriri Pvt Ltd		
Time	Title of the talk	Name of the Speaker	Organization
14:00-14:25	Mobile robotic deployment of ultrasonic imaging in underground pipe networks	Prof Bruce Drinkwater	University of Bristol
14:25-14:50	Hybrid Physics-Data Driven Models for Solution of Inverse Problems in NDE	Prof. S.Gopalakrishnan	IISc
14:50-15:15	Development of Advanced NDE Techniques for Indian Nuclear Energy Programme	Dr. Anish Kumar, Head-NDED	IGCAR

OPEN SESSION (Poster Session- I, Visit to

Conference and Exhibition on Non-Destructive Evaluation & *Enabling Technologies* (NDE 2023)
Organised by **Indian Society for Non-Destructive Testing (ISNT)**

Exhibition)

07TH D E C E M B E R 2023 - 15:15 -16:00 hrs

Session Number	Poster Session-I			
Hall/Date/Time	07 th December, 2023 Time:			
S.No.	Abstract No.	Title of the talk	Name of the Speaker	Organization
1	CP036	Single Transducer Pair Based 3D WUCT	Ankur	IIT Roorkee
2	CP038	Generation of Shear Horizontal Guided Waves with Staggered PPM EMAT in Pipe Structures	Pranaydeep Garewal	IIT Madras
3	CP041	Ultrasonic Inspection technique for He cooled Plasma facing Component	Kedar Bhope	IPR
4	CP042	Implementation possibility of 3D Digital Image Correlation in High Heat Flux Test Facility	Mayur Mehta	IPR
5	CP067	Study on Detection of Surface Cracks in Stainless Steel Using Transient Eddy Current Oscillations Differential Probe	Yesudasu Bammidi	GITAM
6	CP157	Analysis of Lamb wave propagation through various notch types in a bent plate utilizing the SAFE-FE hybrid approach	Girish U. Tembhare	IIT-Roorkee
7	CP057	Guided Wave Phased Array Ultrasonic Imaging for Thin Plate Inspection	Kaushal Jagannath Bachhav	IIT-Madras
8	CP059	Investigating on Probability of Defect Detection in Glass Fibre Reinforced Polymer Using Frequency Modulated Thermal Wave Imaging	Ishant Singh	IIT Delhi
9	CP128	Assessing the Potable Water Mismatch in Ibri's Water Supplying Network, Billing, and Locating the Mismatching Zone	Dr. Arthur Nicholas	University of Technology and Applied Sciences
10	CP063	Quantitative Barker-Coded Thermal Wave Imaging for Testing and Evaluation of Glass Fiber Reinforced Polymer	Anshul Sharma	IIT Ropar
11	CP064	High Temperature Inspection of Aluminium using Bulk Wave EMAT	Vinay Mudapaka	IIT Madras
12	CP065	Development of a Noise-Based Passive Structural Health Monitoring System for Composite Structure	Rahul Pandit	IIT Madras
13	CP040	In-situ High Temperature Phased Array Ultrasonic Non-destructive Imaging Technique for Characterization of Solid-Liquid Interface	KARTIK RAMESH PAGE	IIT Madras
14	CP043	Characteristic Study of Inductance Based Sensor for Oil Debris Monitoring	RAJAN CHAUDHARY	IIT Madras

PLENARY SESSION: II

07TH D E C E M B E R 2023 - 16:00 -17:15 hrs

Session Number	Plenary Session : II		
Hall	Hall A: BHABHA		
Session Chairperson:	Dr.Sarmishtha Palit Sagar, Chief Scientist, NML and Sri V Manoharan, M/s Visiconsult X-ray systems and Solutions		
Time	Title of the talk	Name of the Speaker	Organization
16:00-16:25	Role of NDE in the Indian Space Program	Dr. M.Arumugam, Outstanding Scientist & Dy-Director	ISRO
16:25-16:50	Quality Assurance in all phases of Indian Nuclear Power Plants (INPPs) with the Participation of Indian Industry for Future Green Energy Needs	Mr Thomas Mathew, Executive Director, QA	NPCIL
16:50-17:15	New Qualification Requirements for the NDE 4.0 era	David Gilbert	British Institute of NDT

Special Session-ISNT's Certification for NDT Personnel

07TH DECEMBER 2023 - 17:45 -19:15 hrs

Session Number	Special Sessions-A			
Hall	Hall A: BHABHA			
Session coordinator	Smt Navita Gupta, Satyakiran NDT			
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
17:45-19:15		ISNT's Certification for NDT Personnel		

Applications of NDT in Additive Manufacturing

07TH D E C E M B E R 2023 - 17:45 -19:15 hrs

Session Number	IC			
Hall	Hall C: RAMAN			
Session Chairperson:	Prof. S. Gopalakrishnan, IISc			
Keynote Speaker(s):	Dr. Dheepa Srinivasan, Dr. Saptarshi Mukherjee			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
17:45-18:10	IT1	Structural Integrity of Additively Manufactured Alloys via Small Scale Mechanical Testing for Gas Turbine Applications	Dr.Dheepa Srinivasan	Pratt & Whitney
18:10-18:35	IT2	Electromagnetic Diagnostics for In-situ Metal Additive Manufacturing	Dr. Saptarshi Mukherjee	Lawrence Livermore National Labs
18:35-18:48	CP016	Non-destructive evaluation of the Artificial Defects in Additively manufactured 316L Stainless Steel Specimen	REMAKANTHAN SASIDHARAN PILLAI	
18:48-19:01	CP090	Ensuring Quality in Additively Manufactured Metal Parts: Nondestructive Evaluation Methods	Kuldeep Sharma	
19:01-19:14	CP088	Innovative 3D-Printed Tools Revolutionizing Composite Manufacturing	Kuldeep Sharma	

Cultural Programme

07TH D E C E M B E R 2023 - 19:15 -20:15 hrs

Networking Dinner

07TH D E C E M B E R 2023 - 20:15 Onwards

End of Day 1 of the Conference

NDE 4.0, AI, MACHINE VISION, IMAGE PROCESSING-I

08TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	2A			
Hall	Hall A: BHABHA			
Session Chairperson:	Dr.Christian Els, Sentin Ltd.			
Keynote Speaker(s):	Dr. Johannes Vrana, Dr. Ripi Singh			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT03	Guideline for the Development of an NDE 4.0 Roadmap	Dr. Ripi Singh	Inspiring Next
09:25-09:50	IT04	Practical Experience in Establishing a Digital Twin in View of NDE 4.0	Prof. Christian Boller	Universität des Saarlandes Campus Dudweiler
09:50-10:03	CP044	Defect Classification in AUS inspection of multi-layered composite structures using Deep Learning	Manish Tiwari	ASL, DRDO
10:03-10:16	CP120	AIADRSuite: Automatic Defect Recognition In Digital Radiographic Images Of Castings With Deep Learning	Soumendra Dhanece	VJ Imaging Technologies
10:16-10:29	CP094	Artificial Intelligence-Based Scanner to Locate Flow Anomalies in Water Transmission and Distribution Networks	Dr. Arthur Nicholas	University of Technology and Applied Sciences
10:29-10:42	CP066	Wavelet Packet Decomposition-Based CNN for Classification of Fatigue and Corrosion Acoustic Emission Signal	Amit Acharyya	IIT-Hyderabad
10:42-10:55	CP037	Damage detection, localization and quantification in dynamical system with physics informed neural networks	Nikhil Mahar	IIT Mandi

Advances in Ultrasonics-I

08TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	2B			
Hall	Hall B: KALAM			
Session Chairperson:	Dr Paritosh Nanekar, BARC			
Keynote Speaker(s):	Dr. V.H.Patankar			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT05	Challenges In The Development Of Ultrasonic Imaging Systems For NDT Of Critical Components And Structures	Dr. V.H.Patankar	ED-BARC
09:25-09:38	CP053	Spot Weld Inspection Using Advanced TFM Imaging	Shiras Pallikkara	Baker Hughes
09:38-09:51	CP012	A Comprehensive Study Of Ultrasonic Inspection: Beam Forming Method Versus Fmc-Tfm And Civa Simulation On Complex Geometries	Sumana Sumana	Peak NDT
09:51-10:04	CP118	Improved Imaging Of Small Defects And Grainy Material Using Phase Coherence Imaging	Mohd Arshad Uddin	Evident Scientific
10:04-10:17	CP111	Development Of Encircling And Split Coil Magnetostriction-Based Ultrasonic Guided Wave Transducers For Non-Destructive Inspection Of Ferromagnetic Pipes	M.M. Narayanan	IGCAR

10:17-10:30	CP127	Advantages Of Compound Scan In Phased Arrays Ultrasonic Testing	Stephen Sundarraaj	
10:30-10:43	CP050	Rotoarray Compact - Innovative Ultra-Portable Phased Array Ut Solution For Composite Inspection	Neelam Bhagasra	Baker Hughes
10:43-10:56	CP052	Unleashing The Digital Potential Of Ultrasonic Flaw Detectors	Anish Dsouza	Baker Hughes

Industrial Radiography-I

08TH D E C E M B E R 2023 - 09:00 -11:00 hrs

Session Number	2C			
Hall	Hall C: RAMAN			
Session Chairperson:	Sri G.V.Siva Rao, DRDL			
Keynote Speaker(s):	Mr Hajo Schulenburg			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT06	Assisted Evaluation Of X-Ray Images By AI Tools In Pipe Manufacturing Industries	Mr Hajo Schulenburg	Visiconsult
09:25-09:35	Session Sponsor Talk	Blue Star		
09:35-09:48	CP032	Elements of Radiation Safety Culture of Gamma based Industrial Radiography Facilities	Naushad Naranath	
09:48-10:01	CP002	Neutron Radiography and Tomography for NDT Applications	Tushar Roy	BARC
10:01-10:14	CP045	The Future of Industrial X-Ray Inspection – Advancements in Hardware, Automation, and Analytics	Daniel Emmons	Waygate Technologies
10:14-10:27	CP020	Flaw Analysis And Structural Integrity Evaluation Of Ceramic-Metal Assemblies By X-Ray Dret Imaging	Lakshminarayana Yenumula	BARC
10:27-10:40	CP054	Digitization of Industrial Radiography Films and Its Advantages for Industrial Applications	Rakesh Kumar Munda	BHEL, Hyderabad
10:40-10:53	CP017	General Purpose Software Application for CMOS based Radiography Detectors	Anant Mitra	BARC
10:53-11:06	CP104	Application of Microradiography for Estimation of Mineral Content in the Dental Studies : A technique demonstration	Dr P R Vaidya	Formerly with BARC

STRUCTURAL HEALTH MONITORING/INTEGRITY/ RLA

08TH D E C E M B E R 2023 - 09:00 -11:00 hrs

Session Number	2D			
Hall	Hall D: FARADAY			
Session Chairperson:	Dr.Aparna Sheila Vadde, GE			
Keynote Speaker(s):	Prof. Balaji Srinivasan, Dr. Vamshi Krishna Rentala			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT07	Ultra-long range detection of acoustics using light	Prof Balaji Srinivasan	IIT-Madras

09:25-09:50	IT08	Significance of Reliability Evaluations for NDT, SHM and NDE 4.0 in various industrial sectors	Dr. Vamshi Krishna Rentala	Applied Validation Germany
09:50-10:03	CP091	Challenges in Residual Stress Measurement on Aero Engine Components	Satish Kumar Madapana	DMRL
10:03-10:16	CP018	Asymmetry around Local Defect Resonance frequency in Sweep Vibro-thermography	Dr. Tanmoy Bose	NIT-Rourkela
10:16-10:29	CP029	Bridge Monitoring by Ultrasonic Coda Wave Interferometry	Ernst Niederleithinger	BAM
10:29-10:42	CP123	Development of Non-destructive Tools for In-Situ Condition Assessment of Austenitic Stainless Steel Boiler Tubes	Anil Kumar Das	NTPC
10:42-10:55	CP154	Asymmetry in the efficacy of laser shock peening- Impact of Pre-Existing Nature of Residual Stress	Mr Aryendra Singh	IIT-Hyderabad

Plenary Session-Industry

08TH DECEMBER 2023 - 11:30 -13:30 hrs

Session Number	Special Sessions-A			
Hall	Hall A: BHABHA			
Session Chairperson:	Mr. Samaresh Changdar			
Lead Speaker:	Michael Ulbricht, MD, Waygate Technologies			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-12:00		CT Inspection and AI: A Fast Track to Quality Assurance Transformation in Diverse Industries	Michael Ulbricht, MD	Waygate Technologies
12:00-12:20		The significance of Non Destructive Evaluation (NDE) in Fostering the Growth in Electronics Industries in India - Atmanirbhar Bharat	Nitin Jain, CEO	inYantra Technologies
12:15-12:30		Outlook of NDE in electronics industries & customized services	Kandarp Pandey, MD	Global (GCS) Ltd.
12:30-12:40		The Emergence of Electric Vehicles (EVs) in the Indian Automotive Industry and the Vital Role of Non-Destructive Evaluation (NDE) in Ensuring the Integrity of Lithium-ion Batteries and Key Components	Kapil Baidya, GM	Tata Motors
12:40-12:55		Vital Role of Non-Destructive Evaluation (NDE) in Ensuring the Integrity of Lithium-ion Batteries and Supply Chain of Key Components for 2 wheeler industries	Anshuman Roy, GM	Bajaj Auto
12:55-13:10		Automotive: Unveiling NDE Challenges in metal forming	Manikandan G, Principal Scientist	Tata Steel
13:10-13:20		NDE in auto sector: Present & Future	Siddharth Sengar, Mgr R&D	Maruti Suzuki

Special Session on Scientific Writing - conducted by Springer Nature

08TH DECEMBER 2023 - 11:30 -13:30 hrs

Session Number	Special Sessions-C			
Hall	Hall C:			
Keynote Speaker(s):	Ms Priya Vyas, Springer Nature			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-13:30		Scientific Writing		

NDT in Concrete Industry

08TH D E C E M B E R 2023 - 14:30 -16:30 hrs

Session Number	3B			
Hall	Hall B: KALAM			
Session Chairperson:	Prof. Christian Boller			
Keynote Speaker(s):	Dr Ernst Niederleithinger			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:30-14:55	IT09	X-rays without X-rays: Can muon tomography provide pictures from within concrete objects?	Dr. Ernst Niederleithinger	BAM-Germany
14:55-15:05	Session Sponsor Talk	TCR		
15:05-15:18	CP011	Nanoengineered cementitious composite-based sensors for multi-metric Structural Health Monitoring	SAPTARSHI SASMAL	CSIR-SERC
15:18-15:31	CP086	Condition Assessment of Breast Wall of Dam Structure – Post Massive Glacier Debris Flow by Low Strain Pile Integrity Test	K.N.Lakshmikandhan	CSIR-SERC
15:31-15:44	CP110	Studies on the application of fiber optic sensors for monitoring critical infrastructures	B ARUN SUNDARAM	CSIR-SERC, CGCRI
15:44-15:57	CP122	Machine Learning-Enriched Acoustic Emission Technique for Early Detection of Corrosion Damage in Reinforced Concrete Structures	Thirumalaiselvi A	CSIR-SERC
15:57-16:10	CP076	Assessment of Corrosion Severity in Reinforced Concrete using Ultrasonic Imaging	Sai Teja Kuchipudi	CBRI
16:10-16:23	CP082	Imaging of Surface-breaking Cracks in concrete using Ultrasonic Imaging	Debdutta Ghosh	CBRI
16:23-16:36	CP112	Characterization of Cracks in Reinforced Concrete under Corrosive Environment using X-ray Computed Tomography	Arunmuthu Krishnan	IGCAR

ELECTROMAGNETIC NDE-I

08TH D E C E M B E R 2023 - 14:30 -16:30 hrs

Session Number	3C			
Hall	Hall C: RAMAN			
Session Chairperson:	Dr Benjamin Ducharne			
Keynote Speaker(s):	Prof. David Citrin, Dr. Jyotirmayee Dash, Dr. Shyamsundar, Dr. Bala Pesala			

Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:30-14:55	IT10	Terahertz Nondestructive Evaluation: Characterizing Materials in Three Dimensions	Prof. David Citrin	Georgia Tech, USA
14:55-15:20	IT11	Terahertz Technology Advancements: Unveiling the Future of Terahertz Device Development and Applications	Dr Jyotirmayee Dash	Teralumen Solutions
15:20-15:45	IT12	NDE of Non-metallic components	Dr.Shyamsunder	
15:45-16:10	IT13	Terahertz imaging for non-destructive testing in industrial applications	Dr. Bala Pesala	TeraLumen Solutions
16:10-16:23	CP004	Nondestructive evaluation of mechanical heart valve disc using Terahertz- Time Domain Spectroscopy	Subhash N N	IIT-Madras
16:23-16:37	CP126	A Comparative Analysis of Air-Coupled Ultrasonic Testing and Terahertz Imaging for Detection of Defects in GFRP Composites	Pooja Ravindran	Azeriri, Teralumen

IGNITE

08TH DECEMBER 2023 - 14:30 -16:30 hrs

Session Number	3D			
Hall	Hall D: FARADAY			
Session Chairperson:	Prof. Prabhu Rajagopal, Prof. Kiran Babu			
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:30-16:00		IGNITE		

Applications of NDT in Manufacturing Industry

08TH DECEMBER 2023 - 17:00 -18:30 hrs

Session Number	4A			
Hall	Hall A: BHABHA			
Session Chairperson:	Dr. Ernst Niederleithinger			
Keynote Speaker(s):	Sri Devarshi Kumar Gaur, Dr. Aparna Sheila Vadde			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
17:00-17:25	IT14	NDE in Rail Wheel Factory - Present Status & Challenges	Sri Devarshi Kumar Gaur	Addl ED, Rail Wheel Factory
17:25-17:50	IT15	Inline Inspection for Enhanced Quality Control During Manufacturing	Dr Aparna C Sheila Vadde	GE
17:50-18:03	CP142	NDE in Manufacturing and Associated Challenges: Recent Case Studies	Mrs. Ankita Trivedi	
18:03-18:16	CP049	Industry 4.0 Technologies: Proposed usage in I.S.R.O - Industry Manufacturing and Quality Systems	SAURABH SINGH	
18:16-18:29	CP051	Imaging Capabilities of Ultra-Portable Conventional Device	Balaji Ramamoorthy	

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18:29-18:42	CP156	Transitioning to Digital Radiography: A Technical and Financial Analysis	Steven Wissels	Waygate Technologies
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INDUSTRY SPECIAL SESSION-I

08TH DECEMBER 2023 - 17:00 -18:30 hrs

Session Number	4B			
Hall	Hall B: KALAM			
Session Chairperson:				
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
17:00-17:20		Aerospace Metrology outlook with conventional vs latest digital technologies	M Arumugam, Outstanding Sc.	LPSC, ISRO
17:20-17:40		Application of ADR (Assisted Defect Recognition) in the Aerospace Sector	Alex Seinuah, Commercial Director	Baker Hughes
17:40-18:00		Evolution of Metrology in the Digital Age: From Conventional CMM to CT-Based Solutions	Anoop D Souza, Mgr Q & R	TE Connectivity
18:00-18:20		Role of Digital Radiography & Computed Tomography for Non-Destructive Evaluation (NDE) for Enhancing Aerospace Services in India	Navin Kumar, Director	Coveten & GNAT Tech

INDUSTRY SPECIAL SESSION-II

08TH DECEMBER 2023 - 17:00 -18:30 hrs

Session Number	4C			
Hall	Hall C: RAMAN			
Session Chairperson:				
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
17:00-17:15		NDE Challenges and Learnings in Power Sector	D.M.Gourkhede, JD	CPRI
17:15-17:30		Powering Ahead: Unveiling NDE Challenges and Learnings in Energy	Rakesh Patil, Dy GM	L&T
17:30-17:45		NDE Challenges during the manufacturing of power plant components and BHEL's efforts to manage it	Dr. R. Arul Prabhu, Sr DGM	BHEL, Trichy
17:45-18:00		Non-Destructive Evaluation (NDE) in Netra & Allied Institutions	A K Das, GM	NTPC, Netra
18:00-18:20		Non-Destructive Evaluation (NDE) in Thermal Sector	Vinay Gaddu, GM	Adani Power

ISNT AGM (For Members Only)

08TH D E C E M B E R 2023 - 18:30 -19:30 hrs

Gala Dinner

08TH D E C E M B E R 2023 - 19:00 Onwards

End of Day II

ELECTROMAGNETIC NDE-II

09TH D E C E M B E R 2023 - 09:00 -11:00 hrs

Session Number	5A			
Hall	Hall A: BHABHA			
Session Chairperson:	Sri S. Balamurugan, Tata Steel			
Keynote Speaker(s):	Dr. Thirunavukkarasu			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT16	Multi-frequency mixing technique in eddy current technique	Dr Thirunavukkarasu	IGCAR
09:25-09:35	Session Sponsor	Radiant Heat Exchanger		
09:35-09:48	CP023	Eddy Current Technique for In-situ Detection of Surface Opening Flaws on Inner Surface of Pressure Tubes of Indian PHWRs	Praveen Bhosale	BARC, NPCIL
09:48-10:01	CP026	Temperature Effects on Dielectric Material Used for Eddy Current Sensors	Vinod Belwanshi	NML, IIT-M, CMET
10:01-10:14	CP152	Distortion and Harmonic Analysis of Magnetic Excitation Signal (DHAMES) - A Simplified New Approach in Magnetic Measurements for Evaluation of Ferromagnetic Steel Components	Dr.V.Moorthy	Newcastle upon Tyne
10:14-10:27	CP089	MRT Inspection of Bridge Cable Stays and Stack Guy Wires and their terminations.	Alexander Shalashilin	Intron Plus
10:27-10:40	CP101	Characterization of Different Materials via Dielectric Permittivity using Flexible Graphene Based Microwave Sensor	Jaswinder Kaur	Thapar Institutes
10:40-10:53	CP134	Design and development of an EMAT probe to determine the remnant thickness of the pipeline.	MOHAMAD ALALI	IIT-Madras

NDE 4.0, AI, MACHINE VISION, IMAGE PROCESSING-II

09TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	5B			
Hall	Hall B: KALAM			
Session Chairperson:	Dr.M.Shyamsunder, Azeriri Pvt Ltd.			
Keynote Speaker(s):	Dr. Christian Els, Dr. Ajay Pasupuleti			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT17	Transforming Digital X-Ray Technology: Leveraging AI for NDT Advancements and Automation	Dr.Christian Els	Sentin Ltd
09:25-09:50	IT18	New and Improved NDT Training Using NDE4.0 Tools	Dr. Ajay Pasupuleti	Ooga Technologies
09:50-10:15	IT19	Artificial Neural Network Based Sub-surface Defect Detection in Industrial Materials	Dr.Geetika Dua	Thapar Institute of Engg and Tech
10:15-10:28	CP119	Damage Quantification in Ultrasonic C-Scan Imaging: A Regression Approach	Amitabha Datta	NAL
10:28-10:41	CP079	Damage Detection In Building Envelopes Using Drone-Assisted Deep Learning	Anshul Parmar	CBRI
10:41-10:54	CP155	AI based Automated Defect Recognition for Interpretation of Various Defects in Digital X-ray Radiographs	Anirudha Sane	HEMRL, DRDO

INDUSTRIAL RADIOGRAPHY-II

09TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	5C			
Hall	Hall C: RAMAN			
Session Chairperson:	Dr. P.R.Vaidya, Formerly with BARC			
Keynote Speaker(s):	Dr. P.K.Dash Sharma			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT20	Challenges in ensuring Radiation Safety in Industrial Radiography Practice	Dr. P.K.Dash Sharma	Head- RSD, AERB
09:25-09:38	CP003	Analytical And Industrial Applications Of Sealed D-T Neutron Generator	Tushar Roy	BARC
09:38-09:51	CP021	Experimental Study Of Shielding Integrity For High-Energy Industrial Radiographic And Tomographic Imaging Laboratory	Lakshminarayana Yenumula	BARC
09:51-10:04	CP068	In-House Developed CZT Detector For Gamma-Ray Computed Tomography	RAMAR R	IGCAR
10:04-10:17	CP081	Sensitivity Of Computed Radiography In Dissimilar Materials	Joel Stephen	Engineering Quality Inspection Services
10:17-10:30	CP136	Calculation Of X-Ray Beam Energy And X-Ray Focal Spot Size	NABA KUMAR GHOSH	ACEM, DRDO
10:30-10:43	CP096	Study On Resolution Of Ultra-Fine Focus X-Ray System For Inspection Of Explosive Powders	Satveer Kumar	
10:43-10:56	CP109	Optimizing Radiographic Testing For Tubular Products: A Comprehensive Study On DWDI Technique	Hitendra Gohil	L&T MHI Power Boilers

Advances in Ultrasonics-II

09TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	5D			
Hall	Hall D: FARADAY			
Session Chairperson:	Prof. Bruce Drinkwater			
Keynote Speaker(s):	Dr. Nishal Ramdas			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT21	Laser based non-contact ultrasonic measurement techniques and their application in the growing field of battery inspection	Nishal Ramdas	Azeriri
09:25-09:38	CP098	Tank lining material for immersion UT	Dinesh Gupta	Satyakiran NDT
09:38-09:51	CP130	Advanced & Novel Phased Array Ultrasonic Testing (PAUT) Procedure For Inspection Of Butt Weld Joint Integrity	Chirag Darji	RIL, Dhvani
09:51-10:04	CP132	Inspection of coarse grain and noisy materials using phased array ultrasonic FMC/TFM method	Durga Prasad Takasi	DMRL
10:04-10:17	CP148	Ultrasonic Bent and Helical waveguide sensors for fluid level sensing and temperature measurements using L, T, F wave modes	SURESH PERIYANNAN	NIT Warangal
10:17-10:30	CP072	Wedge Considerations for Dual Linear Phased Array Inspection of Austenitic Materials	Prasanth Geddani	Evident Scientific
10:30-10:43	CP028	Limitations Of Long-Range Ultrasonic Testing Technique	Prawin Sharan	VIT
10:43-10:56	CP022	Plane-wave Imaging for welds testing in piping and Adaptive plane wave imaging to the testing curvature elbows	Sandeep M	TPAC

NDT of Welds

09TH DECEMBER 2023 - 09:00 -11:00 hrs

Session Number	5E			
Hall	Hall E: SARABHAI			
Session Chairperson:	Mr. Venkat Reddy, DRDL, DRDO			
Keynote Speaker(s):	Dr. B.Muthuramalingam			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
09:00-09:25	IT22	Autogenous Orbital Welding / Sanitary Welding And Quality Control Challenges	Dr. B. Muthuramalingam	VP, NDTSS
09:25-09:35	Session Sponsor	Fearnley International		
09:35-09:48	CP055	Ultrasonic Testing of weld between Man-Hole Forging and Hemi-Head Forging of High Pressure Feed Water Heater	Chavva Harinatha Reddy	BHEL, Hyderabad
09:48-10:01	CP114	Investigation of cluster porosities for AA2219 alloy weldments by computed tomography technique	PRAVIN ROY	LPSC, ISRO
10:01-10:14	CP058	Comparative Study on End Plug Weld Evaluation of FBTR Fuel Pins by Digital and Film Radiography	Ritu	BARC
10:14-10:27	CP151	Development of Volumetric NDE Techniques for Assessment of Critical Weld of FBTR Sub-Assembly	Altaf Ali	NFC

10:27-10:40	CP034	Automatic Defect Recognition for Tangential Radiography of Plug-tube Welds	Srivathsan S	
10:40-10:53	CP027	Characterization of Intergranular Stress Corrosion Cracking in Stainless steel Pipeline Welds using Ultrasonic Phased Array Technique	JOTHILAKSHMI N	BARC

NDE in Energy Sector

09TH DECEMBER 2023 - 11:30 -13:00 hrs

Session Number	6A			
Hall	Hall A: BHABHA			
Session Chairperson:	Sri A.K.Das			
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-11:43	CP116	Detection And Characterization Of Planar Defects In The SS 316 Weld Samples Using Plane Wave Imaging (PWI) Technique	CHAITANYA GMSK	IGCAR
11:43-11:56	CP078	Stress Corrosion Cracking In Austenitic Stainless Steel Super 304H & 347H Grade Tubes- A Failure Case Study Of Reheater & Superheater Tubes In A Supercritical Boiler Of Thermal Power Project	Srinivasa Rao U	NTPC
11:56-12:09	CP047	Quality Assurance Experiences During Hard Chrome Plating Of Mechanisms Of FBR For High Temperature Applications	Ramesh G	IGCAR
12:09-12:22	CP077	Quality Assurance Experiences During Reconditioning And Replacement Of Failed Bellows In Control Rod Drive Mechanism	RAMESH E	IGCAR
12:22-12:35	CP141	Tandem Wedge For In-Service Inspection Of Cladding In Pressure Vessel Components	Peter Santan Rodrigues	BHEL
12:35-12:48	CP095	QA & NDE Practices During Fabrication Of Hydrogen In Argon Detector	RAMESH P	IGCAR
12:48-13:01	CP014	Experiences In Measurement Of Geometrical Features Of Slender FBR Components Using Optical Alignment Instruments"	Kaliamoorthy Govindarajan	

Modeling in NDT

09TH DECEMBER 2023 - 11:30 -13:00 hrs

Session Number	6B			
Hall	Hall B: KALAM			
Session Chairperson:	Dr.Deepesh Vimalan			
Keynote Speaker(s):	Dr.Shamasundar			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization

11:30-11:55	IT23	Application of Finite Element Analysis for structural integrity assessment, FFS, RLA/RLE of assets	Dr Shamasundar	Pro Sim R&D Pvt Ltd
11:55-12:08	CP19	Numerical Analysis of Asymmetrical Functionally Graded Small-Scale 1D Inclusions for Harmonic Scattering	Pravinkumar Ghodake	
12:08-12:21	CP56	Low Computational Approach for Guided Wave based Damage localization in Composites.	Subhadeep Basu	TCS Research
12:21-12:34	CP74	Simulation Study to Find out the Effect of Defect Dimensions on the Amplitude of Eddy Current Signal	Praveen Bhosale	BARC
12:34-12:47	CP149	Data-driven simulation-assisted-Physics Aware AI (DPAI) for Modeling Wave Scattering.	Thulsiram Gantala	IIT-Madras
12:47-13:00	CP5	InspectionWorks: a holistic approach to industrial inspection solutions.	Hovnanian Mihran	Waygate Technologies

Automation in NDE

09TH DECEMBER 2023 - 11:30 -13:00 hrs

Session Number	6C			
Hall	Hall A: BHABHA			
Session Chairperson:	Mr. Thomas Gramberger			
Keynote Speaker(s):	Dr. Anish Bekal, Sri S. Balamurugan			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-11:55	IT24	Modularised Electronics for Rapid development of NDE hardware - A Structured block diagram approach	Dr.Anish Bekal	e-Lagori
11:55-12:20	IT25	Sensorisation of Steel Industry	Sri S.Balamurugan	Tata Steel
12:20-12:33	CP93	On-stream Robotic inspection of above ground liquid storage tanks – Industry experience	Sahab Gurjar	Petrobot
12:33-12:46	CP147	NDE Using Drone	Suwendu Lenka	NDT Training, Consultancy and Inspection Services
12:46-12:59	CP137	Automated Decision Assist System For Interpreting Eddy Current Testing Results Of Alloy 800 Steam Generator Tubes From ID Side At Nuclear Fuel Complex, Hyderabad	Mr. Muzammil Ahmed	NFC

NDE in Oil and Gas

09TH DECEMBER 2023 - 11:30 -13:00 hrs

Session Number	6D			
Hall	Hall D: FARADAY			
Session Chairperson:	Dr.Ajay Pasupuleti, Ooga Technologies, USA			
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-11:43	CP117	NDT Solutions for a Refinery's Common Damage Mechanisms	Mohd Arshad Uddin	Evident Scientific
11:43-11:53	Session Sponsor Talk	TCR Advanced	Mr. Parish Haribhakti	TCR Advanced

11:53-12:06	CP013	Determination of Long-Term Creep Life Prediction Model For Grade 22 Material Based on Short Term Creep Test	Vijay Jadhav	Thermax Global
12:06-12:19	CP071	Advancements in NDE for Volumetric Examination in Cross Country Pipeline Projects	ABHISHEK BANERJEE	Engineers India Limited
12:19-12:32	CP153	CCR Heater Tube Internal Inspection Using Crawler-Based Remote Visual Inspection	Bharat Khandekar	BPCL
12:32-12:45	CP113	NDE in Coke Drum Repairs	Mohseen Shaikh	IQS NDT
12:45-12:58	CP138	Tank Inspection using UAV	Mugdha Kale	IQS NDT
12:58-13:10	CP159	Advanced NDE Techniques for Asset Integrity Management In Refinery: A Case Study	Nishank Soni, Anish Kumar	RIL

Visual/Optical Methods

09TH D E C E M B E R 2023 - 11:30 -13:00 hrs

Session Number	6E			
Hall	Hall E:SARABHAI			
Session Chairperson:	Sri Venugopal Manoharan,			
Keynote Speaker(s):	Prof C Chandraprakash			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
11:30-11:55	IT26	Computer Vision for Structural Health Monitoring: On-site Smartphone-based Measurements	Prof C Chandraprakash	IIT-Kanpur
11:55-12:08	CP009	Can Fiber-Optic Cables be used as Reference Leaks for NDT - Helium Leak Testing Applications?	Venkat Natesan Ramani	Plasmavac
12:08-12:21	CP080	Laboratory-based Monitoring of Heritage and Masonry structural elements under settlement using DIC techniques	HINA GUPTA	CBRI
12:21-12:34	CP108	Computer vision for estimation of liquid contact angle	Chandraprakash C	IIT Kanpur
12:34-12:47	CP115	Defect Characterization Using 3D Phase Measurement Technique of Videoscope	Shahaur Rahman	LPSC-ISRO
12:47-13:00	CP084	3D modeling and recreation of Abdullapuram palace in Vellore-Bangalore NH using the derived point cloud data from terrestrial LiDAR scanning	Vaani N	VIT

Poster Session-II

09TH D E C E M B E R 2023 - 14:00 -14:45 hrs

Session Number	Poster Session-II			
Hall/Date /Time	09 th December, 2023			
S.No.	Abstract No.	Title of the talk	Name of the Speaker	Organization
1	CP059	Investigating on Probability of Defect Detection in Glass Fibre Reinforced Polymer Using Frequency Modulated Thermal Wave Imaging	Ishant Singh	IIT Delhi
2	CP145	Gradient-based topology optimization of hard magnetic soft composite for wide tunable band gaps	Zeeshan Alam	IIT Jodhpur
3	CP070	Advancing Ultrasonic Imaging with Ultra-High Resolution Using Micro-Fabricated Metamaterial Lens	Chandan Dutta	IIT Madras, Iowa State University

4	CP087	Finding the stable form for tensegrity utility bridges: a machine learning based approach	Sumit Kumar	IIT Mandi
5	CP057	Guided Wave Phased Array Ultrasonic Imaging for Thin Plate Inspection	Kaushal Jagannath Bachhav	IIT-Madras
6	CP102	Sensitivity Analysis of Flexible and Parylene C loaded Implantable Antenna for Leadless Cardiac Pacemaker Systems at ISM Band	Jaswinder Kaur	Thapar Institutes
7	CP103	Investigation of Different Demodulation Schemes for Raman-Optical Time Domain Reflectometry	Kishore Kumar	IIT Madras
8	CP106	Infrared Thermal Imaging Technique for Electric Arc Welding Power Optimization	Dr. Arthur Nicholas	University of Technology and Applied Sciences
9	CP062	Complementary Golay-Coded Thermal Wave Imaging for Defect Detection in Carbon Fiber-Reinforced Plastic	Anshul Sharma	IIT Ropar
10	CP129	Numerical Investigation for the Optimization of Bandgap Properties in Phononic Crystals	Akhilendra Gangwar	IIT-Rookee, IIT-Jodhpur
11	CP073	Thermographic Detection of Diabetic Foot Complications	Dr. Geetika Dua	Thapar Institutes
12	CP075	Automatic Defect Detection using Infrared Thermography and Machine Learning: A Comprehensive Approach	Dr. Geetika Dua	Thapar Institutes
13	CP143	Diagnosing the Structural Integrity by Enhancing the Clustering Quality of Acoustic Emission Data	JOSEPH KAKKASSERY	Veltech
14	CP100	Intrusion and Leakage Monitoring of Oil and Gas Pipelines using Hybrid DAS-DTS Fiber Optic Technology	Anand VP	IIT-Madras, CSIO

Electromagnetic NDE-III

09TH DECEMBER 2023 - 14:45 -16:45 hrs

Session Number	7A			
Hall	Hall A: BHABHA			
Session Chairperson:	Dr. Thirunavukkarasu			
Keynote Speaker(s):	Dr. Benjamin Ducharme			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:45-15:10	IT27	Magnetic NDT based on the magnetization mechanisms	Dr Benjamin Ducharme	INSA- Lyon, France
15:10-15:23	CP105	Feature Assessment of Concrete Using Ground Penetrating Radar (GPR)	AVINASH KUMAR YADAV	CBRI
15:23-15:36	CP124	Crack Detection In Ferromagnetic Materials By Eddy Current Testing	Navita Gupta	Satyakiran NDT
15:36-15:49	CP031	Powering Portable Non-Destructive Testing: An Energy-Based Platform for Multifaceted Applications and Accessible Education	Volker Hiller	FOERSTER Group
15:49-16:02	CP097	Non Destructive Testing of Space Composite Structures Using Laser Shearography	Hari Krishna Sogunuru	VSSC, IISST
16:02-16:15	CP008	Laser shearography inspection of multi-layered fibre reinforced polymer composite structures	Dr Srinivas Kuchipudi	ASL
16:15-16:28				

Advances in Ultrasonics-III

09TH DECEMBER 2023 - 14:45 -16:45 hrs

Session Number	7B
Hall	Hall B: KALAM

Conference and Exhibition on Non-Destructive Evaluation & *Enabling Technologies* (NDE 2023)
Organised by **Indian Society for Non-Destructive Testing (ISNT)**

Session Chairperson:	Dr. Phani Mylavarapu			
Keynote Speaker(s):				
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:45-14:58	CP033	Development of Phased array Ultrasonic Technique for Turbine Blade Root Inspection	RAKESH KUMAR PAL	BARC
14:58-15:11	CP150	Study of Ultrasonic Test Sensitivity on Zr 2.5% Nb Pressure Tubes with Different Type of Artificial Reference Notches	P.Satish Kumar	NFC
15:11-15:24	CP083	Optical Encoder Manual Phased Array Ultrasonic Inspection System Qualification for Aerospace Composite parts	Rahul R	TASL
15:24-15:37	CP039	M2-ADR: Multi Modal ADR System for NDE Application Using PAUT and Thermography Data Fusion	Sudharsan P L	IIT Madras
15:37-15:50	CP144	Accurate Determination of Acoustic Emission Source Location through Thickness Direction in Composite Laminates by a Combination of Ultrasonic Data and Theoretical Model	JOSEPH KAKKASSERY	Veltech
15:50-16:03	CP024	Application of Phased Array Ultrasonic Testing for Integrity Assessment of Metal to Metal Interfaces in Explosive Welded Bi-Metallic (BM) Plates	SYAM KUMAR S	LPSC-ISRO
16:03-16:16	CP069	3D FMC / TFM imaging by means of DPC matrix arrays for advanced flaw detection in heterogeneous construction and building materials	Andrey Bulavinov	ACS International
16:16-16:29	CP048	Characterization of Defects in Interlaminated Metal Mesh Composites through NDE	Ramkiran Pulidindi	IISc
16:29-16:44	CP158	Advanced And Novel Phased Array Ultrasonic Testing (PAUT) Procedure To Inspect Socket Weld Joint Integrity	Umersh Prabhu	RIL

Infrared Thermography

09TH DECEMBER 2023 - 14:45 -16:45 hrs

Session Number	7C			
Hall	Hall C: RAMAN			
Session Chairperson:	Dr. Ravibabu Moolaveesala			
Keynote Speaker(s):	Dr. Anshul Sharma, Dr. Vanita Arora			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:45-15:10	IT28	Emerging Active Thermographic Techniques for Non-destructive Testing and Evaluation of Solid Materials	Dr. Anshul Sharma	SeNSe, IIT-Delhi
15:10-15:35	IT29	Recent trends in infrared imaging for testing and evaluation of industrial materials	Dr Vanita Arora	SS Automation Solutions Pvt Ltd.
15:35-15:48	CP060	Novel Post-Processing Approaches for Frequency Modulated Thermal Wave Imaging for Testing and Evaluation of Fibre Reinforced Polymer	Priyanka Das	IIT Delhi
15:48-15:51	CP061	Pulse Compression Favourable Thermal Wave Imaging Techniques for testing and evaluation of Steel Material	Ishant Singh	IIT Ropar
15:51-16:04	CP133	A comparative study of different thermography techniques for their accuracy in thickness measurement of thermal barrier coating	Rudra Prasad Nanda	DMRL
16:04-16:17	CP107	IR Thermography in Promoting Unseen Architectural Innovations	Dr. Arthur Nicholas	NITTE School of Architecture and Planning
16:17-16:30	CP006	Frequency Modulated Thermal Wave Imaging for Defect Detection and Shape	Juned Siddiqui	IIT-Delhi

NDT in Aerospace

09TH D E C E M B E R 2023 - 14:45 -16:45 hrs

Session Number	7D			
Hall	Hall D: FARADAY			
Session Chairperson:	Sri V Manoharan, Visiconsult X-ray solutions			
Keynote Speaker(s):	Mr Thomas Gramberger, Dr. K. Srinivas			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:45-15:10	IT30	NDT & METROLOGY – Improving Efficiency in Aerospace Manufacturing utilizing the Multi-Modality Approach	Mr Thomas Gramberger	fill.co
15:10-15:35	IT31	In-situ Non-destructive evaluation studies of adhesively bonded insulation liner-composite structures using low frequency NMR	Dr K Srinivas	ASL, DRDO
15:35-15:48	CP131	Computed Radiography in High Energy X-ray Radiography of Solid Rocket Motors and Composite Hardwares used in Aerospace Applications	GIRISH NAMBOODIRI	VSSC- ISRO
15:48-16:01	CP092	Composites Blades Integrity Assessment and Life extension Using Computed Tomography (CT)	RAMESH BABU G	HAL, Bangalore
16:01-16:14	CP135	Study of Bond Integrity Evaluation in Solid Rocket Motor Composite Casing Insulation with Different X-ray Energy Sources in NDT	Umesh Mali	ACEM, RCI-DRDO
16:14-16:27	CP030	Challenges and Possibilities for Radiography Testing of Glass to Metal Sealed Pyro Initiator Housings used in Space Applications	Rajeev J	VSSC-ISRO
16:27-16:40				

NDE Procedure Development, Standardization and Certification

09TH D E C E M B E R 2023 - 14:45 -16:45 hrs

Session Number	7E			
Hall	Hall E:SARABHAI			
Session Chairperson:	Sri Diwakar Joshi			
Keynote Speaker(s):	Mr Kumaran Kannan			
Time	Abstract No.	Title of the talk	Name of the Speaker	Organization
14:45-15:10	IT32	Impact of ISO 9712 Certification in NDT	Mr Kumaran Kannan	ANSA Training and Quality Assurance Pvt Ltd.
15:10-15:23	CP015	ASME Code Section V Edition 2023 Changes	Aditya Bhagwat	IQS NDT
15:23-15:36	CP085	Human Errors & Cognitive Biases In NDE	Santosh Vijay Gupte	Fearnley Intl group
15:36-15:49	CP099	Standardization of NDE (Non-Destructive Evaluation) Reports	Rajan Ananthanarayanan	
15:49-16:02	CP146	A list of requirements for effective NDT	Yogesh Kulkarni	

16:02-16:15	CP121	ICN Scheme and the ATC Audit Path	Surendra Mungel	IQS NDT
16:15-16:30	CP125	Advanced Continuous Innovative Method To Check Healthiness Of Medicine Bottle Cap sealing	TP Singh	Flir India

Panel Discussion, Valedictory Function, Award Distribution

09TH DECEMBER 2023 - 17:15 -17:45 hrs