

NDE 2017 - Detailed Technical Programme

Day-1 Dec. 14, 2017, 9:00 – 16:00 hrs: Inauguration, Memorial, and Plenaries

09:00 – 11:00 hrs : Inaugural Ceremony and Opening of Exhibition

11:00 -11:30 hrs : High Tea

11:30 – 13:00 hrs: Memorial Lectures, Chairperson: B. Venkatraman

Feature	Title of Talk	Speaker	Institution	Time
Prof. A.K. Rao Memorial Lecture	Applications of Nondestructive Evaluation and its Advances for the Indian Sodium-Cooled Fast Breeder Reactor Programme	Arun Kumar Bhaduri	Indira Gandhi Center for Atomic Research (IGCAR) Kalpakkam, T.N.,India	11:30-12:15
Shri. V.S. Jain Memorial Lecture	Qualification and Certification of NDT personnel in France: the experience of COFREND	François Champigny	COFREND (French Society of NDT), France	12:15-13:00

13:00 – 14:00 hrs : Lunch Break

14:00 – 15:30 hrs: Plenary Lectures, Chairperson: R.J. Pardikar

Feature	Title of Talk	Speaker	Institution	Time
Plenary – 1	NDE computational tools for enhanced diagnostics and reliability assessment	Pierre Calmon	CEA (French Atomic Energy Commission), France	14:00-14:45
Plenary – 2	Ultrasonic Assessment of Concrete Structures	Herbert Wigggenhauser	BAM (Federal Institute for Materials Research and Testing), Germany	14:45-15:30

15:30 – 16:00 hrs : Tea Break

Technical Session -1

Day 1: Dec. 14, 2017 Session 1A: Novel NDE Methods, 16:00 – 17:40 hrs

Chairperson: Nico Declercq

Paper No	Title of Talk	Authors	Institution	Time
IT9	Feasibility of Using Metamaterial lens for enhancing Microwave NDE	Lalita Udpa	Michigan State University, USA	16:00-16:30
IT12	Pulsed Terahertz inspection of dielectric structures - defects detection using wide range of techniques	Przemyslaw Lopato	ZUT, Poland	16:30-17:00
CP 16	Non-destructive testing of opto-mechanical components using digital holography	Gaurav Dwivedi	CSIR - Central Scientific Instruments Organisation, India	17:00-17:20
CP 37	Sensitivity of Ultrasound technics to Fatigue damage in a composite material	Othmane Ez-zahraouy	Georgia Tech - CNR, USA	17:20-17:40

Day 1: Dec. 14, 2017 Session 1B: Structural Health Monitoring and In-service Inspection, 16:00 – 17:30 hrs

Chairperson: Balaji Srinivasan

Paper No	Title of Talk	Authors	Institution	Time
IT 38	Recent Advances in Structural Health Monitoring	Christian Boller	Saarland University, Germany	16:00-16:30
CP 212	Numerical and experimental developments on Guided Wave based Structural Health Monitoring	Olivier Mesnil	CEA-LIST, France	16:30-16:50
CP 44	Corrosion under Insulation (CUI) inspection of cold insulated piping	Savio Rebello	Reliance Industries Limited	16:50-17:10
CP 108	Upcoming Trend - Extensive use of HDPE in Oil gas & their inspections	Krushnamurti Kerur	Reliance Industries Limited	17:10-17:30

Day 1: Dec. 14, 2017 Session 1C: NDE Performance Evaluation, 16:00 – 17:30 hrs

Chairperson: Pierre Calmon

Paper No	Title of Talk	Authors	Institution	Time
IT 39	Challenges, Perspectives and Solutions Regarding the Performance and Reliability Assessment of Nondestructive Testing Systems	Daniel Algernon	SVTI Swiss Association for Technical Inspections, Switzerland	16:00-16:30
CP 201	Automation & Analytics for Inspection – The path forward	Shyamsunder Mandayam	GE Global Research, Bangalore, India	16:30-16:50
CP 73	Recent modelling advances in NDT to improve safety and sustainability for the next generation of nuclear reactor	Joseph Moysan	LMA, UPR CNRS 7051, Universited Aix-Marseille, France	16:50-17:10
CP 147	Issues in POD Estimation of Qualitative NDT Techniques	Phani Mylavarapu	Defence Metallurgical Research Laboratory, Hyderabad, India	17:10-17:30

Technical Session -2

Day 2: Dec. 15, 2017 Session 2A: Phased Array & TOFD-1, 09:00 - 10:30 hrs

Chairperson: Marc Deschamps

Paper No	Title of Talk	Authors	Institution	Time
IT 1	Use of a conformable and phased array ultrasonic probe for corrosion inspection in nuclear plant	Etienne Martin	EDF (Electricite De France)	09:00-09:30
CP 13	Application of shear wave time of flight diffraction for limited access components	Dheeraj P.R.	A-Star Training and Consultancy	09:30-09:50
CP 129	A Comparative Study of PAUT and TOFD responses with the change in microstructures of the materials – A Step towards reliable detection	Dharmveer Singh	GE Power India Limited	09:50-10:10
CP 12	FAAST PAUT for Inspection of plates, billets and jet-engine turbine discs	Xavier Harrich	EECI, Mumbai, India	10:10-10:30

Day 2: Dec. 15, 2017 Session 2B: Computed Tomography, 09:00 -10:30 hrs**Chairperson: Christian Boller**

Paper No	Title of Talk	Authors	Institution	Time
IT 6	Volumetric Computed Tomography for Industrial Metrology Applications	Debasish Mishra	GE Bangalore, India	09:00-09:30
CP 7	Development of a Mobile Gamma-ray CT Scanner	Abhishek Srivastav	Lloyds Register Consulting	09:30-09:50
CP 20	3D Computed Tomography (CT) – A Powerful Tool for defects characterization in Aerospace Composite liners	C Muralidhar	DRDL, India	09:50-10:10
CP 254	Computed tomography for inspection of parts made by additive manufacturing process	Prasad Thapa	GE Global Research	10:10-10:30

Day 2: Dec. 15, 2017 Session 2C: Infrared Thermography - 1, 09:00 -10:30 hrs**Chairperson: Barbara Szymanik**

Paper No	Title of Talk	Authors	Institution	Time
IT 28	Laser Thermography – Evolution from a highly specialized into a versatile tool for NDE	Philipp Myrach	BAM Federal Institute for Materials Research and Testing, Berlin, Germany	09:00-09:30
CP 190	Failure Analysis of PCB using Infrared Thermography	M.Menaka	Indira Gandhi Centre for Atomic Research, Kalpakkam, India	09:30-09:50
CP 186	Condition assessment of Delayed Coker heater tubes by recording heater tubes skin temperature profile using thermography survey and correlate for finding out coke deposition	Sanal S.	BPCL Kochi Refinery, India	09:50-10:10
CP 65	Inspection of Heritage Structure using Infrared Thermography	Debdutta Ghosh	CSIR - Central Building Research Institute, Roorkee, India	10:10-10:30

Day 2: Dec. 15, 2017 Session 2D: Modelling and Simulation-1, 09:00 -10:30 hrs**Chairperson: Cara Leckey**

Paper No	Title of Talk	Authors	Institution	Time
IT 32	High speed ultrasonic simulation for enhanced NDE	Peter Huthwaite	Imperial College London, UK	09:00-09:30
CP 38	Effect of defect parameters on Lamb waves propagating in solid materials using finite element method software	Othmane Ez-zahraouy	Georgia Tech – CNR, USA	09:30-09:50
CP 281	Frequency Domain Modeling, Simulation and Validation of Long Wave Ultrasonic Inspection Techniques for Detection of Interfacial Debonds of Solid Propellant Rocket Motor	Bikash Ghose	HEMRL, IITM, India	09:50-10:10
CP 179	Using features extraction and data fusion to enhance NDT reliability of inspection	Valerie Kaftandjian	INSA-Lyon, Laboratoire Vibrations et Acoustique, France	10:10-10:30

Day 2: Dec. 15, 2017 Session 2E: Signal and Image Processing, 09:00 - 10:30 hrs**Chairperson: Christoph Voelker**

Paper No	Title of Talk	Authors	Institution	Time
IT 20	Advances in Remote Visual 3D Surface Scanning & Analysis Technologies	Thomas D. Britton	GE Inspection Technologies, USA	09:00-09:30
CP 53	Holder exponent and wavelet transforms for surface crack characteristics evaluation in concrete beams	K. Sivasubramanian	CSIR-Structural Engineering Research Centre, Chennai, India	09:30-09:50
CP 139	Deep sub-wavelength ultrasonic resolution using holey-structured metamaterials in pitch-catch method	Amireddy Kiran Kumar	IITM, Chennai, T.N., India	09:50-10:10
CP 39	Mechanical frequency filter using periodically corrugated interface	Othmane Ez-zahraouy	Georgia Tech – CNR, USA	10:10-10:30

Day 2: Dec. 15, 2017 Session 2F: Imaging in NDE-1, 09:00 - 10:30 hrs

Chairperson: Fedor Gubarev

Paper No	Title of Talk	Authors	Institution	Time
IT 40	Imaging of defects and adhesive objects in plate-like structures using laser generated guided waves	Takahiro Hayashi	Kyoto University, Japan	09:00-09:30
CP 98	Development of Image Fusion Methodologies for Dual Energy Radiography Images	K Arunmuthu	NDE Division, IGCARKalpakkam, T.N., India	09:30-09:50
CP 105	Multi-probe eddy current image fusion for detection of anomalies in small diameter tubes	S. Thirunavukkarasu	IGCAR, Kalpakkam, T.N., India	09:50-10:10
CP 271	High Energy Imaging Application Testing for Non-Destructive Evaluation	Daniel Shedlock	Varex Imaging	10:10-10:30

Technical Session - 3

Day 2: Dec. 15, 2017 Session 3A: Advanced Ultrasonics, 11:00 – 13:00 hrs

Chairperson: Peter Huthwaite

Paper No	Title of Talk	Authors	Institution	Time
IT 34	Ultrasonic non-destructive testing and evaluation of materials	Marc Deschamps	Research Director at the CNRS, France	11:00-11:30
IT 10	Review of ultrasonic nondestructive evaluation in complex media	Nico Declercq	Georgia Tech, USA	11:30-12:00
CP 77	Rayleigh Surface wave based non-linear ultrasound to assess effect of precipitation hardening during tempering in P92 steel	Minati Kumari Sahu	CSIR National Metallurgical Laboratory	12:00-12:20
CP 183	Monitoring of slow nonlinear dynamics in complex materials using Acoustic	Mourad Bentahar	Laboratoire d'Acoustique de l'Université du Maine, France	12:20-12:40
CP 200	Characterization of Grain Boundary Carbide Precipitates by Non-Linear Ultrasonic Methods	Saju T Abraham	IGCAR, Kalpakkam, T.N., India	12:40-13:00

Day 2: Dec. 15, 2017 Session 3B: NDE Sensors and Instrumentation - 1, 11:00 - 13:00 hrs

Chairperson: S. Sadagopan

Paper No	Title of Talk	Authors	Institution	Time
IT 35	Sensing the World Around Us With Optical Nerves of Glass (through interaction with acoustic phonons)	Balaji Srinivasan	IITM, Chennai, T.N., India	11:00-11:30
IT 5	Monitoring of Process Abnormalities in a non-invasive way using Fibre Bragg Grating sensors	Sarmishtha Palit Sagar	National Metallurgical Laboratory, India	11:30-12:00
CP 66	Comparative study between ERS Sensors and VWSG	Hina Gupta	CSIR - Central Building Research Institute, Roorkee, India	12:00-12:20
CP 158	Weight measurement of moving rail wagon using embedded sensors	Tarun Kumar Das	CSIR - National Metallurgical Laboratory, Jamshedpur, India	12:20-12:40
CP 278	Design and Development of Laser Displacement Sensor based Internal Surface Profiler System for Remote Visual Inspection of Pipe and Solid Rocket Motors	Bikash Ghose	HEMRL, DRDO, India	12:40-13:00

Day 2: Dec. 15, 2017 Session 3C: Electromagnetic NDE-1, 11:00 – 13:00 hrs**Chairperson: B. Purna Chandra Rao**

Paper No	Title of Talk	Authors	Institution	Time
IT 24	Evaluation of damage in engineering steel components using electromagnetic NDE Techniques	Amitava Mitra	CSIR – NML, Jamshedpur, India	11:00-11:30
IT 42	Barkhausen Emissions and their Applications in NDE of Engineering Materials	Gajanan Prabhu Gaonkar	IIT GOA, India	11:30-12:00
CP 222	Analysis of Weld Defects in Ultra High strength steels using Magnetic Particle Testing	Mallu Venkata Reddy	DRDL, Hyderabad, India	12:00-12:20
CP 117	Electromagnetic Evaluation of Residual Stress in Bearings	Ashis Kumar Panda	CSIR-NML, Jamshedpur, India	12:20-12:40
CP 262	Magnetization Study of the Sensitization in SS304LN	Murthy GVS	CSIR-NML, Jamshedpur, India	12:40-13:00

Day 2: Dec. 15, 2017 Session 3D: Multi NDE and Data Fusion, 11:00 – 13:00 hrs**Chairperson: Przemyslaw Lopato**

Paper No	Title of Talk	Authors	Institution	Time
IT 22	IOT and NDE	B. Venkataraman	IGCAR, Kalpakkam, T.N., India	11:00-11:30
IT 11	A machine-learning based data fusion approach for improved corrosion damage monitoring	Christoph Volker	TNO, Netherlands	11:30-12:00
CP 282	Debond Detection In Strap On Motor Segments At Interface Of Motorcase And Rocasin Insulation Using Radiography And Ut Methods: A Case Study	Girish N Namboodiri	Vikram Sarabhai Space Centre, Thiruvananthapuram	12:00-12:20
CP 178	Overview of different applications of a data fusion classifier to enhance NDT reliability of inspection	Valerie Kaftandjian	INSA-Lyon Laboratoire Vibrations et Acoustique, France	12:20-12:40
CP 91	Probability of detection studies of multi-NDE techniques for detection of flaws in small diameter tubes	W. Sharatchandra Singh	NDE Division, IGCAR, Kalpakkam, T.N., India	12:40-13:00

Day 2: Dec. 15, 2017 Session 3E: NDE for Concrete-1, 11:00 – 13:00 hrs

Chairperson: Abhijit Mukherjee

Paper No	Title of Talk	Authors	Institution	Time
IT 27	Basic principles and practical application of ultrasonic tomography of concrete structures	Andrey Bulavinov	Acoustic Control Systems – ACS-Group, Moscow, Russia	11:00-11:30
IT 13	Large scale reinforced concrete test specimen for potential mapping under practical conditions	Gino Ebell	BAM Berlin, Germany	11:30-12:00
CP 68	A study on the applicability of cover meter and GPR survey for cover thickness and rebar identification in reinforced concrete structures	Bhaskar, S.	CSIR-Structural Engineering Research Centre (SERC), Chennai, India	12:00-12:20
CP 84	Combination of thermal and ultrasonic imaging techniques for detection of sub-surface defects in concrete	Debdutta Ghosh	CSIR - Central Building Research Institute, Roorkee, India	12:20-12:40
CP 226	Contactless ultrasonic imaging of microcracked polymer concrete	Bentahar Mourad	Laboratoire d'Acoustique de l'Université du Maine (LAUM), France	12:40-13:00

Day 2: Dec. 15, 2017 Session 3F: GE Special Session: Advanced NDE for Industrial Corrosion Applications, 11:00 – 13:00 hrs

Paper No	Title of Talk	Authors	Institution	Time
IT GESS1	State of art technologies for corrosion inspection	Jim Costain	Eddyfi, Canada	11:00-11:30
IT GESS2	Corrosion monitoring/inspection -Challenges, Issues and Technology gaps from service industries perspective	Pratik Chinchmalatpure	NDTS, Chennai, T.N., India	11:30-12:00
ITGESS3	Installed sensors for corrosion/monitoring inspection	Dionys van de Ven	BHGE, Texas, USA	12:00-12:30
<p style="text-align: center;">Panel Discussion on “Next generation NDE for Corrosion” moderated by Debasish Mishra, GE Global Research</p>				12:30-13:00

Technical Session - 4

Day 2: Dec. 15, 2017 Session 4A: Phased Array & TOFD - 2, 14:00 – 15:30 hrs

Chairperson: Etienne Martin

Paper No	Title of Talk	Authors	Institution	Time
IT 3	Scattering of elastic waves: from defect localisation to quantitative defect characterisation	Alexander Velichko	University of Bristol, UK	14:00-14:30
CP 23	Detection of Transverse Re-heat Cracks in CrMoV vessels by using TOFD Technique	Mitesh Kumar M Panchal	HEISCO	14:30-14:50
CP 36	Total Focusing Method (TFM) for Automated Pipeline Girthweld Inspection	Remi Lallement	Advanced OEM Solutions	14:50-15:10
CP 89	Focused-Time of Flight Diffraction (TOFD) ultrasonic imaging	Sumana	Metallurgy and Materials Group, IGCAR, Kalpakkam, T.N., India	15:10-15:30

Day 2: Dec. 15, 2017 Session 4B: Industrial Radiography - 1, 14:00 – 15:30 hrs

Chairperson: V. Manoharan

Paper No	Title of Talk	Authors	Institution	Time
IT 26	Ultra-Compact Synchrotron Systems for X-ray NDT	Hironari Yamada & K. Subramanian	Powergear Limited, Chennai, India	14:00-14:30
CP 143	Radiographic examination of complex forged fittings	M V Kuppusamy	IGCAR, Kalpakkam, T.N., India	14:30-14:50
CP 284	Non Destructive Evaluation Of Surface Tears On Solid Propellant Motors Using Radiography	Moideenkutty K K	ISRO - Vikram Sarabhai Space Centre, Thiruvananthapuram, India	14:50-15:10
CP 197	A study on the effect of different recording mediums (films) using Conventional X ray system on thin webbed pyrogen igniters of SRM's	Madheswaran G	ISRO - Vikram Sarabhai Space Centre, Thiruvananthapuram, India	15:10-15:30

Day 2: Dec. 15, 2017 Session 4C: Infrared Thermography - 2, 14:00 – 15:30 hrs

Chairperson: Philipp Myrach

Paper No	Title of Talk	Authors	Institution	Time
IT 15	The chosen aspects of numerical modelling in active IR thermography	Barbara Szymanik	ZUT, Poland	14:00-14:30
CP 15	In-situ measurement of thermal diffusivity of composites by thermography	A.O. Siddiqui	DRDO Advanced Systems Laboratory, Kanchanbagh, Hyderabad, India	14:30-14:50
CP 191	Thermography in Ocular Surface Temperature measurement	C.Bhuvaneshwari	IGCAR, Kalpakkam, T.N., India	14:50-15:10
CP 193	LED optical excitation for infrared thermography	S.Kumar	IGCAR, Kalpakkam, T.N., India	15:10-15:30

Day 2: Dec. 15, 2017 Session 4D: Modelling and Simulation - 2, 14:00 – 15:40 hrs

Chairperson: C.V. Krishnamurthy

Paper No	Title of Talk	Authors	Institution	Time
IT 7	NDE Simulation Tools for NASA Missions	Cara Leckey	NASA Langley Research Center, USA	14:00-14:30
IT 8	Guided Waves for Quantitative Wall Thickness Measurements	Arno Volker	TNO, Netherlands	14:30-15:00
CP 148	3D Finite Element Modeling of Ultrasonic Guided Wave Interaction with Bonded Stiffeners and Disbonds in Composite Structures	Rabi Sankar Panda	IITM, Chennai, T.N., India	15:00-15:20
CP 155	Finite difference time domain modelling of elastic wave scattering within a polycrystalline material	Shivaprasad S	IITM, Chennai, T.N., India	15:20-15:40

Day 2: Dec. 15, 2017 Session 4E: Robotics and Automation, 14:00 – 15:30 hrs

Chairperson: Takahiro Hayashi

Paper No	Title of Talk	Authors	Institution	Time
IT 36	Robotic inspection of stainless steel vessels with SH waves from EMATs	Cliff. J. Lissenden	Pennsylvania State University, USA	14:00-14:30
CP 233	Robotized X-ray Computed Tomography for large components inspection	Samuel Legoupil	CEA List, France	14:30-14:50
CP 290	Robotic inline inspection and leak detection system for oil and gas pipelines	Ramineni Ajayraj	IITM, Chennai, T.N., India	14:50-15:10
CP 54	Need for Robotic System in Non-destructive Testing Applications	Vengatesan G.	Aitech Robotics and Automation Pte. Ltd.	15:10-15:30

Day 2: Dec. 15, 2017 Session 4F: Imaging in NDE-2, 14: 00 – 15:40 hrs

Chairperson: Andrey Bulavinov

Paper No	Title of Talk	Authors	Institution	Time
IT 21	Full-depth focused ultrasonic imaging	Anish Kumar	IGCAR Kalpakkam, T.N., India	14:00-14:30
IT 25	High-Speed Visualization of Aluminum Nanopowder Combustion in Air	Fedor A. Gubarev	Tomsk Polytechnic University, Russia	14:30-15:00
CP 93	Development of an Ultrasonic System for C-Scan of Aircraft Carbon Fibre Composite Components	Prashanth G	Tata Advanced Materials Limited, India	15:00-15:20
CP 59	Quantitative Quadratic Frequency Modulated Thermal Wave Imaging	Ghali Venkata Subbarao	K L University, India	15:20-15:40

Day 2: Dec. 15, 2017 Session 4G: Special Session by French Embassy 'NDE Education and Research: opportunities for Indo-French cooperation'

14:00 – 15:15 hrs

Chairperson: Rachid El Guerjouma (NDE Academy, Université du Mans)

- Meeting with student delegates highlighting NDE jobs & research opportunities
- Participants: Students, French & Indian Higher Education institutions

Technical Session - 5

Day 2: Dec. 15, 2017 Session 5A: Guided Waves-1, 16:00– 17:40 hrs

Chairperson: Anish Kumar

Paper No	Title of Talk	Authors	Institution	Time
IT 46	Hidden Corrosion Imaging using Higher Order Guided Wave Modes	KS Venkataraman Krishnan Balasubramaniam	IITM, Escon Technologies Pte Ltd., Dhvani Research and Development Solutions Pvt Ltd	16:00-16:30
IT 31	Defect monitoring using high frequency guided ultrasonic waves	Paul Fromme	University College London, UK	16:30-17:00
CP 62	Lamb Wave Dispersion in Composite Laminates - A Mathematical Model	Gowrishankar Wuri	DRDO, Advanced Systems Laboratory, Hyderabad, India	17:00-17:20
CP 75	Characterization of Damages in Airframe Materials with Lamb Wave Velocity Mapping	Kshama	Structural Technologies Division, CSIR-NAL Bangalore, India	17:20-17:40

Day 2: Dec. 15, 2017 Session 5B: Materials Characterization, 16:00– 17:40 hrs

Chairperson: Sarmishtha Palit Sagar

Paper No	Title of Talk	Authors	Institution	Time
IT 48	NDE of Heterogeneous Media: Role of Effective Medium Theories	C.V. Krishnamurthy	IITM, Chennai, T.N., India	16:00-16:30
IT 4	Positron Annihilation Spectroscopy for creep damage assessment	Manoharan V	GE Global Research, India	16:30-17:00
CP 106	Residual stress assessment in ferritic steel weld joints by X-ray diffraction and ultrasonic LCR wave methods	S Arunkumar	NDE Division, IGCAR, Kalpakkam, T.N., India	17:00-17:20
CP 286	Inducing localized creep damage in modified 9Cr-1Mo steel and its detection using ultrasonic techniques	Harendra Kumar	Brunel University London, TWI Ltd., & National Structural Integrity Research Centre, UK	17:20-17:40

Day 2: Dec. 15, 2017 Session 5C: NDE for Nuclear, 16:00 – 17:30 hrs

Chairperson: BK Shah

Paper No	Title of Talk	Authors	Institution	Time
IT 41	Recent Advances in Sensors for NDE of Nuclear Power Components	Pradeep Ramuhalli	Pacific Northwest National Laboratory, USA	16:00-16:30
CP 113	Qualification of spare FBTR Steam Generator module	E Ramesh	DAE-IGCAR, Kalpakkam, T.N., India	16:30-16:50
CP 192	Development of condition monitoring system for first shutdown system of Indian FBRs	Sudheer Patri	DAE-IGCAR, Kalpakkam, T.N., India	16:50-17:10
CP 259	Non-destructive evaluation of lead shielding boxes of Primary Sodium Purification Cold Trap cells of PFBR by Gamma Radiometry	S.Viswanathan	DAE-IGCAR, Kalpakkam, T.N., India	17:10-17:30

Day 2: Dec. 15, 2017 Session 5D: Emerging Technologies, 16:00 – 17:30 hrs

Chairperson: Cliff. J. Lissenden

Paper No	Title of Talk	Authors	Institution	Time
IT 14	An Overview of NDE for Additive Manufacturing	M.T. Shyamsunder	GE Bangalore, India	16:00-16:25
IT 30	Challenges in the application of NDT&E techniques for Additive Manufacturing Processes	Suresh Palanisamy	Swinburne University of Technology, Australia	16:25-16:50
CP 125	Quality Assessment of Dissimilar Material Welds: A Non-destructive Approach	Arpita Ghosh	NDE & MM Group, CSIR NML Jamshedpur, India	16:50-17:10
CP 122	On The Feasibility of Non-Gaussian Statistics in Determination of Probability of Detection (PoD) Curves	Mohamed Subair Syed Akbar Ali	Indian Institute of Technology Madras	17:10-17:30

Day 2: Dec. 15, 2017 Session 5E: Quality Control and Quality Assurance,

16:00 – 17:30 hrs

Chairperson: RJ Pardikar

Paper No	Title of Talk	Authors	Institution	Time
IT 23	Recent Advances in NDT and Quality Assurance of Stainless Steel Welds	B.P.C Rao	IGCAR, Kalpakkam, T.N., India	16:00-16:30
CP 229	Review of changes in ASME Section V (NDE) Edition 2017	Diwakar Damodar Joshi	Insight Quality Services	16:30-16:50
CP 146	Evolution of comprehensive field quality assurance plan for fabrication of leak tight glove-boxes	Shrikrishna Tripathi	IGCAR, Kalpakkam, T.N., India	16:50-17:10
CP 208	Development of Leak Testing Technique for Qualification of Containment Boxes	N. Raghu	IGCAR, Kalpakkam, T.N., India	17:10-17:30

Day 2: Dec. 15, 2017 Session 5F: NDE for Concrete - 2, 16:00 – 17:30 hrs

Chairperson: Gino Ebel

Paper No	Title of Talk	Authors	Institution	Time
IT 33	Wave Technologies in Monitoring Damage and Healing of Built Infrastructure	Abhijit Mukherjee	Curtin University, Australia	16:00-16:30
CP 223	Structural integrity assessment of a prestressed concrete in-service railway bridge	B Arun Sundaram	CSIR-Structural Engineering Research Centre, Chennai, India	16:30-16:50
CP 6	Damage Evaluation in Concrete using Ultrasonic Method in Indirect Transmission Mode	Athira Surendran	L&T Construction & Dept. of Civil Engineering, IITM, Chennai, TN. India	16:50-17:10
CP 17	Acoustic emission characteristics and crack classification in uni-axially stressed cementitious materials	R. Vidya Sagar	Indian Institute of Science Bangalore, India	17:10-17:30

Technical Session - 6

Day 3: Dec. 16, 2017 Session 6A: Phased Array & TOFD-3, 09:00-10:40 hrs

Chairperson: Adam Cobb

Paper No	Title of Talk	Authors	Institution	Time
CP 287	Phased Array Ultrasonic Inspection of Nozzles	C Carpentier	TWI Ltd UK & National Structural Integrity Research Centre, UK	09:00-09:20
CP 35	Innovations in Phased Array Ultrasound: Full Matrix Capture and the Total Focusing Method	Remi Lallement	Advanced OEM Solutions	09:20-09:40
CP 136	The Phased array advantage of Ultrasonic scanning of Rocket Motor Cases of Indian Satellite Launch Vehicles	G. Raju	ISRO Vikram Sarabhai Space Centre, Thiruvananthapuram, India	09:40-10:00
CP 238	Phased Array Ultrasonic Inspection for Aerospace applications	Premakumar M	Advanced Systems Laboratory, DRDO, Hyderabad India	10:00-10:20
CP 41	PAUT and TOFD in Lieu of RT	Arun Naik	NDTS India (P) Limited, Navi Mumbai, India	10:20-10:40

Day 3: Dec. 16, 2017 Session 6B: Industrial Radiography-2, 09:00-10:40 hrs

Chairperson: Hironari Yamada

Paper No	Title of Talk	Authors	Institution	Time
CP 283	Fault Rectification And Preventive Maintenance of 6 Mev Linear Accelerator In Rocket Propellant Plant: Case Studies	Ajayan K C	ISRO Vikram Sarabhai Space Centre, Thiruvananthapuram, India	09:00-09:20
CP 269	Enhancing Site Radiography by SafeRad	Niyant Mehta	Larsen & Toubro Heavy Engineering LLC, India	09:20-09:40
CP 97	X-ray Radiography studies for detection of sodium voids in annular gap of Metallic fuel pins	T Saravanan	NDE Division, IGCAR Kalpakkam, TN, India	09:40-10:00
CP 115	Radiation Safety Aspects in High Energy Accelerator Based Container Scanners	Alok Pandey	Atomic Energy Regulatory Board, Mumbai, India	10:00-10:20
CP 225	Neutron Radiography examination of advanced fast reactor fuels	V.Anandaraj	IGCAR Kalpakkam, TN, India	10:20-10:40

Day 3: Dec. 16, 2017 Session 6C: Eddy Current Testing-1, 09:00-10:30 hrs**Chairperson: Amitava Mitra**

Paper No	Title of Talk	Authors	Institution	Time
IT 47	On numerical modelling of eddy current probe for non-destructive testing	Kavitha Arunachalam	IITM, Chennai, T.N., India	09:00-09:30
CP 80	Capability demonstration of an eddy current array probe (SMX) for the inspection of steam generators in EDF nuclear power plants	Chiara Zorni	EDF - Electricité de France	09:30-09:50
CP 265	Pulsed Eddy Current Reinvented	Karthik Radhakrishnan/ Jim Costain	Eddyfi, Canada	09:50-10:10
CP 95	Reliable depth estimation of flaw using sweep frequency eddy current technique	Sasi Balakrishnan	IGCAR Kalpakkam, TN, India	10:10-10:30

Day 3: Dec. 16, 2017 Session 6D: Sensors and Instrumentation-2, 09:00-10:30 hrs**Chairperson: M.T. Shyamsunder**

Paper No	Title of Talk	Authors	Institution	Time
IT 37	3D printed photonic micro-ring Ultrasound sensors for Structural Health Monitoring	Sridhar Krishnaswamy	Northwestern University, USA	09:00-09:30
CP 133	Performance Level evaluation of CR-System as an alternative to conventional X-ray Film radiography for High energy radiography applications	Mahendra Kumar Bhatt	DRDO Jagdalpur, Ministry of Defence, India	09:30-09:50
CP 163	Development of Sensor Module for Detection of Internal Corrosion in Steel Petroleum Pipelines	Q. M. Amir	Indian Oil Corporation Ltd, R & Centre, India	09:50-10:10
CP 221	Spatial Impulse Method for Circular Probes: A Fast Algorithm	Satheesh Jeyaraman	GE Global Research, Bangalore, India	10:10-10:30

Day 3: Dec. 16, 2017 Session 6E: NDE for Composites-1, 09:00 - 10:30 hrs

Chairperson: Mahmoodul Haq

Paper No	Title of Talk	Authors	Institution	Time
IT 2	Integrated CAD and Structural Analysis of Composites with Defects	Adarsh Krishnamurthy	Iowa State University, USA	09:00-09:30
CP 50	Microwave NDE of Glass-Epoxy composite laminate using Open-ended wave guide probe	Srinivas Kuchipudi	Advanced Systems Laboratory, DRDO, Hyderabad, India	09:30-09:50
CP 51	NDE of Elastomers and bonded interfaces using single sided solid state proton NMR	Srinivas Kuchipudi	Advanced Systems Laboratory, DRDO, Hyderabad, India	09:50-10:10
CP 154	Quality Evaluation of Composite Pressure Vessels - An Integrated NDT Approach	Malolan Vasudevan	Advanced Systems Laboratory, DRDO, Hyderabad, India	10:10-10:30

Day 3: Dec. 16, 2017 Session 6F: Acoustic Emission, 09:00 - 10:30 hrs

Chairperson: C.K. Mukhopadhyay

Paper No	Title of Talk	Authors	Institution	Time
IT 46	Calibration, Standardization and Characterization of Weldments by Acoustic Emission Signal Processing	S.V. Ranganayakulu	Guru Nanak Institutions Technical Campus	09:00-09:30
CP 99	Parameter analysis of acoustic emission signals for characterizing damage and crack growth in concrete	Chandan K. Bhagat	IGCAR Kalpakkam, TN, India	09:30-09:50
CP 239	Evaluation of stages of Fatigue Damages in Riveted Joints with Acoustic Emission Approximate Entropy Approach	S.Kalyana Sundaram	CSIR-NAL Bangalore, India	09:50-10:10
CP 240	Acoustic emission signal characterization during the failure of Honeycomb sandwich panels	Binu. B	Vikram Sarabhai Space Centre (VSSC)/ ISRO, Thiruvananthapuram, India	10:10-10:30

Technical Session - 7

Day 3: Dec. 16, 2017 Session 7A: Industrial Ultrasonics, 11:00 – 13:00 hrs

Chairperson: Alexander Velichko

Paper No	Title of Talk	Authors	Institution	Time
IT 17	New Calibration blocks needed in weld examination to compensate the amplitude gap between diffraction/reflection on planar flaws at different angle	Giuseppe Nardoni	I & T Nardoni Institute, Brescia, Italy	11:00-11:30
IT 19	Recent advances in the science and applications of laser ultrasonics	Marvin Klein	Intelligent Optical Systems, USA	11:30-12:00
CP 207	Assessment of real-time adaptive methods for ultrasonic inspection of complex components	François Cartier	CEA List - NDT Department, France	12:00-12:20
CP 172	Characterization of Thermal Barrier Coating using ultrasonic technique	Sony Punnose	DRDO-DMRL Hyderabad, India	12:20-12:40
CP 288	Ultrasonic Inspection for Stress Corrosion Cracking in Weld Overlay Cladding	A Dias	TWI Ltd, UK & Federal University of Rio Grande do Sul, Brazil	12:40-13:00

Day 3: Dec. 16, 2017 Session 7B: Computed Radiography-1, 11:00 – 13:00 hrs

Chairperson: Debasish Mishra

Paper No	Title of Talk	Authors	Institution	Time
CP 144	Digital Industrial radiography of rolled & welded SS 304L pipes	C B Rajeev	IGCAR, Kalpakkam, T.N., India	11:00-11:20
CP 47	Practical Application of Computed Radiography in Refinery	Sangili Gunasekaran	HEISCO	11:20-11:40
CP 96	Real-time X-ray Radiography studies on dispersion behavior of Nickel nanoparticles in sodium	Dr T Saravanan	NDE Division, IGCAR, Kalpakkam, T.N., India	11:40-12:00
CP 270	Transition from conventional to Computed Radiography	Krishna Bhuta & Jawahar B Goradia	Topax NDT Solutions LLP	12:00-12:20
CP 279	Assisted and Automated Defect Recognition (ADR) for Digital Radiographic Inspection of Propellant Grain	Bikash Ghose	HEMRL, DRDO, India	12:20-12:40
CP 29	Evaluation of Megavoltage Industrial Computed Radiographs	Lakshminarayana Yenumula	Bhabha Atomic Research Centre, Mumbai, India	12:40-13:00

Day 3: Dec. 16, 2017 Session 7C: NDE for Composites-2, 11:00 – 13:00 hrs

Chairperson: Adarsh Krishnamurthy

Paper No	Title of Talk	Authors	Institution	Time
IT 29	NDE Challenges and Applications in Multi-material Joining	Mahmoodul Haq	Michigan State University, USA	11:00-11:20
CP 52	Bond-quality Inspection of adhesively bonded rubber- Composite interface using low heat flux transient thermography	Srinivas Kuchipudi	Advanced Systems Laboratory, DRDO, Hyderabad India	11:20-11:40
CP 264	Experimental Measurements on Attenuation of Bulk Wave in 6, 6 Nanofiber Interleaved Composite Laminates	Ramadas Chennamsetti	R&DE(E), DRDO, Pune, India	11:40-12:00
CP 198	Development of Non-Destructive Test methodologies for mechanical characterization of Composite materials	Madheswaran G	VSSC/ISRO & NIT, Trichy, India	12:00-12:20
CP 231	Quantitative NDT of Metallic Honeycomb Sandwich Structures Using Fokker Bond Tester	Atul Kumar	Vikram Sarabhai Space Centre, ISRO, Thiruvananthapuram, India	12:20-12:40
CP 256	NDE of Composite brake lining to prevent scoring	Dinesh Gupta	Satyakiran Engineers Private Limited	12:40-13:00

Day 3: Dec. 16, 2017 Session 7D: Guided Waves - 2, 11:00 – 13:20 hrs**Chairperson: Paul Fromme**

Paper No	Title of Talk	Authors	Institution	Time
IT 16	Inspection of thick wall vessels using guided waves	Adam Cobb	I & T Nardoni Institute, Brescia, Italy	11:00-11:30
IT 49	Guided wave testing and monitoring over long and short ranges	David Alleyne	Guided Ultrasonics Limited, UK	11:30-12:00
CP 266	Damage detection in beam structures using guided waves	Suvarna Rode	Fr. C. Rodrigues Institute of Technology, India	12:00-12:20
CP 285	Ultrasonic Wave Guide for NDE of Solid Rockets - Development & Application	Sekhar Natraj	Systems Reliability Entity, VSSC, ISRO	12:20-12:40
CP 164	Evaluation of ratcheting fatigue by ultrasonic Lamb wave mixing	Avijit Kumar Metya	CSIR- NML Jamshedpur, India	12:40-13:00
CP 255	Distributed Temperature and Fluid Level Measurements using Ultrasonic Spiral Waveguide	Suresh P	IITM, Chennai, TN, India	13:00-13:20

Day 3: Dec. 16, 2017 Session 7E: In-service Inspection, Condition Monitoring and Life Assessment, 11:00 – 13:10 hrs**Chairperson: S.V. Ranganayakulu**

Paper No	Title of Talk	Authors	Institution	Time
IT 43	Advanced inspection techniques used at refinery and Petrochemical complex	Hemant Kumar	Reliance Industries Limited	11:00-11:30
CP 141	Failure analysis of amine re-claimer tube bundle in Amine Treatment Unit of Panipat Naphtha Cracker -A Case Study	Kuldeep Meena	IOCL, India	11:30-11:50
CP 45	Convection zone health monitoring using Remote Visual Inspection	Savio Rebello	Reliance Industries Limited	12:50-12:10
CP 232	Hydroelectric Aged pen stock material condition assessment	Kishore kumar. G	Central Power Research Institute, India	12:10-12:30
CP 289	Residual Life Assessment Of Reformer Tubes	Bashisth Singh	Premier Inspection & Certification Bureau , CBD-Belapur, India	12:30-12:50
CP 22	Development of Indigenous Ultrasonic Data Acquisition and Recording System for ISI of Pressure Tubes of PHWR.	Sourabh Moitra	Bhabha Atomic Research Centre (BARC), Mumbai, India	12:50-13:10

Day 3: Dec. 16, 2017 Session 7F: Research, Training and Certification in NDT

11:00 – 13:10 hrs

Chairperson: T. Lognathan

Paper No	Title of Talk	Authors	Institution	Time
IT 18	The role of Non-Destructive Testing (NDT) and entry challenges in development of a sustainable infrastructure in Kenya	Michael J. Gatari	University of Nairobi, Kenya	11:00-11:30
CP 228	Developing Training Activity to meet ISO 9712 Standard Requirements	Diwakar Damodar Joshi	Insight Quality Services	11:30-11:50
CP 121	NDT Training in the Virtual World	Neil Harrap	TWI Ltd, UK	12:50-12:10
CP 257	Fastworks approach in NDE Research- An experience of Industry and Research Institute in collaborative effort	V.Manoharan	GE Global Research, Reliance Industries Limited	12:10-12:30
CP 130	Harmonization in NDE Certification Industry	Dharmveer Singh	GE Power India Limited	12:30-12:50
CP111	Challenges In NDT	Pratik Chinchmalatpure	NDTS INDIA (P) Ltd.	12:50-13:10

Technical Session - 8

Day 3: Dec. 16, 2017 Session 8A: Industrial Ultrasonics-2, 14:00 – 15:30 hrs

Chairperson: Giuseppe Nardoni

Paper No	Title of Talk	Authors	Institution	Time
CP 31	The quantification of surface acoustic waves generated using compressional probes on perspex wedges	Ike Sikakana	Vaal Univeristy of Technology, South Africa	14:00-14:20
CP 119	Manufacturing & qualification of different types of ultrasonic examination reference calibration blocks	Ashutosh Singh	L&T Special Steels and Heavy Forgings, India	14:18-14:40
CP 244	Challenges for Ultrasonic examination of critical, low alloy carbon steel, heavy, hollow forging Flywheel for Nuclear application with OD/ID ratio more than 2 & solutions.	J.K. Jain	NPCIL, India	14:40-15:00
CP292	NDT Methods to determine the integrity of ultrasonic welds for Lithium – ion battery tabs	Harikrishnan Ravichandran	IITM, Chennai, T.N., India	15:00-15:20
CP293	In house process development for making blind test competent NDE personnel	Gopala Selva Kumar	L&T Heavy Engineering, Gujarat, India	15:20-15:40

Day 3: Dec. 16, 2017 Session 8B: Computed Radiography-2, 14:00– 15:40 hrs**Chairperson: Bikash Ghose**

Paper No	Title of Talk	Authors	Institution	Time
CP 249	High energy Digital Radiography for In-service inspection of pressure vessels	V.Manoharan	GE Global Research, Reliance Industries Limited	14:00-14:20
CP 132	Evaluation of regression rate reliability of solid propellant grain by computed radiography	Mahendra Kumar Bhatt	DRDO Jagdalpur, Ministry of Defence, India	14:20-14:40
CP 206	Crack Detection Capability Comparison of computed Radiography and conventional Film Radiography	Arunan Radhakrishnan	Welding Research Institute, BHEL Trichy, India	14:40-15:00
CP 272	Non-Destructive Evaluation Utilizing Imaging Plates For Field Radiography Applications	Brian White	Carestream Health Inc.	15:00-15:20
CP 246	Accelerator Driven Digital Neutron Radiography	Katie Rittenhouse	Phoenix Nuclear Labs	15:20-15:40

Day 3: Dec. 16, 2017 Session 8C: Electromagnetic NDE-2. 14:00– 15:40 hrs**Chairperson: Kavitha Arunachalam**

Paper No	Title of Talk	Authors	Institution	Time
CP 280	Eddy Current Testing of Aluminum Finned Clad Tubes with Enhanced Flaw Detectability	Arbind Kumar	BARC	14:00-14:20
CP 128	Characterization of Isothermal Annealed IF steel through magnetic NDE techniques	Rajat K. Roy	CSIR-NML Jamshedpur, India	14:20-14:40
CP 100	In-situ evaluation of ferritic-martensitic steel plates using nondestructive magnetic Barkhausen emission (MBE) and hardness measurements	GVK Kishore	Metallurgy and Materials Group, IGCAR, Kalpakkam, TN. India	14:40-15:00
CP 21	Latest eddy current inspection technologies and inspection strategies	Ingo Becker	EC Works GmbH, Germany	15:00-15:20
CP 294	Non-destructive practical evaluation of “PROD based magnetic particle indications” of heat affected zone in austenitic grade material.	Dilip Kumar Singh	BHEL Trichy, India	15:20-15:40

Day 3: Dec. 16, 2017 Session 8D: Sensors and Instrumentation - 3, 14:00– 15:40 hrs**Chairperson: Marvin Klein**

Paper No	Title of Talk	Authors	Institution	Time
CP 82	Development of High Speed USB based GUI Application for Real time Ultrasonic Imaging System	Eaglekumar G. Tarpara	HomiBhabha National Institute, India	14:00-14:20
CP 202	Design, Development and Irradiation Testing of 3-Channel Preamplifier for Ultrasonic NDT	Shiv Kumar	Bhabha Atomic Research Centre-Trombay, India	14:20-14:40
CP 237	Development of ECT based Vessel Inspection System for TAPS-1&2 RPV Weld Joints	Mahesh Punna	Bhabha Atomic Research Centre, Mumbai, India	14:40-15:00
CP 230	Underwater Thickness Mapping of Metallic Structures Using a Submersible Remotely Operated Vehicle	Manas Galipalli	Planys Technologies & CNDE, IITM, India	15:00-15:20
CP 14	Detection of location and depth of crack in a rotor system using artificial neural network based on vibration analysis	Ansari Ali Imran Mohd Habib	FCRIT-VASHI, India	15:20-15:40

Day 3: Dec. 16, 2017 Session 8E: In-service Inspection and Aging management**14:00 – 15:40 hrs****Chairperson: Hemant Kumar**

Paper No	Title of Talk	Authors	Institution	Time
CP 49	Identification of leakage under insulation using NDT	Hussain Vasadwala	Gujarat Narmada Fertilisers And Chemicals Limited, India	14:00-14:20
CP 102	Ultrasonic glancing angle imaging methodology for estimation of sub-assembly protrusion in fast breeder reactors	G.M.S.K. Chaitanya	Metallurgy and Materials Group, IGCAR, Kalpakkam, TN, India	14:20-14:40
CP 55	Damage Assessment by Destructive and non-destructive methods and novel rehabilitation method	K.N. Lakshmikandhan	CSIR-SERC Chennai, TN, India	14:40-15:00
CP 153	Evaluation of integrity of aged pen stock supporting structure in hydroelectric generating stations	Janardhana. M	Central Power Research Institute, Bangalore, India	15:00-15:20
CP 42	Cross-country water pipeline leak detection	Savio Rebello	Reliance Industries Limited, India	15:20-15:40

Day 3: Dec. 16, 2017, 16:00 – 17:00 hrs: Valedictory Function