

| 13.45-15.45 | | Parallel Session – 1A | 23.08.2023 |
|---|--|-----------------------|------------|
| Design Aspects on Deformation and Failure | | | |
| Session Chair: U. Parthasarathy | | | |
| Invited Talk | Thermal Hydraulic aspects Governing the Structural Design of FBR Components U. Parthasarathy, <i>Indira Gandhi Centre for Atomic Research, Kalpakkam</i> | | |
| IC2023025 | Direct Displacement-Based Design Approach on LRB installed RC Frame, Channabasaveshwar Chikmath, <i>Chikmath Channabasaveshwar, Sandip A. Vasanwala.</i> <i>Sardar Vallabhbhai National Institute of Technology, Surat.</i> | | |
| IC2023061 | TZM Alloy Job Carrier for High Temperature Vacuum Furnace, Abhimanyu Bhardwaj, <i>S. Singh, A.P.Singh, A.S. Padiyar, N.S. Yadav, Abhay Kumar G. Mundra.</i> <i>Raja Ramanna Centre for Advanced Technology, Indore.</i> | | |
| IC2023190 | A new approach to evaluate Ramberg-Osgood parameters for SS316LN using different types of specimens, Sanjay Pandey, <i>M.K.Samal, Sajish S.D.</i> <i>Homi Bhabha National Institute, Mumbai.</i> | | |
| IC2023223 | Operating Experience of Snubbers in Indian Pressurized Heavy Water Reactors, Rahul Mittal, <i>H. K. Sonar , Lalit Sharma , A. Sharma , Braham Parkash.</i> <i>Nuclear Power Corporation of India Ltd., Mumbai.</i> | | |
| IC2023265 | Nuclear End-Shield Transportation using Rotating Fixture- an Engineering Innovation, Vikram Sehgal, <i>Dipesh Goyal, Rajesh Nakarani.</i> <i>Nuclear Power Plant Equipment Business Unit, L&T-HE, Hazira.</i> | | |

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| 13.45-15.45 | | Parallel Session – 1B | 23.08.2023 |
| Experimental Studies on Deformation and Failure | | | |
| Session Chair: Krishna N. Jonnalagadda | | | |
| Invited Talk | Fracture Toughness of Freestanding Plasma Sprayed Yttria Stabilized Zirconia Coatings via In Situ Tensile Experiments Krishna N. Jonnalagadda, IIT Bombay, Mumbai | | |
| IC2023197 | Fatigue Crack Initiation on Prototype Pipe Bends, Suresh Kumar R, B. K. Nashine . <i>Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |
| IC2023083a | Effect of Hydride Morphology on Fracture Behaviour of Zr-2.5%Nb Pressure Tube Material, Rishi Kumar Sharma, A. Gopalan, R.N. Singh, D. Bhachawat, and S.M. Ingole . <i>Nuclear Power Corporation of India Limited, Mumbai.</i> | | |
| IC2023104 | Evaluation of fracture resistance behavior of Alloy 690 material upto 1000°C, Pankaj Kumar Sharma, M. K. Samal, A. Syed, J. Chattopadhyay. <i>Homi Bhabha National Institute, Mumbai.</i> | | |
| IC2023187 | Fracture investigation at 300°C on carbon-steel and stainless-steel pipes of NPPs under cyclic loads, M.K. Sahu, S.K. Gupta, Suranjit Kumar, P.K. Singh, M. Saravanan, S. Vishnuvardhan, A. Ramachandra Murthy, S. Parivallal. <i>Bhabha Atomic Research Centre, Mumbai.</i> | | |
| IC2023323 | Use of Small punch test for evaluating tensile properties of neutron irradiated steels, Aishwary Vardhan Pandey, V. Karthik , Shaik Abdul Rahman, Ashish Kolhatkar, Divakar R. <i>Homi Bhabha National Institute (HBNI), Kalpakkam.</i> | | |

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| 13.45-15.45 | | Parallel Session – 1C | 23.08.2023 |
| Deformation and Failure aspects of Nuclear Materials | | | |
| Session Chair: S.K. Acharyya | | | |
| Invited Talk | Study on Master curve in Ductile to Brittle Transition Temperature for the 20Mn Mo Ni55 steel - Experiment and Simulation S.K. Acharyya, Jadavpur University, Kolkata | | |
| IC2023116 | Transferability of Crack Growth Resistance Curves from Cruciform Bend Specimens to Reactor Pressure Vessel, Thamaraiselvi Kumaresan, S. Vishnuvardhan. <i>Academy of Scientific and Innovative Research (AcSIR), Ghaziabad.</i> | | |
| IC2023213a | Study of Mechanical Properties of RPV Base and Weld Material Using SPT Technique, Priti Kotak Shah, Ganesh Nigudage, J. S. Dubey, P. P. Nanekar and Vivek Bhasin. <i>Bhabha Atomic Research Centre, Mumbai</i> | | |
| IC2023322 | Embrittlement of Cr-Mo-V-Ni steel for reactor pressure vessel applications under in-situ hydrogen electrochemical charging, Gopal Sanyal, Arpan Das, Shreyas Wankhede, Chiradeep Gupta, Ram Niwas Singh. <i>Bhabha Atomic Research Centre, Mumbai.</i> | | |
| IC2023316 | Novel use of three-point bend test for determining the threshold stress for hydride reorientation in Zr-2.5Nb pressure tube material, Narayana Murthy Thatavarthi, Smit Patil, A.Sarkar, R.N.Singh. <i>Bhabha Atomic Research Division, Mumbai</i> | | |
| IC2023349 | Effect of Strength on the Fracture Behavior of Zr Alloys Containing Radial Hydrides, Arvind Kumar Bind, Avinash G., Saurav Sunil, R. N. Singh. <i>Bhabha Atomic Research Division, Mumbai</i> | | |

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| 13:45-15.45 | | Parallel Session – 1D | 23.08.2023 |
| Computational Fracture Mechanics | | | |
| Session Chair: Shyam M. Keralavarma | | | |
| Invited Talk | Recent advances in the local approach to ductile fracture Shyam M. Keralavarma, IIT Madras, Chennai | | |
| IC2023046 | Simulation of crack propagation in piping components using phase field approach, Nitin Khandelwal , A. Ramachandra Murthy, S. Vishnuvardhan, M. Saravanan . CSIR-Structural Engineering Research Centre, Taramani, Chennai. | | |
| IC2023102 | Shape and Distribution Effect of Secondary Void on the Path Followed by Ductile Crack, Alok Dwivedi, I. A. Khan, J. Chattopadhyay . Homi Bhabha national institute, Mumbai. | | |
| IC2023183 | Microstructure-sensitive modelling of rate and temperature dependent fracture of metals and alloys, Akash Gupta , Aakash Chaudhary, Ushasi Roy . Department of Mechanical Engineering, IIT Kanpur. | | |
| IC2023269 | Numerical investigation on low velocity impact behavior of CFRP laminates, Rajagurunathan Madasamy , Raghu V. Prakash . Indian Institute of Technology Madras, Chennai. | | |
| IC2023305 | Effect of Damage Removal and Filling on Repair Efficiency of Patch Repaired Composite Laminates: A Numerical Study, A. M. Sreenath , Raghu V. Prakash . Mechanical Engineering Department, Indian Institute of Technology Madras, Chennai. | | |

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| 16.00-17.45 | | Parallel Session – 2A | 23.08.2023 |
| Welding and Residual Stress | | | |
| Session Chair: Richard Moat | | | |
| Invited Talk | Good Practice Residual Stress Characterisation of Complex Structures and Components Richard Moat, Open University, United Kingdom | | |
| IC2023242 | Methodology for predicting weld bead geometry in hot wire TIG welding based additive manufacturing, Krishna Kumar Yadav , Hemant Kumar, C. R. Das, K.G. Pradeep. Indira Gandhi Centre for Atomic Research, A CI of Homi Bhabha National Institute, Kalpakkam | | |
| IC2023020 | Effect of laser hardening and post hardening shot peening on residual stress evolution in X5CrNiCuNb16-4 steel for steam turbine blade applications, Pavan A.H.V , Somnath Nandi, Amit Kumar, M. Swamy. Bharat Heavy Electricals Limited, Vikasnagar, Hyderabad. | | |
| IC2023310 | Experimental and Numerical Analysis of Welding Thermal Cycles and Residual Stress in 316LN SS and Grade 91/316LN SS Weld Joints, Anoop Pillai , H. C. Dey, Jayadeep U.B., Vineesh K. P., D. Sharath, M. Menaka, S. Arun Kumar, S. Mahadevan, B. Venkatraman. National Institute of Technology, Calicut. | | |
| IC2023372 | Residual stress and Microstructural evolution of 18Ni Maraging Steel Weldment using ICME Approach, Vinoth Ammasi , Sridhar Rajagopalan . ESI Software India Pvt. Ltd, Bangalore. | | |
| IC2023233 | A study on the effect of weld repair on the structural margins of a solid rocket booster hardware Sreerag MN , Siva Kumar G, Kiran Kumar B , Thomas Kurian, Vinod Kumar N . VSSC/ISRO, Thiruvananthapuram. | | |

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| 16.00-17.45 | | Parallel Session – 2B | 23.08.2023 |
| Structural Integrity of Aerospace Components | | | |
| Session Chair: Benudhar Sahoo | | | |
| Invited Talk | Fatigue Failure of Aero-Engine Components Benudhar Sahoo, CEMILAC, Bangalore | | |
| IC2023037 | Sensitivity analysis of matrix decomposition in composite laminates under lightning strike through multi-physical finite element simulations Ravindra Singh Chahar, J. Lee, Tanmoy Mukhopadhyay. Indian Institute of Technology Kanpur. | | |
| IC2023065 | Damage Tolerance Behavior of Stiffened Crown Panel of a transport aircraft fuselage Mohan Kumar M, Srinivas Prabhu G. Structural Integrity Division, CSIR-National Aerospace Laboratories, Bangalore | | |
| IC2023157 | Modelling and Simulation of Wheel hub of an Aircraft Krishnalok Singh, Pratik Ramesh Sakpal, CSIR-National Aerospace Laboratories, Bengaluru. | | |
| IC2023244 | Enhancement of Damage Tolerance Capability of an Aircraft Wing Spar Subjected to mini-TWIST Spectrum Fatigue Loads M Mohan Kumar, CM Manjunatha , Raghu V Prakash. CSIR-National Aerospace Laboratories, Bangalore. | | Srinivasan N, N Nagarajappa, |
| IC2023302 | Thermo Structural Analysis of Nozzle Sub-assembly with Composite Liners for GAGANYAAN Mission, Arun Kumar M, Ajith M , Kiran Kumar B, Thomas Kurian,Vinod Kumar N . VSSC/ISRO, Thiruvananthapuram. | | |

| 16.00-17.45 | | Parallel Session – 2C | 23.08.2023 |
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| Deformation and Fracture of Novel & Advanced Materials | | | |
| Session Chair: R. Lakshmi Narayan | | | |
| Invited Talk | Fracture Toughness of Bulk Metallic Glass Composites with Ductile Reinforcements R. Lakshmi Narayan, IIT Delhi | | |
| IC2023029 | A defect-tolerant design approach to predict the tensile and fatigue performance of alloys with manufacturing defects, Surajit Kumar Paul, <i>Indian Institute of Technology Patna, Patna.</i> | | |
| IC2023081 | Fatigue Crack Growth Rate Behavior of a Additively Manufactured Nickle Based Superalloy, Anilchandra A.R., S Bharath Bhushan, N V Sreekanth, D Santhosh, J Sharana Basavaraja, Shylaja Srihari, C M Manjunatha. <i>B.M.S. College of Engineering, Bangalore.</i> | | |
| IC2023263 | Exploring the influence of deformation temperature on the microstructure of CoCrFeMnNi High Entropy Alloy, Rajasekhar Reddy Seelam, <i>VNIT Nagpur, Nagpur.</i> | | |
| IC2023051 | Effect of structural parameters on Collapse Modes of Aluminium Honeycomb core sandwich structure under bending test, Suresh Kumar J, Kalaichelvan. <i>College of Engineering/Anna University, Chennai.</i> | | |
| IC2023036 | Analytical Assessment of Composite L Angle Strength under Internal Fuel Pressure in Composite Wing, Amardeepa KCS, Polagangu James, Byji Varughese, <i>CSIR, National Aerospace Laboratories, Bangalore.</i> | | |

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| 16.00-17.45 | | Parallel Session – 2D | 23.08.2023 |
| Deformation and failure aspects of Engineering Components | | | |
| Session Chair: J. B. Singh | | | |
| Invited Talk | Fish-mouth failure of an ammonia cracker tube of Alloy 625 <i>J. B. Singh, BARC Mumbai</i> | | |
| IC2023040 | Determination of critical material damage parameter for Indian clad tube burst behavior under severe accident scenario, Ather Syed , M.K. Samal, J. Chattopadhyay. <i>Homi Bhabha National Institute, Mumbai.</i> | | |
| IC2023207 | Mechanical Behavior of Advanced Steam Generator Tubes under U-Bend Fabrication, Krishnendu Pal , R Suresh Kumar, N. Harsha. <i>Nuclear Fuel Complex, Hyderabad.</i> | | |
| IC2023172 | An assessment of delayed hydride cracking initiation in PHWR pressure tubes using in-house ZIPTAS code, Deeprodyuti Sen , I.A.Khan, R.Rastogi, J.Chattopadhyay. <i>Bhabha Atomic Research Centre, Mumbai,</i> | | |
| IC2023113 | Fitness for Service of a Mounded Vessel with Laminations in Construction Plates, Pradeep Appaji Jadhav , Rohit Rastogi. <i>Bhabha Atomic Research Centre, Mumbai.</i> | | |
| IC2023094 | Simulation Strategy for discontinuity stress estimation with mismatch and angular profile misalignment in metallic shells, Vinod G , Manash Kumar Bhadra, <i>VSSC/ISRO, Thiruvananthapuram.</i> | | |

| 16:00-18:15 | | Parallel Session – 3A | 24.08.2023 |
|--------------------------------|--|-----------------------|------------|
| Creep and Fatigue Crack Growth | | | |
| Session Chair: N. Narasaiah | | | |
| Invited Talk | Creep Fatigue Crack Growth (CFCG) Studies on P91 Steel N. Narasaiah, NIT Warangal | | |
| IC2023257 | Effect of Primary Creep and Secondary Creep on Creep Crack Growth of SS316LN Avinash Kumar Mishra , Avinash Gopalan, M. Nanibabu, V.Karthik, Abhishek Tiwari . <i>Indian Institute of Technology, Ropar</i> | | |
| IC2023110 | Fatigue crack growth behavior in Alloy 800 Steam Generator Tube Material Somasekhar Reddy , S.V.R. Rao, B. Kamalesh Kumar, R.K. Chaube, K. Kapoor. <i>Nuclear Fuel Complex, Hyderabad.</i> | | K |
| IC2023133 | Experimental Characterization of Fatigue Crack Growth Rate Behaviour of Alloy 617 Base and Weld Material, M. D. Rakim , P. Basu, M. Jana, S. Chaudhury, S. K.Acharyya, M. Nani Babu, A.Moitra . <i>Jadavpur University, Kolkata</i> | | |
| IC2023158 | Effect of Sodium Insulation interaction on FCG Behavior of SS316 (N) Weldment, Ch. SSS Avinash , M. Nanibabu, E. Hemanth Rao, Sanjay Kumar Das, A. Moitra, D.Ponraju, B.Venkatraman. <i>Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |
| IC2023304 | Effect of Hold Time on CFCG of P91 steel at Force Ratio 0.1 and Temperature 600° C, Challa Krishna Teja , Kiranchand G.R, Chitresh Chandra, B. Shrinivasarao, M. Nani Babu, S.A. Krishnan, A. Moitra, N. Narasaiah. <i>NIT Warangal, Telangana.</i> | | |
| IC2023347 | Evaluation of Creep Crack Growth Behaviour in the Boron added Modified 9Cr-1Mo Steel Weldment: Base Material and Heat Affected Zone, Yatindra Kumar , Avinash Gopalan, A Moitra, A Sarkar, R N Singh. <i>Bhabha Atomic Research Centre/ Homi Bhabha National Institute, Mumbai.</i> | | |
| IC2023052 | Fatigue Crack Growth Rate predictions in Nickel based Superalloys using Machine Learning Algorithms, Mahesh S , Anil Chandra A. R., Ravi Kumar L, Manjunatha C. M. <i>B.M.S. College of Engineering, Bangalore.</i> | | |

| 16.00-18.15 | | Parallel Session – 3B | 24.08.2023 |
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| Fracture and Damage Assessment | | | |
| Session Chair: P.C. Chakraborti | | | |
| Invited Talk | Determination of Ductile Tearing Resistance Parameter of Interstitial-Free Steel Sheet P.C. Chakraborti, Jadavpur University, Kolkata | | |
| IC2023277 | Influence of Temperature on Tensile Behavior and Deformation Mechanism of a Nickel base Wrought alloy used for Turbine Blades in an Aero-Engine, Benudhar Sahoo. CEMILAC, Bangalore | | |
| IC2023024 | Development of an analysis method to assess in-Calandria corium retention time in PHWRs, Keshav Mohta, Suneel K. Gupta, Onkar S. Gokhale, Deb Mukhopadhyay, J. Chattopadhyay Bhabha Atomic Research Centre, Mumbai. | | |
| IC2023113 | Structural Reliability of Pressure Tube of a PHWR with Volumetric Flaws, Pradeep Appaji Jadhav, Rohit Rastogi, J. Chattopadhyay. Bhabha Atomic Research Centre, Mumbai. | | |
| IC2023107 | Quantification of hygrothermal aging-induced nano-micro scale carbon fiber/epoxy interfacial debonding, Alok Behera, Debashish Das, Manjusha M. Thawre, Atul Ballal . Indian Institute of Science, Bangalore | | |
| IC2023161 | Applicability of Critical Fracture Energy, G_{fr} as a Fracture Criterion for Varying Temperature, Sanjib Acharyya, S. K. Acharyya, S. Dhar. Jadavpur University, Kolkata. | | |
| IC2023281 | High temperature reactivity of molten lithium cadmium alloy with quartz, Manish Chandra, Pabitra Ghosh, Nibedita Samanta, A. Lali, M. Kakkum Perumal, B. Muralidharan. Indira Gandhi Centre for Atomic Research, Kalpakkam. | | |
| IC2023077 | Structural Integrity Assessment for In-vessel Corium Retention in Boiling Water Reactor, Vijay Chaudhry, .K. Chaudhary, V. Chaudhry, S.M. Ingole. Nuclear Power Corporation of India Ltd. (NPCIL), Mumbai. | | |

| 16:00-18.15 | | Parallel Session – 3C | 24.08.2023 |
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| Integrity Assessment | | | |
| Session Chair: R.C. Prasad | | | |
| Invited Talk | Premature Failures don't happen, they are caused: Integrity Assessment of Welded Structures using Fracture Mechanics and Failure Analysis, R.C. Prasad, Pillai HOC College of Engineering & Technology, Rasayani | | |
| IC2023204 | Shear Buckling of FBR Roof-Slab, Ashok Kumar , S.D. Sajish. Indira Gandhi Centre for Atomic Research, Kalpakkam. | | |
| IC2023156 | Online Imaging System for Component Integrity Test, Sunil Satpute, M. K. Sahu , Suranjit Kumar, Swati A. H., Rajesh B., Valli K., Wadnerkar A. Bhabha Atomic Research Centre, Mumbai. | | |
| IC2023211 | Implementation of Machine Learning Method to Quantitatively Evaluate the Local Stresses in Nozzles in Shells and Formed Heads from External Loads, Balaji Srinivasan , Yadav Dipak, K. Gurumurthy, S.V.R. Subramanyam. Engineers India Limited, Gurugram | | |
| IC2023209 | Assessment on structural integrity of aluminium alloy AA 6061 Water Tank used in satellite launch vehicles, Santhoshkumar R , Rohan Nair, Aji Kumar A , Mankatiya Vittal Naik , Suresh Kumar R, SVS Narayana Murty. LPSC, Indian Space Research Organisation, Thiruvananthapuram. | | |
| IC2023210 | Integrity Assessment of an In-Service LPG Pipeline Featuring Dent Defect at a Highway Crossing, Dhanesh N , G. G. Srinivas Achary, Sreeshma P. U., S.V.R. Subramanyam. Engineers India Limited, Gurugram | | |
| IC2023274 | Structural Integrity Assessment and Fatigue Evaluation of Feed Water Nozzle of 700MWe PHWR Steam Generator, Umesh Tilwani , Braham Parkash , Vikram Sehgal . Larsen & Toubro Ltd., Surat. | | |
| IC2023317 | Characterization of Irradiation induced Embrittlement in 3.5%Ni Steel, Ran Vijay Kumar , Ashish Kolhatkar, Sathyanarayanan S, V. V. Jayaraj, A. Vijayaragavan, V. Karthik, Shaji Kurien, Divakar R . Indira Gandhi Centre for Atomic Research, Kalpakkam. | | |

| 16:00-18:15 | | Parallel Session – 3D | 24.08.2023 |
|-----------------------------|---|-----------------------|------------|
| Failure Prevention and ISI | | | |
| Session Chair: A. John Arul | | | |
| Invited Talk | Fatigue Life Reliability of Welded Structures and its application to ISI in Sodium Cooled Fast Breeder Reactors A. John Arul, <i>Indira Gandhi Centre for Atomic Research, Kalpakkam</i> | | |
| IC2023179 | Restoration of an aged building through strategic repair, Preetha Rajappan, Kalpana Kumari, Mahesh Kumar, Sudipta Chattopadhyaya, N.Suresh . <i>Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |
| IC2023294 | Analysis & Characterization of Signals observed in Eddy Current Testing of Alloy 800 Steam Generator Tubes from ID side at Nuclear Fuel Complex, Mohammed Muzammil , Ahmed, S. Singh, Rupesh Kumar, K. Sunder Krishna, S.V. Ramana Rao, B. Kamalesh Kumar, R.K. Chaube. <i>Nuclear Fuel Complex, Hyderabad.</i> | | |
| IC2023160 | Probabilistic Assessment of Ballooning of Pressure Tube under Severe Accident Conditions, Akshay Kumar, K. Samal, Rohit Rastogi, V. K. Singh, J. Chattopadhyay . <i>Bhabha Atomic Research Centre, Mumbai</i> | | |
| IC2023163 | Design of Laser Based Sag Measurement Tool – head (LaBSMaT) for inspection of pressure tube of PHWR, Ashutosh Pratap Singh, Saranjeet Singh, A.Bhardwaj, A.S. Padiyar, S.K. Tiwari, Sarvendra Singh, M.P.Kamath, N.S. Benerji, Abhay Kumar, Girdhar Mundra. <i>Raja Ramanna Centre for Advanced Technology, Indore.</i> | | |
| IC2023175 | Distributed fiber optic sensing and packaged fiberbragg gratings for monitoring critical infrastructures, Arun Sundaram B, P. Biswas, Voggu Srinivas, S. Parivallal, Nandini Basumallick ,S. Bandyopadhyay. <i>CSIR-Structural Engineering Research Centre, Chennai.</i> | | |
| IC2023096 | Comparison of Signal Decomposition Techniques for Modal Identification of Bridges using a Drive-by Vehicle, Lakshmi K, K.Lakshmi, Voggu Srinivas. <i>CSIR-Structural Engineering Research Centre, Chennai.</i> | | |
| IC2023357 | Design and structural analysis of large capacity storage tanks and aid on components for safe handling and installation at underground waste tank farm, Sanatana Maharana, Dharmick Kumar, Sunil Dhariyal, T. Selvaraj ,Shekhar Kumar. <i>Indira Gandhi Centre for Atomic Research, Kalpakkam</i> | | |

| 10:45-12.45 | | Parallel Session – 4A | 25.08.2023 |
|------------------------------|---|-----------------------|------------|
| Deformation Modelling | | | |
| Session Chair: Praveen Kumar | | | |
| Invited Talk | Effect of Joint Length Scale on Creep Deformation of Sn-Rich Dissimilar Metallic Joints <i>Praveen Kumar, IISc Bangalore</i> | | |
| IC2023017 | Developments for improved cyclic plasticity modeling and fatigue life assessments under multiaxial loading <i>Punit Arora, Suneel K. Gupta, J. Chattopadhyay.</i> <i>Bhabha Atomic Research Centre, Mumbai.</i> | | |
| IC2023054 | Simulation of strain controlled creep fatigue interaction cycle of Nickel based superalloys using Unified Mechanics Theory. <i>Saurabh Mangal, Lakshmana Rao C, Sri Krishna Sudhamsu, Perumal Chellapandi.</i> <i>Indian Institute of Technology Madras, Chennai.</i> | | |
| IC2023138 | Dislocation-based crystal plasticity model to address temperature dependent plasticity in BCC materials . <i>Kulbir Singh, C. Robertson .</i> <i>Indira Gandhi Centre for Atomic Research, A CI of Homi Bhabha National Institute, Kalpakkam.</i> | | |
| IC2023176 | Constitutive modeling of low cycle fatigue behavior of 321 austenitic stainless steel <i>Neha Mehani. Samir Chandra Roy, Anshu Dhar Jayal.</i> <i>Indian Institute of Technology Ropar, Rupnagar, Punjab.</i> | | |
| IC2023227 | Effect of plastic anisotropy on the forming limits of sheet metals <i>Krunal Morey, Shyam M. Keralavarma .</i> <i>Indian Institute of Technology Madras, Chennai.</i> | | |
| IC2023325 | Formation of $\Sigma 3$ grain boundary from $\langle 110 \rangle$ Asymmetric tilt grain boundaries in BCC-Fe <i>J. Veerababu, A. Nagesha, Vani Shankar .</i> <i>Homi Bhabha National Institute, Mumbai/Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |

| 10.45-12.45 | | Parallel Session – 4B | 25.08.2023 |
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| Microstructural Aspects of Deformation and Failure | | | |
| Session Chair: Nagamani Jaya Balila | | | |
| Invited Talk | Deformation Mechanisms of Additively Manufactured Cobalt-based Superalloy Mar-M 509 Nagamani Jaya Balila, IIT Bombay, Mumbai | | |
| IC2023043 | Influence of creep forming temperature on the mechanical properties and high cycle fatigue strength of Al-Mg-Sc-Zr alloy, Masa Suresh Kumar, N. Jagannathan, Ramesh Bojja, M. Sujata, C.M. Manjunatha, <i>CSIR-National Aersopace Laboratories, Bangalore</i> | | |
| IC2023086 | Grain Boundary Precipitation and Cracking Failure of Alloy 617 during Cold Working: Correlation Study, Rupesh Kumar, Sumita Santra, I. Kalpana Nayak, K. Sunderkrishna, S.V. Ramana Rao, B. Kamalesh Kumar, <i>R.K. Chaube, K. Kapoor.</i> <i>Nuclear Fuel Complex, Hyderabad</i> | | |
| IC2023103 | Thermal aging effects on Tensile and Metallurgical characteristics of Stainless steel weld joint, Cyril Reuben Raj, Suranjit Kumar, Kamlesh Chandra, P. K. Singh . <i>Bhabha Atomic Research Centre, Mumbai.</i> | | |
| IC2023130 | Failure analysis of non-rotating control rod of a helicopter, Venkatesh V, K. Raghavendra, M.Madan, M.Sujata, S.K.Bhaumik. <i>CSIR-National Aersopace Laboratories, Bangalore</i> | | |
| IC2023240 | Strengthening by primary, secondary and tertiary gamma prime in 720Li alloy, Jitendra Kumar Sahu, P. S. M. Jena . <i>CSIR-National Metallurgical Laboratory, Jamshedpur.</i> | | |
| IC2023177 | Development of a nickel base disk super alloy with higher temperature capability, P.S. Manoranjan Jena, J. K. Sahu. <i>Academy of Scientific and Innovative Research, Ghaziabad.</i> | | |

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| 10.45-12.45 | | Parallel Session -4C | 25.08.2023 |
| Digital Image Correlation in Deformation and Damage Mapping | | | |
| Session Chair: S. Raviprakash | | | |
| Invited Talk | Fracture Process Zones in BARCOM – BARC Nuclear Containment Test Model S. Raviprakash, <i>Pyrodynamics, Bangalore</i> | | |
| IC2023145 | Engineering micro-strain localizations in dual phase steels to improve their hole expansion behavior, Soudip Basu, <i>Nagamani Jaya Balila</i> <i>Indian Institute of Technology Bombay, Mumbai</i> | | |
| IC2023205 | Study of cyclic plastic zone ahead of the fatigue crack tip using Digital image Correlation system, Prakash Bharadwaj, <i>Suneel K Gupta, J Chattopadhyay.</i> <i>Homi Bhabha National Institute, Mumbai.</i> | | |
| IC2023273 | Effect of Material Heterogeneity and T-Stress on Fracture Toughness in Quasi-Brittle Composite Materials, Shanideo Jadav, <i>Prakash Nanthagopalan, Krishna Jonnalagadda.</i> <i>Indian Institute of Technology Bombay, Mumbai.</i> | | |
| IC2023287 | Effect of Temperature on Bending Creep Behavior of Additively Manufactured A205 Aluminium Alloy, Anup Kulkarni, <i>Bibek Das, Praveen Ravanappa, Dheepa Srinivasan, Vikram Jayaram, Praveen Kumar.</i> <i>Pratt & Whitney Research and Development Center, Bangalore</i> | | |
| IC2023344 | Analysis of Small Punch deformation using Digital Image Correlation, Abdul Rahman, <i>Ashish Kolhatkar, V. Karthik , M. Nani Babu, Divakar R .</i> <i>Homi Bhabha National Institute (HBNI)/Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |

| 10:45-12:45 | | Parallel Session – 4D | 25.08.2023 |
|---------------------------------------|---|-----------------------|------------|
| Fatigue and Creep-Fatigue Interaction | | | |
| Session Chair: Kartik Prasad | | | |
| Invited Talk | Mechanism Based Assessment of Fatigue Variability Behaviour: Progress in Probabilistic Life-Prediction, Kartik Prasad, Defence Metallurgical Research Laboratory Hyderabad | | |
| IC2023058 | Effect of chemical milling and anodising on the high cycle fatigue life of 2024-T3 aluminium alloy Chinnam Sivateja, Naga Charan KV, Ramesh Bojja, Jagannathan N, Manjunatha C M. CSIR-National Aerospace Laboratories, Bangalore | | |
| IC2023117 | Asymmetric Stress Cyclic Loading Behavior of Micro-alloyed 2.25Cr-1Mo Steel at 550°C Rupendra Singh Rajpurohit, J.K.Sahu. CSIR-National Metallurgical Laboratory, Jamshedpur | | |
| IC2023146 | Assessment of Ratcheting in SGDHR Pipe Bend under Various Loading Conditions Rosy Sarkar, Bhuwan Chandra Sati, R. Suresh Kumar. Indira Gandhi Centre for Atomic Research, Kalpakkam. | | |
| IC2023268 | Influence of Wave shape on the Creep-Fatigue Interaction Behaviour of 316LN stainless steel Kannan R, Vani Shankar and A. Nagesha. Indira Gandhi Centre for Atomic Research, Kalpakkam. | | |
| IC2023276 | Influence of Temperature Range on The Thermomechanical Fatigue Behaviour of Alloy 617M Forge Isaac Samuel, Vani Shankar, A. Nagesha, M. Okazaki. Indira Gandhi Centre for Atomic Research, Kalpakkam | | |
| IC2023329 | High Temperature Low Cycle Fatigue Behaviour of Recycled CM247 LC Ni-Base Superalloy for Aerofoil Castings of Gas Turbine Engines Krushna Kumbhar, Dibyendu Chatterjee, Kartik Prasad, D.K. Das. Defence Metallurgical Research Laboratory, Hyderabad. | | |

| 15.15-17.00 | | Parallel Session – 5A | 25.08.2023 |
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| Corrosion, Coatings and Wear | | | |
| Session Chair: G. Raghava | | | |
| Invited Talk | Corrosion Fatigue Experimental Studies on Structural Steels and Components G. Raghava, Nitte Meenakshi Institute of Technology, Bengaluru | | |
| IC2023095 | Qualification Of Thermal Barrier Coating For Semi-Cryogenic Engine Thrust Chamber Through Strain-Controlled Fatigue Tests, Sarath Chandran Nair S , Krishnajith Jayamani · Sai Teja Dasari , Vinayaravi R , Venkatesh N , Vasudevan R, Asraff A.K. LPSC/Vikram Sarabhai Space Research Centre, Thiruvananthapuram | | |
| IC2023167 | Synthesis of anti-corrosive oxide coatings over mild steel specimens under superheated steam environment, Arun Nair , Manu Harilal, Tony Varghese , Shyam Krishna, Jeevan Sree, Jithu Binil, Muhammed Yasin, Amal Jyothi College of Engineering, Kanjirappally, Kerala | | |
| IC2023239 | Effect of cathodic protection on the corrosion fatigue crack growth behavior and fatigue life of a Naval grade shipbuilding steel, Vivek Srivastava , B.Basu, N.Prabhu. Indian Institute of Technology Bombay, Mumbai, | | |
| IC2023300 | Evaluation of specific wear coefficient of sliding surface contact pairs through tribological experiment, Ashish Kumar , Nagaraja Bhat Y V, M. Arvinth Davinci, Ashish Kumar, N.L.Parthasarathi, S.I. Sundar Raj, Dipti Samataray , B.K. Sreedhar Homi Bhabha National Institute, Mumbai/ Indira Gandhi Centre for Atomic research, Kalpakkam | | |
| IC2023367 | Corrosion Assessment Model and Material Selection for Offshore Industry, Venkataraman Chellappan , JGC Holdings Corporation, Chennai | | |

| 15.15-17.00 | | Parallel Session – 5B | 25.08.2023 |
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| Deformation and failure aspects of Engineering Materials | | | |
| Session Chair: Abhishek Tiwari | | | |
| Invited Talk | Transition of a Crack in Differently Deforming Materials (Dissimilar Metals Welds and Polymer Composites) under Creep <i>Abhishek Tiwari, IIT Ropar</i> | | |
| IC2023221 | Effect of weld groove angle on P92 steel joint integrity under creep condition, <i>T. Sakthivel, M. Vasudevan.</i> <i>Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |
| IC2023280 | Small Punch Creep properties of thermally aged 316LN SS with varying nitrogen content, <i>J Ganesh Kumar, G.V. Prasad Reddy, A. Nagesha.</i> <i>Indira Gandhi Centre for Atomic Research, Kalpakkam.</i> | | |
| IC2023337 | Creep deformation behavior of Su263 alloy at elevated temperatures <i>Krishna Guguloth, Chandru Fernando D, Neeta Paulose, J K Sahu.</i> <i>CSIR-National Metallurgical Laboratory, Jamshedpur</i> | | |
| IC2023213b | Hydride Reorientation in Zr-2.5Nb Pressure Tube Under Hoop Stress Loading, <i>Priti Kotak Shah, Ashish Sushibine, Sae Jagtap, Akanksha Samanta, J. S. Dubey, P. P. Nanekar, Vivek Bhasin, Post</i> <i>Bhabha Atomic Research Centre, Mumbai</i> | | |
| IC2023083b | Leak rate assessment from an axial through wall crack in Zr-2.5%Nb PTs formed due to DHC, <i>Rishi Kumar Sharma, Vipul K Shiralkar, Hemant Kalra, S SKhandave, DBhachawat, DBhachawat.</i> <i>Nuclear Power Corporation of India Limited, Mumbai.</i> | | |

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| 15.15-17.00 | | Parallel Session – 5C | 25.08.2023 |
| Experimental and Simulation Studies on Structural integrity | | | |
| Session Chair: Viswanath Chinthapenta | | | |
| Invited Talk -1 | Role of anisotropy on the ductile fracture: Void growth, nucleation, and coalescence Viswanath Chinthapenta, <i>IIT Hyderabad</i> | | |
| Invited Talk -2 | Numerical and Experimental Study on Nugget Size and Residual Stresses in Resistance Spot Weld Joints of AISI 1008 Steel Sheets Jeevan Jaidi, <i>BITS Hyderabad</i> | | |
| IC2023059 | Effect of Natural Fiber on the Strength of Bi-adhesive Lap Joint, <i>B. Saunshi, D. A. Ponnaswami , L. Chikmath, Department of Civil Engineering, KLS Gogte Institute of Technology, Belagavi.</i> | | |
| IC2023151 | Effect of directional stresses (unequal) in estimating Low Cycle Fatigue life as per RCC-MRx, Tarkesh Singh, Kulbir Singh <i>Indira Gandhi Centre for Atomic Research, A CI of Homi Bhabha National Institute, Kalpakkam.</i> | | |

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| 15.15-17.00 | | Parallel Session – 5D | 25.08.2023 |
| Fracture Toughness and Dynamic Fracture | | | |
| Session Chair: S. Vishnuvardhan | | | |
| Invited Talk-1 | Fracture Studies on Reactor Pressure Vessel Steel under Pressurised Thermal Shock S. Vishnuvardhan, <i>CSIR-SERC, Chennai</i> | | |
| Invited Talk-2 | Numerical Studies on the Impact and Blast Response of Polyurea Coated Plates A.V.S. Siva Prasad, <i>IIITDM, Kanchipuram</i> | | |
| IC2023121 | Calibration of tensile tests in impact machine and implementation in simulation of Charpy tests, Vaibhav Gangwar, S. K Acharyya, Arka Banerjee , D.K Joshi, <i>Jadavpur University, Kolkata</i> | | |
| IC2023251 | Experimental Investigation of Anisotropic Characteristics of Willow Wood under High Strain Rate, Ashish Pandey, Debiprasad Senapati, C Lakshmana Rao <i>IIT Madras, Chennai</i> | | |
| IC2023262 | Dynamic Response Analysis of Reinforced Column Subjected to Shock wave loading. Anupoju Rajeev, Sai Sharath Parsi, Prince Jeyalal Lazar <i>Rajalakshmi Institute of Technology, Chennai</i> | | |