

Registration & Inaugural session

Venue: S R Valluri Auditorium

8.45 – 9.15am **Registration**

9.15– 11.00am **Inaugural Session**

Inaugural Address by the Chief Guest-Shri Sanjay Bramhane, Deputy Director General, Directorate General of Civil Aviation (DGCA)

Release of Souvenir by Dr.Abhay APashilkar, Director, CSIR-NAL

Presidential Address by ShriA. Rajarajan, Director, SDSC, SHAR- President, ISAMPE

Keynote lecture by Dr. T. M. Kotresh, Director, DEBEL (DRDO) on Technical Textiles for Military Applications

Inauguration of INCCOM-18 Exhibition

11.00 – 11.30am **High Tea**

Venue :NAL Canteen (SURUCHI) – First Floor

February 08, 2024

Plenary Session

Venue: S R Valluri Auditorium

Time	Session details
	Chairman: Shri. Jitendra J Jadhav, Director, ADA, Bangalore
11.30 – 11.50am	Integrated Approach to Composite Product Design and Development of Composite Rocket Motor Casings <i>Dr. Manoj Burgaoi, Director CPDC, ASL, Hyderabad</i>
11.55 – 12.15pm	Faster Densification Process Methodology of Carbon-Carbon and Ceramic Matrix Composites: The Path Forward <i>Dr. Jhon Paul, CEO, Anisotropic Pvt Ltd</i>
12.20 – 12.40pm	A Kaleidoscope on Composites in Indian Space programme <i>Mr. Vinu Vishwanath, Vikram Sarabhai Space Centre, Trivandrum</i>
01.00 – 01.10pm	Sponsor Presentation – 1- Bhor Chemicals –Gold sponsor
01.10 – 01.20pm	Sponsor Presentation – 2- Ansys -Kaizenat Technologies Pvt.Ltd – Gold Sponsor
01.20 –01.30pm	Sponsor Presentation – 3- Dassaults Systemes India Pvt Limited – Silver Sponsor

01.30 – 02.30pm **Lunch**

Venue :NAL Canteen (SURUCHI) – First Floor

February 08, 2024 [SESSION – 1A]		
Theme:FEM in Design of Composites		
Venue: S R Valluri Auditorium		
Chairman:Dr. Prakash D Mangalagiri, Former Group Director ADA, Bangalore		
2.30pm – 3.00pm	Invited Talk: Composite Applications in GE Aviation <i>Dr K. Sriram</i> , GE Aerospace Research, Bangalore	
3.00pm- 4.00pm	Contributory Paper Presentations	
SINo.	Paper details	Paper ID
1	Strain Mapping and Stress Analysis of TIG Welded Joints of IN718 Super Alloy <i>Siva Subbarao Patange, Nagraju K, Nikhil Kumar C, Kaustav Barata, Vijay Petley, K Venkateswarlu</i> , CSIR-National Aerospace Laboratories, Bengaluru, Academy of Scientific and Innovative Research, Ghaziabad, &Gas Turbine Research Establishment-DRDO, <i>Bangalore</i>	C11
2	Design, Development & Integration of Composite Foldable Flight Deck Door for Protection of Flight Crew for Civil Transport Aircraft <i>Sanjeev Madhav Paniker, Manish Kumar Malik, Manoj Kumar Verma, Sandeep Verma</i> , TARDC,HAL TAD Kanpur	C16
3	Thickness Optimization of a Typical Aircraft Composite Wing Box Structure <i>S Nadeem Masood, Praveen Kumar, Manimaran B</i> , CSIR-National Aerospace Laboratories, Bangalore	C19
4	Fabrication and Modal Analysis of Reduced Small Scale Wind Turbine Blade <i>Girish N, Praveen N, Anil Chandra AR, Suhas BG, Prema V , Bharathi V</i> , B.M.S. College of Engineering, Bangalore	C20
5	Design and Analysis of Rear Pressure Bulkhead for Typical Transport Aircraft Fuselage <i>Monalisa Behera, Sivaranjani T and N Nagarajappa</i> , CSIR-National Aerospace Laboratories, Bangalore	C21

February 08, 2024 [SESSION – 1B]		
Theme:Synthesis and Processing of Composites		
Venue: Hall – 1 : FMCD Conference Hall		
Chairman:Dr. P. Raghothama Rao, Former Sc ‘G’ ,CEMILAC		
2.30pm – 3.00pm	Invited Talk: Advanced Technologies for Aircraft Structural Assembly <i>Mr. TCSubbareddy, Sc ‘H’</i> , TD (PS & P), ADA, Bangalore	
3.00pm- 4.00pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Polymer Microparticle Toughened Epoxy Resin Matrix for High Performance Composites <i>Madhavan Karunakaran, Mayur Yadav, Yatindra Mahavar and Hemant Kumar Shukla</i> , CSIR-National Aerospace Laboratories, Bangalore	C12
2	Out-Life Determination of an In-House Developed Epoxy Formulation for Resin Film Infusion <i>Anoop Anand, C. Ramadas</i> , DRDO, Ministry of Defence, Pune	C26
3	Indigenous Ceramic -PTFE Composite Substrate for Indian Space Microwave applications <i>Suma Santhosh Cherian</i> , Vikram Sarabhai Space Centre, Thiruvananthapuram	C29

4	Optimization of Devolatilization Cycle for the Processing of Carbon-Polyimide Composite <i>Sugavaneswaran M, Kundan Kumar Verma, Viswamurthy SR, Kotresh M Gaddikeri, Srinivasa V, Ramesh Sundaram, CSIR – National Aerospace Laboratories, Bangalore</i>	C30
5	Techniques to Improve the Properties of Polyvinylidene fluoride (PVDF)-Graphene Composites <i>Anjana Jain, Eneos Dange, Jesmary K, CSIR-National Aerospace Laboratories, Bangalore</i>	C34

February 08, 2024 [SESSION – 1C]		
Theme: Nanocomposites		
Venue: Hall –2: ALD Conference Hall		
Chairman :Dr. RMVGK Rao, CSIR-NAL(Retd.)		
2.30pm – 3.00pm	Invited Talk: Advanced Nanostructures as Nanofillers for polymer nanocomposites and their application <i>Dr. Dinesh Rangappa, VIAT, VTU, Muddenhalli</i>	
3.00pm- 4.00pm	Contributory Paper Presentations	
Sl No.	Paper details	Paper ID
1	Effect of Hydroxyapatite Filler on the Properties of Heparin Mimicking Shape Memory Polymer <i>Jerald Maria Antony GM, Priyanka Jain, MS Sneha, S Raja, ST Aruna, National College (Autonomous), Tiruchirapalli, Tamilnadu, CSIR-National Aerospace Laboratories, Bangalore</i>	C6
2	Wear-Resistant Ni Based Carbide and Oxide Coatings by Thermal Spray Process for Trochoid Housing of Wankel Engine <i>Nikhil Pandita, Peeyush Chandra Vishwakarma, RPS Chakradhar, M Muniprakash, S Jaikesh, Meenu Srivastava, CSIR-National Aerospace Laboratories, Bangalore</i>	C36
3	Synthesis and Characterization of 3D Printable MnO₂ Reinforced Nano-composite Filament <i>Ravi Kumar KS, Preetham M Y, Raghava B K, Afzal Pasha, Jayanth L, Maharaja Institute of Technology, Mysore</i>	C10
4	Improving Composite Joints with Nanoparticles through Friction Stir Spot Welding on AA6061-T6 <i>S Suresh, D Velmurugan, Erode Sengunthar Engineering College, Erode, Muthayammal Engineering College, Rasipuram</i>	C18
5	Hybrid Structural Composites with Graphene <i>Varunn Rajesh, Rihan Mujawar, Anoop Anand, DRDO, Ministry of Defence, Pune</i>	C25
6	Synthesis, Mechanical-Wear Analysis of Al7075 Alloy with B₄C and Graphite Particles Hybrid Composites <i>Srinivasa C S, ShanawazPatil, Madeva Nagara, V Auardi, Subbaraya Mohan Kumar, REVA Engineering College, Bangalore</i>	C75

4:00pm – 4:15pm **Tea Break**

February 08, 2024 [SESSION – 2A]		
Theme:Structural Testing and Certification of Composites		
Venue: S R Valluri Auditorium		
Chairman: Dr. AR Upadhya, Former Director, CSIR-NAL		
4.15 – 4.45pm	Invited Talk:Flight by Flight Testing of Composite Aerospace Structures to Evaluate the Fatigue Life of Fighter Aircraft <i>Mr. CH Krishna Kishore</i> , Chief Manager, ARDC,HAL	
4.45pm – 5.45pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Structural testing of Main Landing Gear Spar Joint of a Composite Trainer Aircraft <i>M Mohan Kumar, Surendra C, N Lohith, Kumari Asha, Paranthaman N</i> , CSIR-National Aerospace Laboratories, Bangalore	C42
2	Impact Strength Estimation of Thin-Walled Panels with Triangular Flanged Channels <i>Sudhir Sastry YB, Aditya Tiwari, Aum V Ghag</i> , JAIN (Deemed-to-be University), Bangalore	C48
3	Performance Evaluation of SMP and Epoxy Polymer Composite for Energy Absorption under Dynamic Loading <i>J Dhayanidhi, S Sathiyarayanan, S Raja</i> , CSIR-National Aerospace Laboratories, Bangalore	C67
4	Design and Development of Measurement and Control System for Fire Retardant Test Facility <i>Jeyaseelan AR, Rajeshwari N, Muthuselvan, Muralidhara HS, Padmavathi T, Jyotsna Kiran Mathad</i> , CSIR-National Aerospace Laboratories, Bangalore	C13
5	Experimental Studies on the Impact Response of Adhesively Bonded CFRP Stepped Repaired Composite Panel <i>Hetram Sonwani, Gangadharan Raju, Sai Sidhardh, and Ramji M</i> , Indian Institute of Technology Hyderabad	C38

February 08, 2024 [SESSION – 2B]		
Theme:Synthesis and Processing of Composites		
Venue: Hall – 1 : FMCD Conference Hall		
Chairman:Mr. M Srinivas, DGM, ACD, HAL		
4.15pm – 4.45pm	Invited Talk:Advances in ccomposites manufacturing <i>Dr Rajeev Rao D</i> ,TATA Advanced Systems Limited	
4.45pm – 5.45pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	High Emittance and High Absorptance Composite Anodic Coating on 3D printed Al-10Si-Mg alloy for Spacecraft Thermal Control <i>Rahul Ghosh, MK. Kavitha, Bhavana Sahu, Hari Krishna Thota, Arjun Dey, U. R. Rao</i> Satellite Centre, Indian Space Research Organisation, Bangalore	C44
2	Natural Fibre-Reinforced Polymer Composites for Structural and Ballistic Applications <i>Sudhir Sastry YB, Lakkireddy Sridevi</i> , JAIN (Deemed-to-be University), Bangalore	C47
3	Silica Aerogel based Composites Blankets as an alternative of MLI in Gaseous Space Environment	C50

	<i>Arjun Dey, Gunjan Rastogi, D Raghavendra Kumar, B Yougandar, N. Sridhara, U. R. Rao</i> Satellite Centre, Indian Space Research Organisation, Bangalore	
4	Studies on the Preparation of Porous Alumina Ceramics using Natural Rubber Latex Pore Template <i>Senthilkumar E, K Prabhakaran, Kumar B, Kasala narasaiah, Krishnakumar G, Vikram Sarabhai</i> Space Centre & IIST, Trivandrum	C51
5	Studies on the Preparation of Macro Porous Alumina Ceramics Using Waste Banana Leaf Fiber Pore Template <i>Senthilkumar E, K. Prabhakaran, Kumar B, Kasala Narasaiah, Krishnakumar G, Vikram Sarabhai</i> Space Centre & IIST, Trivandrum	C52
6	Bio-Renewable, Non-Volatile, and Low Carbon: Leather Dust Composite Paves the Way for Eco-Friendly Aircraft Interiors <i>Karthikeyan K, Akshaya Raman M, Bharat Kumar G, Suguna Lakshmi M, CSIR-Central Leather Research Institute, Adyar, Chennai</i>	C78

February 08, 2024 [SESSION – 2C]		
Theme: FEM in Design of Composites		
Venue: Hall – 2: ALD Conference Hall		
Chairman : Dr. Bhagavatula Dattaguru, Visiting Professor, Jain University		
4.15pm – 4.45pm	Invited Talk: A Comprehensive Study on Single-Lap CFRP Hybrid Joints Fastened Using Micro-Bolts <i>Dr. Ramji</i> , Professor, Indian Institute of Technology-Hyderabad	
4.45pm – 5.45pm	Contributory Paper Presentations	
Sl No.	Paper details	Paper ID
1	Development of Compression-Shear Modified Arcan Fixture for Realizing Combined Loading of Open Hole CFRP Laminates <i>Mahesh P, Viswanath Chinthapenta Gangadharan Raju, Ramji M, IIT Hyderabad</i>	C22
2	Modelling The Mechanical Behaviour of Adhesively Bonded CFRP Joints Using a Two Dimensional Energy Model <i>Rashmiranjan Mohapatra, Hetram Sonwani, Sai Sidhardh, V Narayanamurthy, M Ramji, Indian Institute of Technology Hyderabad, Kandi, Telangana, & Research Centre Imarat, Hyderabad</i>	C23
3	Mathematical Model to Compute Ballistic Limit of Sandwich Panel <i>Dr Rajeev Chaturvedi, URSC, ISRO, Bangalore</i>	C28
4	Fatigue Analysis and Experimental Procedure Establishment of Typical Aircraft Structures Subjected to Spectrum Loading <i>Sivaranjani T, Selvam C, Shreya S, Siva Subba Rao P, Raja S, CSIR-National Aerospace Laboratories, Bangalore & BITS Pilani</i>	C33
5	Flexibility Effect on Static Aeroelastic Behaviour of Large Aspect Ratio Composite Wing <i>D Dwarakanathan, S Raja, CSIR-National Aerospace Laboratories, Bangalore</i>	C39
7.00p.m. – 8.00p.m	Cultural Programme	
8.00p.m. onwards	Dinner	

Venue: Spring Hall, Royal Orchid Hotel

February 09, 2024**Plenary Session****Venue: S R Valluri Auditorium****Session details****Chairman : Dr.Abhay A Pashilkar, Director, CSIR-NAL****Time**

09.00 – 9.20am	Recent developments in composites for Unmanned Aerial Vehicles (UAVs) <i>Dr. S Rajagopal</i> , Scientist G , PD (TAPAS), ADE
09.20 – 9.40am	Advancements in Nacelle Technology with material perspective <i>Dr. Shashidhar S</i> , Collins Aerospace
09.40 -10.00 am	Role of Reliable Modelling in Manufacturing <i>Dr. Dinesh Kumar Harursampath</i> , Professor, IISc
10.00 – 10.10am	Sponsor Presentation – 1: Anisotropic PVT Ltd – Diamond Sponsor
10.10 – 10.20am	Sponsor Presentation – 2: Moog Controls Pvt Ltd – Silver sponsor
10.20 – 10.30am	Sponsor Presentation – 3: CUMI– Silver sponsor

10:30 – 10:45am High Tea

Venue :NAL Canteen (SURUCHI) – First Floor

February 09, 2024 [SESSION – 3A]**Theme:Stealth Technologies****Venue: S R Valluri Auditorium****Chairman : Dr. Ramesh Sundaram CSIR-NAL (Retd.)**

10.45am – 11.15am	Invited Talk: Emerging Radar Technologies to counter Stealth Technology <i>Shri. D Seshagiri, LRDE(DRDO)</i>
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11.15am – 12.30pm **Contributory Paper Presentations**

SI No.	Paper details	Paper ID
1	Normal and Shear Adhesion Strength Measurement of Radar Absorbing Paints <i>Madhusudhanan U, MK Patra, R Kiteya</i> , Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, Defence Laboratory, Ratanada Palace, Jodhpur	C4
2	Advancements in Aerospace Stealth Materials: Redefining Invisibility for Future Aircraft <i>Sayana Susila Swaraj, Jessy Michla JR, Rajkumar CR, Prudvi Kumar Reddy, Nikhil Venkatakrishna Reddy</i> , Kalasalingam Academy of Research and Education, Virudhunagar & Rubber Technologist, Kimatrai Nigeria Limited, Nigeria	C5

3	Stealth materials based on Nickel Zinc Ferrite-Epoxy Composite <i>Rapaka SC Bose, KS Venu, Vinitha Joy, Hema Singh, Abanti Nag, CSIR – National Aerospace Laboratories, Bangalore</i>	C7
4	Development of Dielectric and Magnetic Ceramic Composites as Radar Absorbing Materials (RAM) for Stealth Aircraft Applications <i>PK Panda, B Sahoo, Suresh Kumar V, Vineetha Joy, Venu KS, Hema Singh, CSIR-National Aerospace Laboratories, Bangalore</i>	C15
5	Preparation and Characterization of Adherent Autocatalytically Deposited Nickel Coating on Carbon Fiber for EMI Shielding Effectiveness <i>NT Manikandanath, Shruti Lahane, Aparna S, Shri Prakash B, Ganesh M, Meenu Srivastava, Sai Venkata Pramod Kumar P, JN Balaraju, CSIR-National Aerospace Laboratories, Bangalore</i>	C37
6	An Investigation of the Antenna Behaviour due to the Change in Material Electromagnetic properties <i>V Pawan, OM Ranjan, Balamati Choudhury, MVJ College of Engineering & CSIR-National Aerospace Laboratories, Bangalore</i>	C59
February 09, 2024 [SESSION – 3B]		
Theme: FEM in Design of Composites		
Venue : Hall – 1: FMCD Conference Hall		
Chairman: Shri MNM Patnaik , ISRO/URSC		
10.45 – 11.15am	Invited Talk: A Unified Method for Formulating Structural Mechanics Problems using Coupled Field Formulation <i>Dr. Ram Prasad, Professor, Jain University</i>	
11.15am – 12.30pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Design and Development of Micro Meteoroid and Orbital Debris Shielding of NISAR Spacecraft Propellant Tank <i>Durgesh Bahadur Singh, Malarvizhi SN, Muralidhar KV, Poomani D, URSC, ISRO, Bangalore</i>	C43
2	Analysis of Payload Fairing Manufactured with Eco-Friendly and Biodegradable Composite Materials <i>VS Vijay, Sivani Poduri, V Anushka, Sudhir Sastry YB, JAIN (Deemed-to-be University), Bangalore</i>	C46
3	Vanadium Oxide based Smart Radiative Device for Miniaturized Spacecraft Technology <i>Gunjan Rastogi, Arjun Dey, D Raghavendra Kumar, B Yougandar, NSridhara, U. R. Rao Satellite Centre, Indian Space Research Organisation, Bangalore</i>	C49
4	Multi-scale Modelling for Progressive Failure Analysis of Composite structures Using VAM and Methods of cells <i>Raadhakrishnan RA, Shahsi Bhushan Tiwari, Chakravarthy P, Santhosh B, Krishnakumar G, Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram & Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram</i>	C54
5	Parametric Finite Element Study of Buckling Analysis in CFRP Laminated Lattice Structures Using ABAQUS Scripting Abstract <i>Sarwmitra Sharma, Shashibhushan Tiwari, Santhosh B, Krishnakumar G, Vikram Sarabhai Space Center (VSSC), Thiruvananthapuram (ISRO)</i>	C56
6	Design of Laminated Honeycomb Sandwich Cylinder for Interstage Structure of Satellite Launch Vehicles <i>Mathiazhagan S, Adarsh Ravindran, Karthik KR, Unnikrishnan KR, V Viswanath, R Vasudevan, AK Asraff, LPSC, Valiamala, Trivandrum</i>	C58

February 09, 2024 [SESSION – 3C]		
Theme: Physical, Chemical & Mechanical Characterisation		
Venue : Hall – 2: ALD Conference Hall		
Chairman : Dr. D Saji, Former Head, QAAD, CSIR-NAL		
10.45am – 11.15am	Invited Talk: Ductile to Brittle Transition of Polymers and Composite Materials at Sub-Zero Temperature Applications <i>Dr. Padmanabhan K, Professor, VIT</i>	
11.15am – 12.30pm	Contributory Paper Presentation	
Sl. No.	Paper details	Paper ID
1	Mechanical Behaviour of Powder Metallurgy-Processed Al Matrix Composites Enhanced with Cu, Zn, and Mg: A Comprehensive Study <i>Maresh A Kori, MM Sattigeri., KLS Gogte Institute of Technology, Belagavi</i>	C01
2	Structural, optical and elastic properties of boron oxide doped bioactive glasses <i>Harish Madival, Chethan M, Sudhakara Reddy M, Asha Rajiv, JAIN (Deemed to be University), Bengaluru</i>	C3
3	Mechanical Behaviour of 3.5D Carbon Fiber Reinforced SiC Matrix Composite Synthesized Through PIP Process <i>M Stalin, S Marieswaran, P Kumara, A Udayakumar, L Rangaraj, CSIR-National Aerospace Laboratories, Bengaluru</i>	C35
4	Effect of Cellulose Microfiber Reinforcement on Mechanical and Thermal Properties of Epoxy Composites <i>Sankalp Singh, Shrirang M Pathak, V Praveen Kumar, RV Lakshmi, Parthasarathi Bera, Harish C Barshilia, CSIR – National Aerospace Laboratories, Bengaluru</i>	C41
5	Mechanical Characterization of Shape Memory Glass Fibre Composites <i>Mutturaj H Medar, S Raja, V Senthilkumar, Academy of Scientific and Innovative Research (AcSIR), Ghaziabad, CSIR – National Aerospace Laboratories, Bengaluru & CSIR-Fourth Paradigm Institute, Bangalore</i>	C70
6	Applicability of Linear and Non-Linear Failure Theories to the Durability of Hygrothermally Equilibrium-Conditioned FRP Matrix Composites <i>Rameshkumar Ramachandran, Padmanabhan Krishnan, VIT University, Vellore</i>	C72

February 09, 2024 [SESSION – 4A]		
Theme: Composite Manufacturing Techniques		
Venue : S R Valluri Auditorium		
Chairman: Dr. S Sankaran, DRDO (Retd.)		
12.30pm-1.00pm	Invited Talk: The Future of Thermoplastic Composites <i>Dr Ramesh Sundaram, CSIR-NAL(Retd.)</i>	
1.00pm– 1.45pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Use of textiles in aerospace industry and composite applications <i>Pradeep Kulshrestha, Shalin Shah, Priyanka Gupta</i> United Fiber Composites Private Limited, Ahmedabad	C2
2	Composite Additive Manufacturing for Realization of Wind Tunnel Model Components for Combat Aircraft <i>H Balaji, L Srinivasa Rao, TC Subba Reddy</i> , ADA, Bangalore	C66
3	Development of Flaperon Test Box Assembly for AMCA <i>TC Subba Reddy, Ravindra Singh, P Murali Ramesh Kumar</i> , Aeronautical Development Agency, Bangalore, & CSIR-National Aerospace Laboratories, Bangalore	C73
4	Shimming Application in Aircraft Structural Assembly <i>TC Subba Reddy, Ravindra Singh, Mukesh V, D Karuppannan, Dr. N Jagganathan, Ramesh Bojja</i> , Aeronautical Development Agency, Bangalore, India, CSIR-National Aerospace Laboratories, Bangalore, India	C74

February 09, 2024 [SESSION – 4B]		
Theme: Structural Health Monitoring		
Venue : Hall – 1 : FMCD Conference Hall		
Chairman: Shri. TM Naidu, ADA (DRDO) (Retd.)		
12.30pm-1.00pm	Invited Talk: Need for System Engineering Approach in Airworthiness certification: Composite Materials & Components of Airframe <i>Dr Atul Bakhre</i> , CEMILAC	
1.00pm – 1.45pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Utilising Fiber Optic Sensors for Load and Damage Monitoring in Composite Aircraft Structures: A Precursor Study for Aircraft Implementation <i>Augustin MJ, Vijay Kumar A, Kundan Kumar Verma, Nitesh Gupta, Viswamurthy SR, Saransh Jain, Revati CM, Hema KS</i> , CSIR-National Aerospace Laboratories, Bangalore& Aeronautical Development Establishment, Bangalore	C8
2	Evaluation of the Performance of FBG Patch Sensor Under Fatigue Loads <i>Saransh Jain, Augustin MJ, SR Viswamurthy, Nitesh Gupta, Kundan Kumar Verma, Seshagirachari M, Jagannathan N, Vijay Kumar</i> , CSIR-National Aerospace Laboratories, Bangalore	C9

3	Simulation and Fault Classification Analysis of Rolling Element Bearings for Precision Machinery Health Monitoring <i>Anju Sharma, Taruv Harshita Priya, Shanmukha Priya V and VPS Naidu, CSIR-National Aerospace Laboratories</i>	C24
4	Studies on Structural Health Utility Management System for Transport Aircraft <i>MV Shivaprasad, Sivaranjani T, S Raja, AcSIR, Ghaziabad, India & CSIR-National Aerospace Laboratories</i>	C61
5	Quantifying Barely Visible Impact Damage on Composite Structures using Fiber Bragg Grating Sensors: A Strain Response Approach <i>Amitabha Datta, Nadeem Masood, Revati CM, M J Augustin, Vijay Kumar A and Amit Kumar Gupta, CSIR-National Aerospace Laboratories</i>	C80

February 09, 2024 [SESSION –4C]		
Theme: Fatigue & Fracture of Composites		
Venue : Hall – 2: ALD Conference Hall		
Chairman : Dr. PS Nair, ISRO, URSC (Retd.)		
12.30pm-1.00pm	Invited Talk: High Cycle Fatigue Life Estimation of Composite Laminates & Sub-Structures Dr. Subbareddy Duggamati, Professor, IIT-Tirupathi	
1.00pm-1.45pm	Contributory Paper Presentations	
SI No.	Paper details	Paper ID
1	Computational Fatigue Life Assessment of Aerospace Composite Panels: Unnotched vs. Notched <i>PK Sahoo, Bikash Kumar Pradhan, Shrimukhi G Shastry, CSIR- National Aerospace Laboratories, Bangalore</i>	C17
2	Crack Density Estimation in CFRP Laminates Using Vision Transformer Based Deep Learning Technique <i>Y Sai Krishna, Gangadharan Raju , Maunendra Sankar Desarkar , Indian Institute of Technology Hyderabad</i>	C32
3	Fatigue Behavior of Shape Memory Polymers <i>R Boomurugan, M Chinnapandi, Ranjit Mohan, KVN Gopal, R Velmurugan, Indian Institute of Technology Madras, Chennai</i>	C62
4	Bird Strike Impact Strength Analysis of Aircraft Wing Embedded with Cellular Composite Structures <i>Sudhir Sastry YB, Naman Kejriwal, K Akshay Kumar, JAIN (Deemed-to-be University), Bengaluru</i>	C45

1.45pm -2.15 pm **Lunch**
Venue:NAL Canteen (SURUCHI) – First Floor

February 09, 2024 [SESSION – 5A]		
Theme: FEM in Design of Composites		
Venue : S R Valluri Auditorium		
Chairman :Dr. S Rajagopal, Scientist G, ADE (DRDO)		
2.15pm -2.45pm	Invited Talk: A State-Vector Formulation for Mechanics and Multi-Physics Modelling of Composite Laminates and Sandwich Panels <i>Dr. Nagendra Gopal, Professor –IIT-Madras</i>	

2.45pm-4.00pm	Contributory Paper Presentations		
SI No.	Paper details		Paper ID
1	A Study on Decomposing Ablative Composite Material Under Thermal Load Using Mathematical Model <i>Mehreen Sana M, Chitaranjan Pany, Suresh R, Vikram Sarabhai Space Centre, ISRO</i>		C63
2	Modeling of Super elastic Shape Memory Alloy Wire Based on Neural Network Approach <i>Arunabha Datta and Senthilkumar Palaniswamy, Visvesvaraya Technological University, Belagavi&CSIR-National Aerospace Laboratories, Bangalore</i>		C64
3	Structural Analysis of Composite Blade for High Pressure Ratio Axial <i>C Veera Sesha Kumar, Vivek EK, Shobhavathy MT, CSIR-National Aerospace Laboratories, Bangalore</i>		C65
4	Design & Development of Composite Pylon Fairings <i>Ravindra Singh, Dr. Ashish Srivastava, B Girish, TC Subba Reddy, Aeronautical Development Agency, Bangalore</i>		C69
5	Indigenous Development of Technology for CFRP Prepregs with Enhanced Shelf Life Resin Formulations <i>Harini Prabhakaran, Venkatesh Madhu, Suguna Lakshmi Madurai, CSIR-Central Leather Research Institute, Chennai</i>		C79

February 09, 2024 [SESSION – 5B]			
Theme: Synthesis and Processing of Composites			
Venue : FMCD Conference Hall			
Chairman :Dr. S Ramachandra GTRE –DRDO (Rtd)			
2.15pm -2.45pm	Invited Talk:Composites in Spacecraft Structures <i>Dr. Subbarao, Structures Group, URSC/ISRO</i>		
2.45 pm-4:00pm	Contributory Paper Presentations		
SI No.	Paper details		Paper ID
1	Effect of Zirconia/Calcium Oxide Particles on the Properties of a Carbon-Phenolic Ablator <i>Senthilkumar E, Kumar B, Kasala narasaiah, Krishnakumar G, Composite Entity, Vikram Sarabhai Space Centre</i>		C53
2	Indigenous Development and Evaluation of Carbon/Epoxy Unidirectional Hotmelt Prepreg for Aerospace Application <i>Firoskhan F, Kumaraguru S, Vinu Viswanath V and Krishnakumar G, Vikram Sarabhai Space Centre</i>		C55
3	Surface Morphology and Viscosity Variations of Chitosan Biopolymer Subjected to Shock waves impact <i>Sudarshan B, Deepak Y, Shashikant N Joshi, B.M.S. College of Engineering, Basavanagudi, Bangaluru & Swakit Biotech Pvt Ltd, Basavanagudi, Bengaluru</i>		C60
4	Investigating Prospective Aerospace Structural Composites: An Initial Study on Cyanate Ester-Benzoxazine-Epoxy TRILLOY Matrices <i>Dr Milind Khandwe, The Bhor Chemicals and Plastics Pvt.Ltd. Mumbai</i>		C71
5	GFRP Composite Bars for Non-Critical Structural Elements in Aviation Industries <i>Helen Jaqueline rani, Devadass, Rahul AR, Arundev KY, Suguna Lakshmi M, Karunya University, Coimbatore & CSIR- Central Leather Research Institute, Chennai</i>		C77

6	Investigation of Stress Fields for Rigid Inclusions Embedded in a Soft Matrix Using Digital Photo Elasticity Technique <i>Swapnil A Patil , SN Khaderi , M Ramji</i> , Indian Institute of Technology Hyderabad	C40
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February 09, 2024 [SESSION – 5C]		
Theme: Physical, Chemical & Mechanical Characterisation		
Venue : Hall – 2: ALD Conference Hall		
Chairman : Dr. RVKrishnan, Former Head, Materials Science Division, CSIR-NAL		
2.15pm -2.45pm	Invited Talk:A Fresh Look into the Design Data Generation for Polymer Matrix Composites <i>Dr. A. Gnanashekar</i> – Bohr Chemicals	
2.45pm- 4.00pm	Contributory Paper Presentations	
Sl No.	Paper details	Paper ID
1	Influence of B₄C Fillers in the High Velocity Impact Responses of Kevlar Epoxy Composite Plates <i>Vignesh S, Sreehari VM</i> , SASTRA Deemed to be University, Thanjavur	C14
2	Low-velocity Impact Studies on CFRP Laminates Fabricated using Tailored Fiber Placement Machine <i>Bhaskar Shukla, Gangadharan Raju</i> , Indian Institute of Technology Hyderabad, Kandi, Telangana	C31
3	Effect of Fiber Orientation on the Tensile Strength of Jute/Chitosan Natural Composites. <i>Vikas BG, Vedaprakash S, Anilchandra AR., Bharathi V</i> , B. M. S. College of Engineering, Bengaluru	C57
4	Studies on Thermo-mechanical Behaviour of Toughened ShapeMemory Epoxy Resins <i>Sandhya Rao, Kavitha V Rao, A Revathi</i> , CSIR-National Aerospace Laboratories, Bangalore	C68
5	Recyclable Epoxy Based Structural Composites <i>Sreelakshmi Sivaprakash, Monali Pawar, Sanket Tribhuwan, Anoop Anand</i> , Composites Research Center, Research and Development Establishment (Engineers), DRDO, Ministry of Defence, Pune	C27
6	Investigating Parametric Influences on Mechanical Behaviour of ABS Polymer Filaments in 3D Printing for Aircraft Structural Applications <i>Suganya Mathialagan, Preetha Venkatesan, Gunarajulu Renganathan, Suguna Lakshmi Madurai</i> , Rajiv Gandhi College of Engineering, Sriperumbudur, Sathyabama Institute Of Science And Technology, Anna University & CSIR-Central Leather Research Institute, Chennai	C76

4:00– 4:15 pm- TeaBreak

4.15 – 5.00 pm : Valedictory Function

Venue : S R Valluri Auditorium