

INCCOM – 15

ISAMPE NATIONAL CONFERENCE ON COMPOSITES

2 – 3 MARCH, 2017

VENUE: HAL MANAGEMENT ACADEMY

Emerging Trends in Design and Development of Composite Materials

PROGRAMME

Day – 1 (02 March, 2017)

09.15 – 11.00	Inaugural Function
11.00 – 11.30	High Tea
11.30 – 13.30	Plenary Session – 1
13.30 – 14.00	Lunch
14.00 – 14.30	Invited Talk (2 Parallel Sessions)
14.30 – 16.00	Contributory Papers (2 Parallel Sessions)
16.00 – 16.15	Tea
14.30 – 18.00	Student Session
18.00 – 20.00	Cultural Program followed by Banquet Dinner

Day – 2 (03 March, 2017)

09.00 – 10.00	Plenary Session – 2
10.00 – 10.30	Invited Talk (2 Parallel Sessions)
10.30 – 11.30	Contributory Papers (2 Parallel Sessions)
11.30 – 11.45	Tea
11.45 – 12.15	Invited Talk (2 Parallel Sessions)
12.15 – 13.30	Contributory Papers (2 Parallel Sessions)
13.30 – 14.00	Lunch
14.00 – 14.30	Invited Talk (2 Parallel Sessions)
14.30 - 16.00	Contributory Papers (2 Parallel Sessions)
16.00 – 16.15	Tea
16.15 – 17.00	Valedictory Function

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INAUGURAL CEREMONY

08.45 – 09.15	Registration
09.15 – 09.20	Invocation
09.20 – 09.25	Welcome by Shri V Sadagopan, President, ISAMPE
09.25 – 09.35	About the Seminar & Introduction of the Chief Guest by Dr.D Saji, Chairman, INCCOM-15
09.35 – 09.40	Lighting of the Lamp
09.40 – 09.50	Inaugural Address by Shri. P. Jayapal, Chief Executive of CEMILAC, DRDO
09.50 - 09.55	Release of E-Proceedings by Chief Guest, Shri. P. Jayapal
09.55 – 10.00	Release of Souvenir by Shri J.J. Jadhav, Director, CSIR-NAL
10.00 – 10.10	Presidential Address by Director, CSIR-NAL, Shri J.J. Jadhav
10.10 – 10.15	Introduction of the Keynote Speaker by Dr Shylaja Srihari, Convener, INCCOM-15
10.15 – 10.45	Keynote lecture by Dr Sabu Thomas, Director, Institute of Nano Science & Nano Tech (INSNT), Mahatma Gandhi University, Kottayam on " Engineering at the Nanoscale: A Strategy for Developing High Performance Functional Materials "
10.45 – 10.55	Vote of thanks by Convener, INCCOM-15
10.55 – 11.00	Inauguration of INCCOM-15 Exhibition by Chief Guest, Shri. P. Jayapal
11.00 – 11.30	High Tea

SESSION DETAILS

02 March, 2017 (Thursday)	PLENARY SESSION - 1	11.30 – 13.30	HMA Auditorium
Chairman	Dr.S.Shankaran		
Speaker	Shri A Rajarajan, Dy. Director, CMSE, VSSC Thiruvananthapuram		
Title	Composites for Spacecraft Structures		
Speaker	Prof. Asim Tewary, Dept. of Mechanical Engg., IIT Bombay		
Title	Machining of Composites		
Speaker	Prof. Dharmendra Singh, Indian Institute of Technology Roorkee		
Title	Development of Microwave Absorbing Materials with Electromagnetic Technique for Stealth Application		

02 March, 2017 (Thursday)	Technical Paper Presentation 14.00 – 16.00	HALL A (SPOORTHI)
SESSION – 1A	Theme : Synthesis and Processing of Composites	
Session Chairman :	Shri M Subba Rao	
14.00 – 14.30	Invited Talk	
Speaker	Prof. R Velmurugan, Dept. of AE, IIT Madras	
Title	Nano Composites	
14.30 – 16.00	Contributory Papers	
14.30 – 14.45	Preparation and processing of Hydroxyapatite Chitosan Composite C. Harisha, L. Mariappan, H. N. Roopa and R. Ramachandra Rao Materials Science Division, CSIR-NAL, Bangalore -560017	
14.45 - 15.00	Synthesis and Characterization of Ceramic-Polymer Composite Nanofiber and Their Functional Applications P.K. Panda and B. Sahoo Materials Science Division, CSIR-NAL, Bangalore -560017	
15.00 – 15.15	Optimisation of Vacuum Assisted Thermoforming Temperature for Rigid Foam Cores used in Sandwich Constructions Chandreyi S Ghosh, V. Chakradhar, E. Sai Koushik, Ravishankar BN, Ravi Sekhar K, Samudra Dasgupta, Aeronautical Development Establishment (ADE), DRDO, Bangalore – 560075	
15.15 – 15.30	Studies on Out-of-Autoclave (OoA) Processing of Indigenous Prepregs for Unmanned Aerial Vehicle (UAV) Applications Ravishankar B N, Ravi Sekhar K, Hema Myneni, Chandreyi S Ghosh, Hema K S, Samudra Dasgupta Aeronautical Development Establishment (ADE), DRDO, Bangalore- 560075	
15.30 – 15.45	Issues & Challenges in Fabrication of Composite Sandwich Structures for Advanced Light Choppers K. Vijaya Kumar Aerospace Composites Division, HAL, Bangalore	

02 March, 2017 (Thursday)	Technical Paper Presentation 14.00 – 16.00	HALL-B (VIKALPA)
SESSION – 1B	Theme : Material Characterisation (Physical, Chemical and Mechanical)	
Session Chairman :	Dr.TM Naidu	
14.00 – 14.30	Invited Talk	
Speaker	Mrs. Chandrika Sudhendra, Scientist F, Head of Applied Research Division, ADE	
Title	Novel Radar Absorbing Composite Materials for Air vehicle Stealth Application	

14.30 – 16.00	Contributory Papers
14.30 – 14.45	Study of UV Degradation of Kevlar Fibre and its Mechanical Behaviour by NDE Method R.Naveen, K.Shabaridharan, S Venkatesan, R Vishnuram Prasath, R Vivinraj Kumar BIT, Erode, Tamil Nadu
14.45 - 15.00	Design Optimization of Rigid Foam Core Sandwich Composites for Flexural Strength and Stiffness Padmanabhan. K, Saras Chandra M, Prudvi Krishna Malladi, Vishnuvardhan Reddy G, Ramya M and Suresh E VIT University, Vellore
15.00 – 15.15	Effect of Shape Fixing Temperature on the Recovery of Epoxy Based Shape Memory Polymers in Flexure Kavitha V. Rao ¹ , G.S.Ananthapadmanabha ² , G.N.Dayananda ¹ ¹ CISMST, CSIR-NAL and ² Department of Polymer Science and Technology, SJCE, Mysore, India
15.15 – 15.30	Qualification and Acceptance of Large sized Composite Rocket Motor Casing Surjeet Kumar Sinhaa, Manoj Kumar Buragohainb, P J Thakarc Composite Product Development Centre ASL, Hyderabad
15.30 – 15.45	Analysis of various properties of hybrid composite structure under different loading conditions Thinesh Kumar, Gautam Salkar, Swetha Manian Sridhar National Centre for Aerospace Innovation and Research (NCAIR), IIT Bombay
15.45 – 16.00	Quality control testing of PAN carbon tow For high performance advanced composites G.Rama Rao and P.J.Thakar Directorate of Composite Product Development Centre, ASL, Hyderabad

02 March, 2017 (Thursday)	Technical Paper Presentation 14.30 – 17.30	HMA Auditorium
STUDENTS SESSION		
Co ordinated by Prof. Madhav Murthy		
14.30 – 14.40	Comparison study of vacuum infusion and Hand Layup method for making Kenaf/Polyster Composites: A Review Sharaj A P [#] , Nishanth D [#] , Madhav Murthy*. [#] UG student , *Assistant Professor Department Of Mechanical Engineering, BMSCE, Basavangudi, Bengaluru	
14.40 – 14.50	Comparative studies on thermal and microwave curing of Kevlar-Epoxy oven prepreg laminates Kaushik Datta [#] , Kishora V K [#] , Sushmitha S [#] , S.H.Kameshwari Devi [#] , Chiranjeevi M C [*] , Sandhya Rao [*] [#] Department of polymer science and technology, SJCE, Mysuru [*] Centre for Societal Missions & Special Technologies, CSIR-NAL, Bangalore	
14.50 – 15.00	A review paper on Study of Ultrasonic testing using Pulse Compression technique to detect flaws in composites Ashish Lalwani [#] , Sahithya N Swamy [#] , Madhav Murthy* [#] UG student, *Assistant Professor BMS College of Engineering, Basavanagudi, Bengaluru	
15.00 – 15.10	A Review on Superconducting Quantum interference device Non Destructive Testing And Analysis Rohan Krishna B [#] , R Rajesh Kumar [#] , Madhav Murthy* [#] UG student , *Assistant Professor BMS College of Engineering, Basavangudi, Bengaluru	
15.10 – 15.20	Creep – Recovery Behaviour in Aluminium Particles Filled Epoxy Composites Vishal R L [#] , Swasthik Jain S D [#] , Soundharya M P [#] , Harikrishna G [#] , Ananthapadmanabha	

	G.S#, Kavitha V Rao* # Department of Polymer Science and Technology, SJCE, Mysore, India * CSMST, CSIR-National Aerospace Laboratories, Bangalore, India
15.20 – 15.30	A review paper on Effect of Chemical Treatments on Mechanical Properties Of Hybrid composite laminates Sai Vignesh K S#, Manju M B#, Nikhil K S# Madhav Murthy*. #UG student , *Assistant Professor Dept., Of Mech., Engg. BMSCE Basavangudi, Bengaluru
15.30 – 15.40	A Review Paper on Natural & Artificial Ageing of FRP Composites Nihal Varma#, Rohan Kishorepuria#, Rohit Anil#, Diwakar R#, Madhav Murthy*. #UG student, *Assistant Professor Dept., Of Mech., Engg., BMSCE Basavangudi, Bengaluru
15.40 – 15.50	A Review on Fatigue Prediction Models for Composite Material using Modal Testing Pritam V.Kulkarni#, P. J. Sawant*, V.V.Kulkarni** # PG Student, *Assistant Professor and **Professor M. E. Mechanical Engineering Sanjay Ghodawat Group of Institutions, Atigre, Kolhapur, Maharashtra, India
15.50 – 16.00	Creep and recovery of MWCNT-Epoxy Shape Memory Polymer Nanocomposites Shalini V#, Siddharth Joshi*, A. Revathi** #NIE, M.Tech Student, *Associate Professor, NIE Mysore ** CSMST, CSIR-National Aerospace Laboratories, Bengaluru
16.00- 16.15	TEA BREAK
16.15 – 16.25	Microwave Curing of Glass Fibre Reinforced Oven Prepreg Laminates Chethan C L#, Chiranjeevi M C*, Dilip Maruthi G#, Sandhya Rao* # BMS College of Engg., Bengaluru * CSMST, CSIR- National Aerospace Laboratories, Bengaluru
16.25 – 16.35	A Review Paper on Surface coatings Priyam Rajput#, Rahul Sarwad#, Madhav Murthy*. #UG student , *Assistant Professor Dept., Of Mech., Engg., BMSCE, Basavangudi, Bengaluru
16.35 – 16.45	Development of hybrid lay-up scheme using ud fabric and spread tow fabric for wind turbine blades Thulasi Durai*, M Rajendra Prakash*, Rayees Malick K#, Ramalingam K#, Rahul S#, SekarK# # Mech Engg dept, Adhiyamaan College of Engineering, Hosur, India * CSMST, CSIR-National Aerospace Laboratories, Bengaluru, India
16.45 – 16.55	A Review on comparative study of hand layup, resin transfer moulding and vacuum bagging methods of making FRP composites of different weave pattern Suhas M Bhasme#, Madhav Murthy*. # M.Tech MSE Student, *Assistant Professor. BMS College of Engineering, Basavangudi, Bengaluru
16.55 – 17.05	A Review Paper on the reuse and recovery of Carbon Fibre composites Ranjitha Sudharsan#, Rahul A E#, Diwakar R#, Shailesh Garlapati#, Madhav Murthy* #UG student, *Assistant Professor Dept., Of Mech., Engg., BMSCE Basavangudi, Bengaluru
17.05 – 17.15	Artificially Engineered Materials for Invisibility Cloaking Sudha. B, Jyothi M.H, Balamati Choudhury Center for Electromagnetics Division, CSIR-NAL, Bengaluru
17.15 – 17.25	EM Design and Performance Analysis of Short Strip Pair (SSP) and Microstrip Line-based Planar Radar Absorbing Structure Girish K*, Phalguni Mathur*, Hema Singh# * R. V. College of Engineering # Center for Electromagnetics Division, CSIR-NAL, Bengaluru

17.25 – 17.35	RCS Reduction in Microstrip Patch Antenna using Split-ring Resonator (SRR)-based Hybrid Ground Plane Manohar R*, Maumita Dutta*, Hema Singh# * CMR Institute of Technology, Bangalore # Center for Electromagnetics Division, CSIR- NAL, Bengaluru
17.35 – 17.45	EM Analysis of Reflection Characteristics of a Hybrid Slab comprising of Non-magnetized Plasma and an Exponentially Graded Dielectric Layer Nijila K. S*, Vineetha Joy#, Hema Singh# * Department of Electronics, Cochin University of Science & Technology (CUSAT), Kochi .# Center for Electromagnetics Division, CSIR- NAL, Bengaluru

18.00 – 19.00	Cultural Programme
19.00 onwards	Dinner at HMA Premises

03 March, 2017 (Friday)	PLENARY SESSION - 2	09.00 – 10.00	HMA Auditorium
Chairman	Dr. RV Krishnan		
Speaker	Shri. Pramod Kumar Rastogi, AGM – Projects, Aerospace Composite Division, HAL, Bangalore		
Title	Challenges in Composite product development		
Speaker	Presentation by Dassault systems		

03 March, 2017 (Friday)	Technical Paper Presentation 10.00 – 11.30	HALL A (SPOORTHY)
SESSION – 2A	Theme : FEM in Design of Composites	
Chairman	Dr. P S Nair	
10.00 – 10.30	Invited Talk	
Speaker	Dr. B Vidyashankar, Technical Director, GE Global Research, Bangalore	
Title	Composite Structures for Railway Locomotives	
10.30 – 11.30	Contributory Papers	
10.30 – 10.45	Assessment of Performance Degradation due to Debonds in Monocoque, Sandwich and Stiffened Composite Plates and Cylinders Dr. K.R Pradeep and V Thaddeus Basker Operation Launch Vehicle Team, VSSC, Thiruvananthapuram	
10.45 – 11.00	Designing Alumina Reinforced MMC with improved Tribo-Mechanical properties: A Computational Intelligence Based Approach Titov Banerjee#, Swati Dey*, Debdulal Das*, Shubhabrata Datta** #Birbhum Institute of Engineering and Technology, Siuri, India *Indian Institute of Engineering Science and Technology, Shibpur, Howrah **SRM University, Kattankulathur, Chennai	
11.00 – 11.15	Analysis of Sandwich Beam with Spatially Varying Non-Gaussian properties Mukherjee S, Ganguli R, Gopalakrishnan S Indian Institute of Science (IISc), Bangalore	
11.15 – 11.30	A Numerical Approach to Size Optimization of a Composite Wing-Box structure Kumari Asha, N. Lohith, Byji Varughese Advanced Composites Division, CSIR-NAL, Bengaluru	

03 March, 2017 (Friday)	Technical Paper Presentation 10.00 – 11.30	HALL-B (VIKALPA)
SESSION – 2B	Theme : Composites Structures and Health Monitoring	
Chairman	Dr GN Dayananda , Head CSMST, CSIR NAL	
10.00 – 10.30	Invited Talk	
Speaker	Dr Ramdas, R&DE Pune	
Title	Structural Health Monitoring and NDE	
10.30 – 11.30	Contributory Papers	
10.30 – 10.45	UAV Composite Airframe Structural Design Optimization through Structural Health Monitoring (SHM) and Challenges in implementing SHM Siddappaji, Ashok Rangan, Maharajan Aeronautical Development Establishment (ADE), DRDO, Bengaluru	
10.45 – 11.00	Comparative Studies of Structured Light Projection based Image Processing for Inspection of Composite Structures Nithin Joy*, Swetha Vinayan#, Vandana Ramesh*, Augustin M. J*, Amitabha Datta*, Nitesh Gupta* * Advanced Composite Division, CSIR-National Aerospace Laboratories, Bengaluru # Amrita School of Engineering, Coimbatore	
11.00 – 11.15	Characterization of Exponential Cohesive zone model for Fracture Assessment of De-bonded Composite Panels J Muthupandian and Dr. K.R Pradeep Operation Launch Vehicle Team, VSSC, Thiruvananthapuram	
11.15 – 11.30	Impact Force Estimation on Composite Structures using Least Square - Support Vector Machine for Structural Health Monitoring Amitabha Datta, Kaushik K N, Augustin MJ, Viswamurthy S R, Nitesh Gupta, Kotresh G M Advanced Composites Division, CSIR-National Aerospace Laboratories, Bengaluru	

11.30 – 11.45 TEA BREAK

03 March, 2017 (Friday)	Technical Paper Presentation 11.45 – 13.30	HALL A (SPOORTHY)
SESSION – 3A	Theme : Material Characterization (Physical/ Chemical/Mechanical)	
Chairman	Mr. Poomani, ISRO	
11.45 – 12.15	Invited Talk	
Speaker :	Dr. Makarand Joshi, Sc. G, Composites Division R&DE Engineers, DRDO, Pune	
Title :	Title : Resin Film Infusion for UAV Structures	
12.15 – 13.30	Contributory Papers	
12.15 – 12.30	Development of Thermo-mechanical test system for hot structural and ablative composites TS Simil, ES Vasudev, AJ Midhun, VJ James & KM Usha Composites Entity, VSSC, Thiruvananthapuram	
12.30 – 12.45	A comparative evaluation of materials for side impact beams H Sreedhara, K Panbarasu and V R Ranganath STTD, CSIR-National Aerospace Laboratories, Bengaluru	
12.45 – 13.00	Microstructure and mechanical properties of extruded hybrid AZ91 composite Gollapalli Prince*, Mridul Pant*, Anilchandra A.R.#, M.K.Surappa* * Department of Materials Engineering, Indian Institute of Science, Bangalore # Department of Mechanical Engineering, B.M.S. College of Engineering, Bangalore	
13.00 – 13.15	Low velocity impact damage of SiC seal coated carbon fibre reinforced SiC matrix (Cf-SiC) composite Manish Patel*, Amretendu Mukhopadhyay*, Sarabjit Singh*, A. Udayakumar# and V. V. Bhanu Prasad* *Defence Metallurgical Research Laboratory, Hyderabad, India # Material Science Division, CSIR-National Aerospace Laboratory, Bengaluru, India	

13.15 – 13.30	Increasing Toughness of Cocured Prepreg Composite “T” Joints with Integrally Woven 3D Inserts Kundan Kumar Verma, Athimoolaganesh S, Ashok Kumar, Saransh Jain, Viswamurthy SR, Kotresh M Gaddikeri Advanced Composite Division, CSIR-National Aerospace Laboratories, Bengaluru
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03 March, 2017 (Friday)	Technical Paper Presentation 11.45 – 13.30	Hall B (VIKALPA)
SESSION – 3B	Theme : Non-Destructive Testing / Composite Tooling / Nano-Composites	
Chairman	Prof,S Gopalakrishnan IISc	
11.45 – 12.15	Invited Talk	
Speaker	S.T. Aruna, Principal Scientist, Surface Engineering Division, CSIR NAL	
Title	Ceramic Particles Reinforced Electrodeposited Metal Matrix Functional composite coatings	
12.15 – 13.30	Contributory Papers	
12.15 – 12.30	Evaluation of Advanced Fibre Composites and Sandwich Structures using Non-Destructive Testing (NDT) Methodologies Ramesh Babu.G [#] , Naveen Kumar ^{##} , B.N. Srinivasa Reddy [*] , P. Mukhopadhyay ^{**} Senior Manager(QA) [#] , Manager (QA) ^{##} , Chief Manager (QA) [*] , Dy. General Manager(QA) ^{**} Aerospace Composites Division ,HAL, Bangalore, India	
12.30 – 12.45	Challenges in Manufacturing of High Pressure Ratio Composite Blade V. Mukesh , Kotresh M Gaddikeri Advanced Composite Division, CSIR-National Aerospace Laboratories, Bengaluru	
12.45 – 13.00	Composite Tooling and Manufacturing Technologies for Series Production of UAV airframe Composite structures Siddappaji, Ashok Rangan, Maharajan Aeronautical Development Establishment (ADE), DRDO, Bengaluru	
13.00 – 13.15	Mechanical and electrical property characterization of low cost porous carbon nano particles reinforced epoxy J. R. Pothnis [*] , A.R. Anilchandra [#] , G. Hegde [#] , S. Gururaja [*] [*] Aerospace Engineering, Indian Institute of Science (IISc), Bangalore [#] BMS College of Engineering, Bangalore	

13.30 – 14.00	LUNCH
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03 March, 2017 (Friday)	Technical Paper Presentation 14.00 – 16.00	HALL A (SPOORTHY)
SESSION – 4A	Theme : FEM in Design of Composites	
Session Chairman :	Dr Vijaya Kumar, HAL	
14.00 – 14.30	Invited Talk	
Speaker	Shri T.C. Subba Reddy, Sc. F, DPD - Composites, ADA, Bangalore	
Title	Design for Manufacturing	
14.30 – 16.00	Contributory Papers	
14.30 – 14.45	Development of a Mechanically fastened joint for GFRP Filament Wound Igniter Cases N Satheesh Kumar, Jithin G Mathew, N Muthuraju, & Basil Eldhose Composites Pressurised Systems Division, Composites Entity, Vikram Sarabhai Space Centre, Indian Space Research Organisation, Thiruvananthapuram, Kerala	
14.45 - 15.00	A Methodology for Optimum Design of Helicopter Rotor Blade for Placement of Natural Frequencies Subramanian K and Venkatesan C Rotary Wing Research and Design Centre (RWR&DC), Aerospace Engineering Dept. , Hindustan Aeronautics Limited, Bangalore	

	Indian Institute of Technology-Kanpur
15.00 – 15.15	Failure Onset and Strength Prediction in Co-cured Composite Structural Joints using Numerical Analysis Manisha M Banker#, Byji Varughese* # Former Scientist, * Scientist Advanced Composites Division, CSIR-National Aerospace Laboratories, Bangalore
15.15 – 15.30	Characterization of Exponential Cohesive zone model for Fracture Assessment of De-bonded Composite Panels J Muthupandian and Dr. K.R Pradeep Operational Launch Vehicle Team, VSSC, Thiruvananthapuram
15.30 – 15.45	Vibration based Damage Assessment of Laminated Composite Structures using UPSO T. R. Jebieshia, D. K. Maiti, D. Maity IIT, Kharagpur
15.45 – 16.00	The Design and Development of Composite Landing Gear for UAV application Akhilesh Kumar Jha, S. Sathyamoorthy, Viswa Prakash Aeronautical Development Establishment (ADE), DRDO, Bengaluru

03 March, 2017 (Friday)	Technical Paper Presentation 14.00 – 16.00	HALL B (VIKALPA)
SESSION – 4B	Theme : Electromagnetics in Radome Technology	
Session Chairman :	Dr. Ravindranath U Nair	
14.00 – 14.30	Invited Talk	
Speaker	Prof KJ Vinoy IISc	
Title	An FEM based Procedure for Stochastic Electromagnetic Analysis	
14.30 – 16.00	Contributory Papers	
14.30 – 14.45	Novel Polymer Nanocomposites (NPNC) For Aerospace And Electronics Applications – An Approach in the Waiting Dr. A. K. Shukla, Professor, East Point College of Engg. & Technology, Bangalore-49	
14.45 - 15.00	FSS based High Performance Radar Absorbing Structure Sangeetha B #, Athira R#, K.S. Venu#, Padamavathi T.*, Jyotsna K. M*, Vanaja A.2, R. U. Nir#, and Shiv Narayan# # Centre for Electromagnetics * Centre for Societal Missions & Special Technologies (CSMST), CSIR- National Aerospace Laboratories, Bengaluru, India	
15.00-15.15	Scattering Analysis of Conformal Frequency Selective Surface Structure Limna T. J*, Shiv Narayan#, and R. U. Nair# * Department of Electronics, Cochin University of Science & Technology (CUSAT), Kochi # Centre for Electromagnetics, CSIR-National Aerospace Laboratories, Bengaluru	
15.15-15.30	A study on moisture absorption under hot – wet conditions of a Carbon Fibre Reinforced Plastic Composite Kishora Shetty*, Shylaja Srihari#, C. M Manjunatha# *Research Scholar, Academy of Scientific and Innovative Research, NAL, Bangalore - 560017, India #PrincipalScientist, CSMST, National Aerospace Laboratories, Bangalore - 560017, India #Senior Principal Scientist, STTD, National Aerospace Laboratories, Bangalore - 560017, India	
16.00 – 16.30	Valedictory Function followed by Tea	