

Thursday, December 04, 2008

08.45 a.m. – 01.30 p.m.

Dr SR Valluri Auditorium, NAL

08.45 – 09.15 a.m.

Registration

9.15 a.m. – 11.00 a.m.

Inaugural Session

Inaugural Address by Shri SK Shivakumar

Release of Proceedings by Shri SK Shivakumar

Release of Souvenir by Dr AR Upadhya

Presidential Address by Director, NAL

Keynote lecture by Dr Tessy Thomas

Inauguration of INCCOM-7 Exhibition by Mr Mahendra Patel, CEO, Kemrock Industries & Exports Limited, Vadodara

11.00 a.m. – 11.30 a.m.

Tea

11.30 a.m. – 01.30 p.m.

Plenary Session

Chairman: Dr BR Somashekar, NALTECH, Bangalore

Technology Challenges in Space Missions

PS Nair, ISRO Satellite Centre, Airport Road, Bangalore – 560 017

Certification of Aircraft Structural Repair

Kanchan Biswas, Associate Director (Aircraft), CEMILAC, Bangalore – 560 037

Cost Effective Composite Technology for Primary Aircraft Parts

M Subba Rao, Tata Advanced Materials Limited, Jigani, Bangalore - 562 106

New Concepts in Composites with Nano-reinforcements

LM Manocha and S Manocha, Dept. of Materials Science, Sardar Patel University, Vallabh Vidyanagar-388120

01.30 p.m. – 02.00 p.m.

Lunch Break

Thursday, December 04, 2008

2.00 p.m. – 04.00 p.m.

Dr SR Valluri Auditorium

SESSION – 1A : **Synthesis and Processing of Composites**
Chairman : Prof Subba Rao, Amrita Institute of Technology, Coimbatore

2.00 p.m. – 2.30 p.m. Invited Talk: **Self Reliance in Composites**
Shri M Enamuthu, CPSG, Composite Entity, Vikram Sarabhai Space Centre, Thiruvananthapuram

2.30 p.m. – 4.00 p.m. Contributory Paper Presentation

Processing and Engineering of Polyurethane Composites for Application in Therapeutic footwear for Diabetic and Orthopedic patients
G Saraswathy, Y Lakshmi Narayana, Gautham Gopalakrishna, BN Das, Ganga Radhakrishnan, Central Leather Research Institute, Adyar, Chennai

Polymer Composite with Bone Bonding Capability
*Roy Joseph, Polymer Processing Laboratory, Biomedical Technology Wing,
Sree Chitra Tirunal Institute For Medical Sciences And Technology, Poojapura, Thiruvananthapuram*

Processing, Characteristics and Applications of Dielectric Composites based on Reconstituted Mica for High Voltage Rotating Machines
AK Shukla, Dept of Engineering Chemistry, The Oxford College of Engineering, Bommanahalli, Hosur Main Road, Bangalore

In Situ Generation of Silica in Polymer Matrix
D Meenakshi, B Kothandaraman, KK Iynesh Kumar, Department of Rubber and Plastics Tech, MIT Campus, Anna University, Chennai

Determination of ‘Pressure Application Window’ (PAW) for the Vacuum Enhanced Resin Infusion Technology (VERITY) Process
A Anil Kumar, Ramesh Sundaram, Kundan K Verma, and Kailash Singh, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Thursday, December 04, 2008

2.00 p.m. – 04.00 p.m.

Computer Support Services – Hall

SESSION – 1B : Composites Tooling and Product Development

Chairman : Shri P Soundar Rajan, General Manager, Composite Manufacturing Division, HAL, Bangalore

2.00 p.m. – 2.30 p.m. Invited Talk: **Design, Development and Realization of Carbon Composite Structures for Satellites**

Shri D Poomani, ISRO Satellite Centre, Airport Road, Bangalore

2.30 p.m. – 4.00 p.m. Contributory Paper Presentation

Development of Composite Tools for Co-cured and Co-bonded stiffened Composite structure for Aircraft using Derivative Tooling Technology

M Govindan kuttu, N Saravana kumar, G Radhakrishnan, BL Dinesh & M Subba Rao, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Design and Development of Composite Payload Fairing for GSLV MKII

G Antony Neethi Manickam, S Sridhar, Sibi Joseph, N Jayaraman, T Ferdinand, Composite Structures Group, Composites Entity, VSSC, ISRO, Thiruvananthapuram

Development of Hybrid Composite Panels for High Velocity Projectile Impact

M Ganesh babu, T Gnana Durai, MK Joshi, TATA Advanced Materials limited, Jigani, Bangalore

Ballistic Impact Behavior of Foam Core Sandwich Structures

N D Parab, Ankit Verma and N K Naik, Aerospace Engineering Department, Indian Institute of Technology Bombay, Powai, Mumbai

Structural Qualification of CFRP Yoke

NK Ravikiran, Sanjeev Kumar, VJ James and A Rajarajan, CMSE/VSSC, Thiruvananthapuram

Design and Development of Flex Nozzles for Solid Rocket Motors

JJ Srinivas, N Kishore Nath, S Karthikeyan, K Jayaraman, P Mallesam, Composite Product Development Centre Advanced Systems Laboratory, Hyderabad

Safety in Composite Manufacturing

A Gnanashekar, S Millath Jahan, P Soundara Rajan, CMD – HAL, Bangalore

4.00 p.m. – 4.15 p.m. **Tea Break**

Thursday, December 04, 2008

04.15 p.m. – 05.30 p.m.

Dr SR Valluri Auditorium

SESSION – 2A : **Non-Destructive Testing and Analysis** (*NDT & Composite Structural Health Monitoring*)
Chairman : Dr MR Madhava, Head, Advanced Composites Division, National Aerospace Laboratories, Bangalore

4.15 p.m. – 4.40 p.m. Invited Talk: **Optical Technique for NDE**
Dr Annamalai Pillai, VSSC, Thiruvananthapuram

4.40 p.m. – 5.30 p.m. Contributory Paper Presentation

Defect Diagnosis in Composite Laminates and Structures through Air Coupled Ultrasonic C-scanning

BN Ravishankar¹, KS Hema¹, Samudra Dasgupta¹, MN Jagdish Kumar¹, S Sankaran²

¹ *Aeronautical Development Establishment, New Thippasandra PO, Bangalore*

² *Directorate of Extramural Research & Intellectual Property Rights, DRDO Bhawan, New Delhi*

Applications of Aircoupled Ultrasonic and Thermography Techniques for NDE of Spacecraft Structural Components

A Ananthan, MV Rao, K Haridas, HAV Prasad and S Dasgupta, Structures Group, ISRO Satellite Centre, Bangalore

Acoustic Emission Studies of Bearing Failure in Composites

S Sanjeev Kumar, P Senthil Kumar, B Ramanaiah and HN Sudheendra, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Acoustic Emission Signature Analysis of Failure Modes in Composites

M Ramesh kumar, MR Madhava, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Composite Aero Thermo Structure for First Indian Space Capsule Recovery Experiment

Sanjay Kumar Singh, IJ Dhandhukiya, S Sridhar, Composite Structures Group, Composites Entity, VSSC, Thiruvananthapuram

Thursday, December 04, 2008

04.15 p.m. – 05.30 p.m.

Computer Support Services – Hall

SESSION – 2B : **Material Characterisation** (*Physical, Chemical and Mechanical*)

Chairman : Dr R Balasubramaniam, National Aerospace Laboratories, Bangalore

4.15 p.m. – 4.40 p.m. Invited Talk: **Compliance of Damage Tolerance Capability in Aircraft Structures**

Dr KK Brahma, Center of Excellence, A&D, Satyam Computer Services Ltd., Bangalore

4.40 p.m. – 5.30 p.m. Contributory Paper Presentation

Relationship between Fibre Volume Fraction and Hounsfield Value in Fibre Reinforced Plastics

Ramesh Babu, Aravind Joni, BN Srinivasa Reddy, Krishna Murari, Composites Manufacturing Division, HAL, Bangalore

Evaluation of Corrosion Rate of Al 6061 / Zircon Metal Matrix Composites in Sea Water

A Abdul Jameel¹, HP Nagaswarupa² and KG Manjunatha³, ¹ Dept. of Chemistry, Jamal Mohamed College, Tiruchirappalli, ² Dept. of Chemistry, East West Institute of Technology, Bangalore, ³ Dept of Chemistry, Ghousia College of Engineering, Ramanagaram

Processing and Slip Casting of Alumina-Zircon Mixtures to Produce Alumina-Mullite-Zirconia Composites

R Ramachandra Rao, HN Roopa, L Mariappan, Materials Science Division, National Aerospace Laboratories, Bangalore

Effect of Heat Treatment on Corrosion Properties of Mg/SiC MMCs

HN Gayathri, Professor & HoD, Dept. of Chemistry, MVJ College of Engineering, Bangalore

Fractographic Analysis of Unidirectional Carbon Fiber Reinforced Plastic (CFRP) Composites Failed under Tensile Loading

MA Venkataswamy^a, M Suresh Kumar^a, K Raghavendra^a and HV Ramachandra^b, ^a Materials Science Division, ^b Advanced Composites Division, National Aerospace Laboratories, Bangalore

Development and Characterization of PANI-PMMA Conductive Composite Coatings for Aerospace Applications

*KG Manjunatha¹, RMVGK Rao², ¹ Dept. of Chemistry, Ghousia College of Engineering, Ramanagaram
² Former Head, Fibre Reinforced Plastic Division, National Aerospace Laboratories, Bangalore*

Thursday, December 04, 2008

05.45 p.m. – 08.00 p.m.

Dr SR Valluri Auditorium

5.45p.m. – 6.45p.m. **Industry Meet**

*Chairmen : Mr CR Satya, Sr Vice President, TAML, Bangalore
Mr Mahendra Patel, CEO Kemrock Industries & Exports Limited , Vadodara
Dr BR Somashekar, MD, NALTECH, Bangalore*

Participating Industries

- *Kemrock Industries & Exports Limited , Vadodara*
- *TATA Industrial Services, New Delhi*
- *RV TIFAC, CDC, Bangalore*
- *Gandtrack Limited, UK*
- *Kineco Private Limited, Goa*
- *Valeth Hightech Composites Private Limited, Chennai*
- *TATA Advanced Materials Limited, Bangalore*

7.00p.m. – 8.00p.m. **Cultural Programme**

8.00p.m.

Dinner

Venue : NAL Guest House Premises

Friday, December 05, 2008

09.00 a.m. – 11.00 a.m.

Dr SR Valluri Auditorium

SESSION – 3A : Nano Composites

Chairman : Dr RV Krishnan, National Aerospace Laboratories, Bangalore

9.00 a.m. – 9.30 a.m. Invited Talk: **Dynamic Properties of Carbon Nanotubes and Nano-composite**

Dr Mira Mitra, Assistant Professor, Dept. of Aerospace Engineering, IIT-Bombay, Mumbai

9.30 a.m. – 11.00 a.m. Contributory Paper Presentation

Mechanical and Thermal Properties of Polypropylene Nanocomposites using Organically Modified Indian Bentonite
Hasmukh A Patel¹, Ghanshyam V Joshi¹, Radheshyam R Pawar¹, Rajesh S Somani¹, Raksh V Jasra² and Hari C Bajaj^{1,}*
¹Discipline of Inorganic Materials and Catalysis, CSMCRI-CSIR, Bhavnagar, ²R&D Centre, Reliance Industries Limited, Vadodara Manufacturing Division, Vadodara

Preparation and Properties of Thermoplastic IPN Nano-composites based on Polyurethane Ionomers
SN Jaisankar, Y Lakshminarayana, Sandya K Pushpan and AB Mandal, Polymer Laboratory, CLRI, Chennai

Studies on Carbon Nanotube (CNT) Based Epoxy-Nano Composites for Aerospace Applications
RM Vauhini¹, MB Saidutta¹ A Vanaja², ¹Dept. of Chemical Engg, National Institute of Technology, Karnataka (NITK), Surathkal, ² Fibre Reinforced Plastics Division, National Aerospace Laboratories Bangalore

Ballistic Impact Behavior of E-glass Reinforced Composites made using Carbon-nanotube-dispersed Epoxy
Ankit Verma, Niranjana Parab and NK Naik, Aerospace Engineering Dept, IIT-Bombay, Mumbai

Thermal and Mechanical Characterization of Polymer Nano-composites of Si₃N₄/ Polypropylene fibers
Vijay K Rangari, M Yousuf, MGHouse and Shaik Jeelani, Center for Advanced Materials, Tuskegee University, Tuskegee

Buckling Analysis of Carbon Nanotubes and Nanocomposites – A FEM Based Approach
Patel Piyushkumar, Ashokbhai and Mukul Shukla, Mechanical Engineering Dept, Motilal Nehru National Institute of Technology, Allahabad

Friday, December 05, 2008

09.00 a.m. – 11.00 a.m.

Computer Support Services – Hall

SESSION – 3B : **FEM and Repair Technologies** (*FEM in Design of Composites / Repair & Recycling Technologies*)
Chairman : Shri M Enamuthu, CPSG, Composite Entity, Vikram Sarabhai Space Centre, Thiruvananthapuram

9.00 a.m. – 9.30 a.m. Invited Talk: **Mixed Joints for Aircraft Structural Repair**
Prof SC Pradhan , Dept of Aerospace Engineering, IIT-Kharagpur, West Bengal

9.30 a.m. – 11.00 a.m. Contributory Paper Presentation

Numerical Simulation of Delamination Behaviour in Skin-Stiffener Panel

Lalitha Chattopadhyay¹, S Sridhara Murthy², H Mahesh³

^{1,2} Structural Technologies Division, National Aerospace Laboratories, Bangalore, ³ M Tech Student, BMS College of Engineering, Bangalore

Advanced Hot Bonding System for Repair of Aerospace Structures

GM Kamalakannan¹, M Subba Rao², Keerthi Chandra³ and P Abhilash⁴, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Repair Methodology for Skin Damage of a Composite Control Surface of a Low Speed Aircraft

Satish S Nimbal¹, P Ravi Kumar¹, Byji Varughese¹ and M Subba Rao², ¹Scientist, ²Ex-Head, Advanced Composites Division, National Aerospace Laboratories, Bangalore

Tensile Test of Glass Fiber Composite Repair Panels

TC Subba Reddy¹, G Savitha¹, K Vijayaraju¹, VR Ranganath²

¹Air Frame Directorate, Aeronautical Development Agency, Bangalore, ²Structural Technology Division, National Aerospace Laboratories, Bangalore

11.00 a.m.– 11.30 a.m. Tea Break

Friday, December 05, 2008

11.30 a.m. – 1.30 p.m.

Dr SR Valluri Auditorium

SESSION – 4A : **FEM and Repair Technologies** (*FEM in Design of Composites / Repair & Recycling Technologies*)
Chairman : Prof B Dattaguru, Indian Institute of Science, Bangalore

11.30a.m.– 12.30p.m. Invited Talk: **The Structural Design Optimisation of Carbon Fiber Composite Wing for the SARAS Civil Transport Aircraft**
Dr S Sridhara Murthy, Scientist, Structural Technologies Div, National Aerospace Laboratories, Bangalore

Analysis of Multifunctional Composites
Prof Dinesh H. Sampath, Dept. of Aerospace Engineering, Indian Institute of Science, Bangalore

12.30 p.m.– 1.30 p.m. Contributory Paper Presentation

Rib UD Composites for Grid-stiffened Composite Shell

*R Velmurugan¹ and M Buragohain², ¹ Dept of Aerospace Engg & Composites Technology Centre, IIT-Madras, Chennai
² Advanced Systems Laboratory, Hyderabad*

Optimization of Satellite Payload Subsystems with Carbon Composites

*AR Srinivas¹, Rahul dev², Sumit dubey³, V D Mokani⁴
¹ Head, MCD, ^{2,3,4} Scientist/Engineer, Space Applications Centre, Ahmedabad*

Behaviour of Cross-Ply Laminates under General In-Plane Fatigue Loading

*Rajhansa Sridhara¹, Rishi Agrawal¹, Ankur Baranwal¹, Hanmant Shinde², Ravikanth Aluri², YM Desai³, and NK Naik¹
¹ Aerospace Engineering Department, ³ Civil Engineering Department, IIT-Bombay, Mumbai
² FEAST Software Private Limited, SINE, CSRE Building*

Accurate and efficient computation of response quantities for laminated composite structures using variable kinematics modeling approach

Amit Kumar Onkar, Scientist, Structural Technologies Division, National Aerospace Laboratories, Bangalore

Assessment of Various Displacement Based Laminate Theories for Static Analysis of Composite Structures

Dipanjana Biswas, Gaurav Singh Bawa and D K Maiti, Dept of Aerospace Engineering, IIT-Kharagpur, Kharagpur

Friday, December 05, 2008

11.30 a.m. – 1.30 p.m.

Computer Support Services – Hall

SESSION – 4B : Composite Tooling and Product Development

Chairman : Shri DV Venkatasubramanyam, Head, STTD & FRPD, National Aerospace Laboratories, Bangalore

11.30a.m.– 12.00 noon Invited Talk: **Design of Iso-grid Structures for Aerospace Applications**

Shri S Ezhil Selvan, Engineer, SDED, SDEG, VSSC, Thiruvananthapuram

12.01p.m. – 1.30 p.m. Contributory Paper Presentation

Development of Bracket in Carbon Fiber Reinforced Plastic (CFRP) for mounting Spacecraft Antenna Feed System

AI Patel¹, AC Mathur¹, DV Venkatasubramanyam², RMVGK Rao², Mohan Kumar²

¹Space Applications Centre, Ahmedabad, ² National Aerospace Laboratories, Bangalore

Syntactic Foam Core Sandwich Composites for Electronic Packaging Applications

Samudra Dasgupta^{1}, K Ravi Sekhar¹, MN Jagdish Kumar¹, S Sankaran²*

¹Aeronautical Development Establishment, Bangalore , ² Directorate of Extramural Research & Intellectual Property Rights, New Delhi

Concepts for Truss Based Aerofoil Construction

D Thulasi Durai, S Venkatesh, Byji Varughese, B Ramanaiah and GN Dayananda

Advanced Composites Division, National Aerospace Laboratories, Bangalore

‘Viman Vikas’: On-Line Quality Assurance Software For Manufacturing Of Aircraft Composites Structures

R Balamurugan¹, MV Emayavaramba Moorthy² and Ramesh Sundaram²

¹Knowledge and Technology Management Division, ²Advanced Composites Division, National Aerospace Laboratories, Bangalore

Natural Fiber Composites (NFC's) for Advanced Applications

T Padmavathi,^a S Venkata Naidu^b, RMVGKRao^a,^a Fiber Reinforced Plastics Division, National Aerospace Laboratories,

Bangalore, ^b Department of Polymer Science, Sri Krishnadevaraya University, Anantapur

Design and Development of LTM Layup tool for ALH cockpit

GN Satyanarayana Sharma, K Prasanna Kumar Shetty, CMD, HAL, Bangalore

1.30 p.m. - 2.00 p.m. Lunch Break

Friday, December 05, 2008

2.00 p.m. – 3.30 p.m.

Dr SR Valluri Auditorium

SESSION – 5A : **Material Characterisation** (*Physcial, Chemical and Mechanical*)
Chairman : Shri TM Naidu, Group Director, ADA, Bangalore

2.00 p.m.– 2.30 p.m. Invited Talk: **Controlled Growth of Carbon Nanocones on Carbon Fiber(s)/Fabric and its Characterization**
Dr Kamal K Kar, Dept. of Mechanical Engg & Materials Science Programme, IIT- Kanpur, Kanpur

2.30 p.m. – 3.30 p.m. Contributory Paper Presentation

Processing and Effect of Particulate Reinforcement on Tensile, Fatigue and Impact Behaviour of AA2618/Al₂O₃P Composite
A Sakthivel¹, R Palaninathan², R Velmurugan³, P Raghothama Rao⁴, ¹Scientist, RCMA(E), ⁴Scientist, CEMILAC, Bangalore, ²Professor, ³Associate Professor, IIT Madras, Chennai

Study of Small Grain-Size Alumina Ceramics Subjected to Different Magnitudes of Impact Loading: A Fracture Mechanics Approach
Jagabandhu Shit, Tony Murmu, Manoj Kumar Barai, Abhijit Chanda, Debabrata Nag
Department of Mechanical Engineering, Jadavpur University, Kolkata

Effect of Processing Pressure on Shear & Impact Properties of Glass-Phenolic Composite
AS Parihar, AK Mishra, SB Yadaw & KM Choudhary, ¹Defence Material & Stores Research & Development Establishment
DMSRDE Post Office, GT Road, Kanpur

Impact Testing of Laminated Acrylic/Polycarbonate Aircraft Transparencies
TC Subba Reddy¹, Ravindra Singh¹, Anuradha Naik², S Ramachandra², K. Vijayaraju¹, ¹ Aeronautical Development
Agency, Bangalore, ²MERF Group, Gas Turbine Research Establishment, Bangalore

Effect of Rutile (TiO₂) on Mechanical and Wear Properties of Al 6061 Composites
HN Reddappa^{1}, NJ Krishna Prasad², BS Ajay Kumar³ and N Narashimaha Murthy⁴*
^{1,3,4} Dept of Mechanical Engineering, BIT, Bangalore, ² Dept of Industrial Engg & Management, BIT, Bangalore*

Effect of particulate fillers on mechanical and abrasive wear behavior of Polyamide 66/polypropylene nanocomposites
B N Ravi Kumar¹, B Suresha², M Venkataramareddy¹, ¹Dept. of Mechanical Engg, BIT, Bangalore, ²Dept. of Mechanical Engg,
NIE, Mysore

Friday, December 05, 2008

2.00 p.m. – 3.30 p.m.

Computer Support Services – Hall

SESSION – 5B : Synthesis and Processing of Composites

Chairman : Dr RMVGK Rao, National Aerospace Laboratories, Bangalore

2.00 p.m.– 2.30 p.m. Invited Talk: **Development of High Temperature Polymer Matrix Composites for Aerospace Applications**

Dr N Shama Rao, Project Director (PV & P), Aeronautical Development Agency, Bangalore

2.30 p.m. – 3.30 p.m. Contributory Paper Presentation

Tailored Continuous Fibre reinforced Ceramic Matrix Composites (CFCCs) through Chemical Vapour Infiltration (CVI) process for high Temperature Structural applications

A Udayakumar^{1,a}, R Bhuvana^{1,b}, A Sri Ganesh^{1,c}, M Balasubramanian^{2,d}, TS Kannan^{1,e}

¹Materials Science Division, National Aerospace Laboratories, Bangalore, ²Associate Professor, IIT-Madras, Chennai

Preparation and characterization of PVDF-PZT composite films

Anjana Jain¹, Jayanth Kumar S¹, HH Kumar², ¹Materials Science Division, National Aerospace Laboratories, Bangalore, ²ARDE Pune

In-situ Synthesis and Densification of ZrB₂-ZrC and ZrB₂-SiC composites

L Rangaraj¹, C Divakar¹ and V Jayaram², ¹Materials Science Division, National Aerospace Laboratories, Bangalore, ²Dept of Materials Engineering, Indian Institute of Science, Bangalore

Investigative Studies on Cyanate Ester based Inter Penetrating Network (IPN) Matrices for Aerospace Composite Applications

A Vanaja, T Padmavathi, Kavitha and RMVGK Rao, Fibre Reinforced Plastics Division, National Aerospace Laboratories, Bangalore

In-situ Processing Technique for Fabrication of Intermetallic Composites

A Arul Paligan & V Shubha, Material Science Division, National Aerospace Laboratories, Bangalore

Kinetic Studies on Epoxy Resin System using Differential Scanning Calorimeter

S Millath Jahan, A Gnanasekar, AV Rajanna, Pramod Kumar Rastogi, Soundara Rajan, Composite Manufacturing Division, HAL, Bangalore

3.30 p.m. – 4.00 p.m. Tea Break

Friday, December 05, 2008

4.00 p.m. – 5.30 p.m.

Dr SR Valluri Auditorium

SESSION – 6 : **Non-Destructive Testing and Analysis** (*NDT & Composite Structural Health Monitoring*)
Chairman : Shri S Dasgupta, Group Director, Structures Group, ISRO Satellite Centre, Bangalore

4.00p.m.– 4.45p.m. Invited Talk: **Structural Health Monitoring of Composite Structures**
Dr K Vijayaraju, Project Director (NP-MASS) & Project Coordinator, DISMAS, Aeronautical Development Agency, Bangalore

SHM of Orthotropic Plates through an Ultrasonic Guided Wave STMR Array Patch
C.V. Krishnamurthy, J. Vishnuvardhan, and Krishnan Balasubramaniam, Dept. of Mechanical Engineering & Centre for Nondestructive Evaluation, IIT-Madras, Chennai

4.45 p.m. – 5.30 p.m. Contributory Paper Presentation

Defect Analysis Of Helicopter Dynamic Components - Case Studies

Aravind Joni¹, Sivananda Chari¹, AGnanasekar², PSoundaraRajan³

¹Engineer, ³ General Manager, Composites Manufacturing Division, ³ Chief Manager, Aircraft Research & Design Center, HAL, Bangalore

Structural Health Monitoring of Aircraft Structures - Case Studies under ADE Projects

S Ravi Sekar, M Devendra and R Raghunathan, Structures Division, Aeronautical Development Establishment, DRDO, Bangalore

Micro-mechanical Tailoring of Composite Structure for Optimum Material Properties

Srikant Sekhar Padhee, Dineshkumar Harursampath, Nonlinear Multifunctional Composites Analysis and Design (NMCAD) Lab, Department of Aerospace Engineering, Indian Institute of Science, Bangalore

5.30p.m. – 6.30p.m. Valedictory Function