



Technical Paper Presentations Schedule

As of March 14, 2024 Subject to Change

Additive Manufacturing

Low-cost Composite Tooling using Additive Manufacturing Frontally Cured

Morphogenic Composites *Prof. Jeffery Baur, Professor of Aerospace Engineering, UIUC*

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 103 A

Comparative Analysis of Water-Induced Response in 3D-Printed Scf/Abs Composites

Under Controlled Diffusion *Samiul Alam, Graduate Student, Utah State University*

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 103 A

Design of Extruder with Metering Section Removed and Replaced with Gear Pump For Machine Space Savings in Large Format Additive Manufacturing

Emily Piatt, PhD Candidate, University of Cincinnati

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 103 A

Laser Sintering of RTM385-SLS Thermoset Polyimide with Boron Nitride

Dr. Kathy Chuang, Chemical Engineer, NASA Glenn Research Center

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 103 A

Fabrication of Thermal Protection Systems Via 5-Axis Additive Manufacturing

Ms. Alison Kennedy, Graduate Student, University of Southern California

Wednesday 5/22/2024 | 2:00pm - 2:25pm | Room 103 A

Revolutionizing Additive Manufacturing: Advancing Elongated Structural Component Production with Infinite Z-Axis Printing

Mrs. Velda Soydas, Researcher, Texas A&M University-Kingsville

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 103 A

An Integrated Additive Simulation Workflow for Enhanced Fused Deposition

Modeling: Simulation, Compensation, and Experimental Validation *Mr. Mallikharjun Marrey,*

Lead AM Researcher, AlphaSTAR Technology Solutions

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 103 A

Adaptive Layer Time Control in Large Format Additive Manufacturing Via a Physics-

Based Model *Dr. Seokpum Kim, R&D Scientist, Oak Ridge National Laboratory*

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 103 A



Additive Manufacturing Process Simulation of Laser Powder Bed Fusion and Benchmarks *Mr. Mina Ghabbour, Engineer, The Aerospace Corporation*

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 103 A

Utilizing Nature-Inspired Designs in 3D-Printed Materials for Enhanced Resistance to High-Velocity Impacts *Dr. Seyed Hamid Reza Sanei, Associate Professor, Pennsylvania State University*

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 103 A

Advances in Composites Manufacturing Technology

Ai-Driven Robotic-Tool Selection for Draping Composite Preforms Based on a Geometric Surface Segmentation Approach. *Mr. Moritz Lennartz, research associate, Institut für Textiltechnik of RWTH Aachen University*

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 102 A

A Smart Robotic Cell for Automated Layup of Carbon-Carbon Composites *Prof. Steven Nutt, Professor, University of Southern California*

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 102 A

In-Situ Consolidation Thermoplastic Process Development for Toolless Automated Fiber Placement Manufacturing in Space *Dr. Waruna Seneviratne, Director, National Institute for Aviation Research/WSU*

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 102 A

High char yield and flowable preceramic resin enabled with the monomer functionalized SiC Particle *Dr. Rahul Pandey, Senior Scientist, SRI International*

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 102 A

Hydraulic bulge forming comparison of continuous and stretch broken carbon fiber prepreg laminates *Yoni Shchemelinin, Graduate research assistant, Montana State University, Bozeman*

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 102 A

Chemical Vapor Deposition/Infiltration of Hafnium Diboride on Carbon Fiber with a Pyrolytic Carbon Interfacial Coating *Mr. Seth Shuster, Ph.D. Candidate, University of Connecticut*

Tuesday 5/21/2024 | 3:30pm - 3:55pm | Room 102 A

Expanding the Temperature Capabilities and Improving the Producability of Core-Stiffened Bismaleimide Structure *Dr. Evan Lloyd, Materials and Process Engineer, The Boeing Company*

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 102 A



Innovations in Composite Laminates: Experimental Exploration of SMA Wire

Integration *Dr. Dr. Peter Bishay, Associate Professor, California State University, Northridge*

Tuesday 5/21/2024 | 4:30pm - 4:55pm | Room 102 A

Effect of Cure and Conditioning on the Mechanical Behavior of MTM 45-1 Woven Carbon Epoxy Composite

Dr. Casey Keulen, Assistant Professor of Teaching, University of British Columbia

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 103 A

Engineering Microporous Structures in 3D Printed Corn-Based Composites Through Thermomechanical Treatment

Md Nurul Islam, Research Assistant, University of Oklahoma

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 103 A

Sustainable, Fire-Resistant Building Materials from Furan-Based Epoxy Resins and Natural Fiber Composites

Amy Honnig Bassett, Graduate Research Fellow, Rowan University

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 103 A

Repair Potential of Polymeric Cold Spray for Impact-Damaged GFRP Composites

Ms. Ibnaj Anamika Anni, Graduate Research Fellow, Rowan University

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 103 A

Eco-Friendly Composites: Fabrication And Characterization Of Polymer Composites Made From Bio-Based Curing Agent

Mr. Nachiket Makh, Graduate Research Assistant, North Carolina A&T State University, Greensboro

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 103 A

Effect of Ball Milling on the Magnetic Performance of Strontium Ferrite (SrFe₁₂O₁₉)

Powders *Mr. Arigbabowo Oluwasola K., Doctoral Research Assistant, Texas State University*

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 102 A

Development of a Low Thermal Expansion Nanocomposite Resin for MSLA 3D Printer

Mr. Sufian Muhammad Abu, Doctoral Researcher, Texas State University

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 102 A

Evaluating the Role of Benzoxazine Purity on Rheological and Thermomechanical Properties

Mr. Benjamin Morasch, PhD Candidate, University of Southern Mississippi

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 102 A

Comparison of Tool-Ply Slippage Characteristics of Continuous vs Stretch Broken Carbon Fiber Prepreg

Tasnia Javin Nur, Research Assistant, Montana State University

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 102 A



Machine Learning Enhanced Material Models for Composites Process Simulation *Dr.*

Goran Fernlund, Director of Engineering, Convergent Manufacturing Technologies

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 102 A

Real-Time Material Certification of Composites Using a Digital Twin *Dr. Yuksel Yabansu,*

Scientist, HRL Laboratories

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 102 A

Characterization Of Diffusion In Epoxy Resin Using Atomic Force Microscopy Analysis

Olivia Blank, Graduate Research Assistant, Montana State University

Wednesday 5/22/2024 | 2:00pm - 2:25pm | Room 102 A

Development of Cure Kinetics Model, Viscosity Model and Fiber Bed Compaction

Curve for Cycom® Ep2750 *Dr. Salma El Euch, Project Manager, Centre technologique en aérospatiale*

(CTA)

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 102 A

Tensile Strength Uncertainty Quantification in a Prepreg Platelet Compression Molded Composite Considering the Statistical Distribution of Platelets Shape and

Size *Ms. Maggie Chong, Master of Applied Science Student, UBC*

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 102 A

Performance of Stretch-Steered Aligned Discontinuous Fiber Tape with Automated

Fiber Placement *Mr. Aidan Ford, Materials and Process Engineer, University of Delaware - Center for*

Composite Materials

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 102 A

Scalable, Infiltration-Free Ceramic Matrix Composite Manufacturing *Dr. Junhua Wei, Sr.*

Material Scientist, PARC, part of SRI international

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 102 A

On Drapability and Characterization of Flax Fabric Reinforcements *Ms. Olivia Margoto,*

Research Assistant, PhD student, The University of British Columbia

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 102 A

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 102 C

Flexible Fusion Process via Hot Powder Bed Compaction: Case for Additive

Manufacturing of Topology Optimized Structures *Mr. Jimesh Bhagatji, Research Assistant,*

Composites Modeling and Manufacturing, Old Dominion University

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 103 B



Advancements in Lightweight Reinforced Thermoplastic Composites: Versatile Flat Sheet Manufacturing and Applications *Dr. Liqing Wei, Senior Product Developer, Hanwha Azdel, Inc.*

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 103 B

The Design, Fabrication, and Inspection Of Tow-Steered Composite Panels Including the Effects of Intentional Defects *Dr. Cyrus Kosztowny, Research Aerospace Engineer, NASA Langley Research Center*

Thursday 5/23/2024 | 9:30am - 9:55am | Room 102 A

Manufacturability of a Prseus-Based Conformal Cryogenic Propellant Tank *Dr. Shuvam Saha, Composites Engineer, M4 Engineering, Inc.*

Thursday 5/23/2024 | 10:00am - 10:25am | Room 102 A

Ultrasonic Welding Process Development for Thermoplastic Aircraft Fuselage Skin Panel *Dr. Waruna Seneviratne, Director, National Institute for Aviation Research/WSU*

Thursday 5/23/2024 | 10:30am - 10:55am | Room 102 A

Investigation of the Shape-Memory Capabilities of Stretched Thermoplastic Polymers for Mandrel Production *Mr. Fabian Neumann, Research Associate, German Aerospace Center*

Thursday 5/23/2024 | 11:00am - 11:25am | Room 102 A

Additively Manufactured Low-Cost Resin Transfer Molding Tooling with Embedded Flow Monitoring Sensors to Manufacture High-Performance Composites *Dr. Khalid Aldhahri, Postdoctoral Researcher, University of Delaware Center for Composite Materials*

Thursday 5/23/2024 | 11:30am - 11:55am | Room 102 A

Clean & Sustainable Energy

Thermal Decomposition Analysis of Electrode Materials for Enhanced Energy Storage System *Mr. Andekuba Andezai, Student (Graduate Research Assistant), University of Cincinnati*

Wednesday 5/22/2024 | 2:00pm - 2:25pm | Room 103 C

Properties Of Hybrid Conducting Polymer-Graphene Electrode *Mr. Andekuba Andezai, Student (Graduate Research Assistant), University of Cincinnati*

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 103 C



Design, Analysis, and Simulation

Progressive Failure Analysis for Predicting Ultimate and Residual Strength of Composite Bonded Repairs

Dr. John Lin, Associate Tech Fellow, Boeing

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 102 B

Accelerated Aging of Adhesively Bonded Composite Joints for Use in Material Screening and Selection during Development: A Review and Proposed Model

Ms. Marie Flanigan, Materials Engineer, Lockheed Martin

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 102 B

Stress Relaxation in Accelerated Testing of Adhesively Bonded Stacks

Dr. Felix Chen, Reliability manager, Kymeta Corporation

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 102 B

End-To-End Simulation Framework for Injection Molding Process Optimization

Dr. Nikhil Garg, Postdoctoral Research Associate, Oak Ridge National Laboratory

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 102 B

Studies on Type 3 Composite-Overwrapped Pressure Vessels (COPV's): Optimization Using an Elasticity Approach

Dr. William Avery, President, Cannon Engineering

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 102 B

Holistic Digital Product Development Process for Tailored Fibre Placement Reinforced Parts

Ms. Rebecca Emmerich, Scientific Researcher, Institut für Textiltechnik of RWTH Aachen University

Tuesday 5/21/2024 | 3:30pm - 3:55pm | Room 103 A

Numerical Analysis of Damage Resistance of A Long Discontinuous Fiber Composite to a Drop-Weight Impact Event

Mr. Marco Didone, PhD Student, Department of Materials Engineering, The University of British Columbia

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 103 A

Towards The Development Of An Fds Model For Evaluating The Effects Of Critical Parameters On The Flame Spread Behaviour Of Isds In Bangladesh

Dr. Swagata Dutta, Associate Professor, Institute of Appropriate Technology, Bangladesh University of Engineering and Technology

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 103 A

Development of A Tool for Automated Cure Kinetics Investigation and Uncertainty Quantification

Matthew Kirby, Senior Research Engineer, Southwest Research Institute

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 103 A



Numerical Modeling of a Double Gyroid Composite Component's Damping

Characteristics *Dr. Jagadeep Thota, Associate Professor and Chair, University of Wisconsin-Green Bay*

Thursday 5/23/2024 | 9:30am - 9:55am | Room 102 B

Prediction of Process-Induced Deformations of Semi-Crystalline Thermoplastic

Composites *Dr. Anoush Poursartip, Professor, Convergent Manufacturing Technologies*

Thursday 5/23/2024 | 10:00am - 10:25am | Room 102 B

Optimized Drive Shafts in Sandwich Design Offer High Weight Savings

Mr. Patrick Pasberg, Logo von ITA Institut für Textiltechnik der RWTH Aachen University Research Assistant, Institut für Textiltechnik of RWTH Aachen University

Thursday 5/23/2024 | 10:30am - 10:55am | Room 102 B

The Digital Twin of a Material – What Is It And How It Is Changing The Way We Design

Airplanes *Dr. Mahesh Chengalva, Associate Technical Fellow, Boeing*

Thursday 5/23/2024 | 11:00am - 11:25am | Room 102 B

Material Characterisation of Biaxial Glass-Fibre Woven Fabrics as a Function of

Weave Pattern using Picture Frame Tests and Microscopic Analysis *Mr. Shantanu Bhat,*

Research Associate, Institut für Textiltechnik of RWTH Aachen University

Thursday 5/23/2024 | 11:30am - 11:55am | Room 102 B

Design, Analysis, and Simulation (Dr. Frank Abdi Memorial)

Progress in Modeling and Simulation for Extrusion Deposition Additive Manufacturing

(Edam): A Review *Dr. Vlastimil Kunc, Section Head, Oak Ridge National Laboratory*

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 102 B

Material State Monitoring System *Dr. Hiroshi Ide, CEO, GreenVirtue Corp.*

Tuesday 5/21/2024 | 4:30pm - 4:55pm | Room 102 B

Machine Learning-Based Models for Delamination Detection in a Composite

Laminate *Dr. Ali Najafi, Sr. Manager, ANSYS Inc.*

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 102 B

Seeds of Genoa; a historical perspective of Frank Abdi's early aero-thermal-composite structures interaction simulation developments at Rockwell in the 1980s

and impact on Aeroelastic Research at Cal Poly Pomona. *Prof. Steven Dobbs, Professional*

Practice Professor, Cal Poly Pomona

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 102 B



Virtual Testing of Fatigue/Creep/Environmental Cracking using a Meso-scale Fracture Mechanics Model *Prof. kamran nikbin, consultant, Alphastar Corp*

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 102 B

Fast Analytical Homogenization for Large Scale Additive Manufacturing *Mr. Christopher Bock, Graduate Student, University of Maine*

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 102 B

Coupled Topology and Process Optimization in Powder Bed Fusion Additive Manufacturing *Mr. Matthew Ireland, Additive Manufacturing Development Engineer, Advanced Structures and Composites Center, University of Maine*

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 102 B

Collision Provoked Failure Sequencing In Space Reentry Vehicles *Prof. Javid Bayandor, Professor, CRASH Lab, University at Buffalo - The State University of New York*

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 102 B

Soft Impact Damage Prognosis of F-16 Canopy Using Progressive Failure Dynamic Analysis *Prof. Javid Bayandor, Professor, CRASH Lab, University at Buffalo - The State University of New York*

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 102 B

Modeling of Over molded Discontinuous-Continuous Fiber Composites *Dr. Uday Vaidya, UT/ORNL Governor's Chair in Advanced Composites Manufacturing, University of Tennessee, Knoxville*

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 102 B

New Ideas for Tall Composite Wind Turbine Towers: Adapting to a Sustainable Future *Dr. Clement Hiel, President & Managing Director, CSSI - Advanced Products Development*

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 102 B

Use of Electrical Resistance to Assess Damage Development in a Laminate Ceramic Composite Subject to Foreign Object Damage and Fatigue *Prof. Gregory Morscher, Professor, University of Akron*

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 102 B

Numerically Solving Partial Differential Equations Using Series Solutions, and Least Squares Methods *Mr. James Brown, James E. Brown, BSME, MSE, Retired Aerospace Stress Analyst*

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 102 B

Tribute to Frank Abdi: Advancements in Composite Material Modeling and Impact on Simulation Software *Prof. Zafer Gurdal, Professor, University of South Carolina*

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 102 B



Emergent Materials & Applications

New Kevlar® Paper Enables Ultra-Lightweight Aerostructures for More Sustainable Aviation *Dr. Dariusz Kawka, Global Application Technical Leader - Aerospace, DuPont Water & Protection - Aramids*

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 103 C

Cleaning and Utilization of Waste Coal for Graphite Applications *Mr. Dwayne Morgan, Sr. Research Scientist, Touchstone Research Laboratory*

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 103 C

Characterization of Carbon Nanotube-Polyurethane Sheet using Screen Printing Technology for Compression and Impact Sensing *Ms. Yu-Jin Jung, Graduate Student, Hanyang University ERICA*

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 103 C

Preliminary Application Studies On Transparent Composites That Achieve Both High Optical And Mechanical Properties *Ayumi Takaoka, Sr. Manager of Product Development, Kaneka Aerospace LLC*

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 103 C

Enabling US Domestic Supply and Manufacturing Chain for Advanced Carbon Products *Dr. Chetan Tambe, Senior Engineer, AmeriCarbon Products LLC*

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 103 C

Manufacturing of Stretchable Wavy-Patterned Fiber-Reinforced Elastomer Composites and its Behavior Under Tensile Loading Condition *Dr. Garam Kim, Assistant Professor, Purdue University*

Tuesday 5/21/2024 | 3:30pm - 3:55pm | Room 103 C

Frustration of Thermoset Network Packing by Tunable Aromatic Backbone Isomerism for Matrix Strain Capability Control *Mr. Andrew Hollcraft, Graduate Student, University of Southern Mississippi*

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 103 C

Characterization of Carbon Foam Products Made from Coal at Atmospheric Pressure *Dr. Rudolph Olson III, Director, CONSOL Innovations*

Tuesday 5/21/2024 | 4:30pm - 4:55pm | Room 103 C

Carbon Aerogels from Furan-Based Polybenzoxazine Precursors *Michael Chauby, PhD student, Rowan University*

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 103 C



Natural Carbon-Enhanced Composite Material for Sustainable Additive

Manufacturing Applications *Ms. Grace Baranack, Mechanical Engineering Master's Student, Institute for Sustainable Energy and the Environment at Ohio University*

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 103 C

Pliable, fast-cure epoxy-fiberglass sheet molding compound with extensive out-life

Ruchir Shanbhag, CEO, Lattice Composites

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 103 C

Interfacial Adhesion And Electrical Properties Of Mwcnt In Polyurethane Nanocomposites Coating Via Electrical Resistance Mapping For Composite Aircraft

Topcoat *Prof. Joung-Man Park, Professor Emeritus/Director, Gyeongsang National University/PC&IL*

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 103 C

SolvaLite® 716FR: A Rapid Cure Self-extinguishing Epoxy System for Battery

Enclosures *Dr. Rhys Tapper, Product Development Scientist, Solvay*

Thursday 5/23/2024 | 9:30am - 9:55am | Room 103 A

Cellulose Nanofibrils Hydrophobized by a One-Pot Aqueous Process for Composite Reinforcement

Kevin Oesef, Ph. D. student, University of British Columbia

Thursday 5/23/2024 | 10:00am - 10:25am | Room 103 A

Free-Standing Hierarchical Graphene Oxide/Carbon Nanofiber Structure

Dr. Ephraim Zegeye, Assoc. Professor, Liberty University

Thursday 5/23/2024 | 10:30am - 10:55am | Room 103 A

Carbon Nanotube and Silver Nanowire Functionalized Composites for Frequency Selective Electromagnetic Interference Shielding

Matthew Kurilich, Research Assistant, FAMU-FSU College of Engineering

Thursday 5/23/2024 | 11:00am - 11:25am | Room 103 A

Exploring the Effects of Microstructure on the Strain Sensing Behavior of Carbon

Nanotube and Carbon Nanotube Hybrid Films *Dr. Joshua Degraff, Post-Doctoral Research Fellow, Florida State University*

Thursday 5/23/2024 | 11:30am - 11:55am | Room 103 A

Factory of the Future

Detecting Composite Deviations during Molding with Real-Time Sensor Data

Dr. Alec Redmann, Business Development, NETZSCH

Wednesday 5/22/2024 | 2:00pm - 2:25pm | Room 103 B



Troubleshooting Common Prepreg Cure Failure Modes with Rheological

Measurements *Mr. Unal Yilmazoglu, Applications Engineer, Alpha Technologies*

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 103 B

Ai-Enabled Automatic Inspection in Wind Turbine Blade Manufacturing: Technology

Validation and Demonstration *Scott Blake, President, Aligned Vision*

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 103 B

Advanced Process Monitoring and Control for CFRP RTM in Aerospace without

compromises *Dr. Nikos Pantelelis, Director, Synthesites*

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 103 B

Government Program

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 102 C

Government Program -NASA HiCAM

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 2:30pm - 2:55pm | Room 102 C

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 102 C

Design For Inspection: A Formalized Approach To Evaluating The Inspectability Of

Aerospace Structures Early In The Design Process *Mr. Peter Juarez, Research Engineer, NASA*

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 102 C

Automated Ply-by-Ply Lamination and In-Situ Consolidation of Thermoplastic

Composite High-Contour Stiffeners for High-Rate Aircraft Manufacturing *Susan Rich,*

Technology Development Engineer, Northrop Grumman

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 102 C

Automated Ply-By-Ply Lamination and in-Situ Consolidation of Dry Carbon Fiber Non-

Crimp Fabrics for High-Rate Aircraft Manufacturing of Structural Aircraft

Components *Susan Rich, Technology Development Engineer, Northrop Grumman*

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 102 C



Integration of Structural Analysis and Manufacturing Process Planning for Global Optimization with Automated Fiber Placement *Dr. August Noevere, Director of Research & Sr*

Aerospace Struct Engineer, Collier Aerospace

Thursday 5/23/2024 | 9:30am - 9:55am | Room 102 C

Composites From In-Situ Consolidation Automated Fiber Placement of Thermoplastics for High-Rate Aircraft Manufacturing *Mr. Roberto Cano, Senior Aerospace*

Materials Researcher, NASA Langley Research Center

Thursday 5/23/2024 | 10:00am - 10:25am | Room 102 C

Laser Angle of Incidence Effects on In-Situ Consolidation of Automated Fiber Placement of Polyaryletherketone Composites *Brian Grimsley, Senior Aerospace Materials*

Researcher, NASA Langley Research Center

Thursday 5/23/2024 | 10:30am - 10:55am | Room 102 C

Thermal Modelling of The In-Situ Consolidation of Automated Fiber Placement of Thermoplastic Composites *Dr. Christopher Stelter, Aerospace Materials Researcher, NASA Langley*

Research Center

Thursday 5/23/2024 | 11:00am - 11:25am | Room 102 C

Thermoplastic Aircraft Manufacturing Model *Dr. Joseph Heil, Materials Engineer, Spirit*

AeroSystems

Thursday 5/23/2024 | 11:30am - 11:55am | Room 102 C

Joining, Assembly, Maintenance & Repair

The Development Of A Uv Curable Material For High Rate Aerospace Manufacturing And Repair *Jessica Wallick, Adhesives Team Lead, Solvay*

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 102 C

Carbon Fiber and Hybrid C/Kevlar Composite to Metal Bonding and Analysis using the Weibull Distribution. *Dr. Alessandro Rengan, Associate Professor, Central State University*

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 102 C

Investigation of Adhesive Joints for Printed Autoclave Modular Tooling *Jacob Montrose,*

Graduate Research Assistant, Purdue University

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 102 C

Assessing Mechanical-Adhesive Hybrid Joints for Segmented Wind Turbine Blades: A Parametric Study using Simulation Methods *Mr. Muhammad Ansari, PhD Researcher, University of*

Bristol

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 102 C



Co-Cured Scarf Repairs *Dr. Carineh Ghafafian, Postdoctoral Research Associate, University of Southern California*

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 102 C

The Effectiveness Of Cold Laser Ablation On The Remediation Of Contaminated Composite Surfaces *Joann Hilman, Physicist, Brighton Science*

Tuesday 5/21/2024 | 3:30pm - 3:55pm | Room 102 C

Nanomechanical Property Characterization of Composite Adhesive Bonding Systems with High Temperature Exposures *Rita Olander, Graduate Student, University of Washington*

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 102 C

Feasibility Study of Fiber-Oriented Scarf Repairs for Carbon Fiber Reinforced Composite Panels *Dr. Reewanshu Chadha, Sr. Structural Test Engineer, FAA William J. Hughes Technical Center (Diakon Solutions)*

Tuesday 5/21/2024 | 4:30pm - 4:55pm | Room 102 C

Materials for Extreme Environments

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 102 C

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 102 C

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 102 C

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 2:00pm - 2:25pm | Room 102 C

Design And Testing Of A Multi-Material Joint For Cryogenic Hydrogen Flow *Prof. André Baeten, Professor, Technical University of Applied Sciences, Augsburg*

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 103 B

Evaluating Cure Environment Effect in the Formation of Silicon Oxycarbide Polymer Derived Ceramics *Virginia Mullins, PhD student, University of Southern Mississippi*

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 103 B

Submerged Fatigue Testing of Marine Energy Advanced Materials *Dr. Ariel Lusty, Postdoctoral Researcher, National Renewable Energy Laboratory*

Wednesday 5/22/2024 | 10:00am - 10:25am | Room 103 C



Post-Deployment Characterization of Glass Fiber-Reinforced Thermoset and Thermoplastic Composite Tidal Turbine Blades

Dr. Paul Murdy, Research Engineer, National Renewable Energy Laboratory

Wednesday 5/22/2024 | 10:30am - 10:55am | Room 103 C

Sustainable Technologies & Circular Economy

Influence of Fibre Length Distribution on the Processing of Aligned Discontinuous Reclaimed Carbon Fibre Material

Mr. Patrick Sullivan, EngD Candidate & Research Engineer, University of Bristol & National Composites Centre

Wednesday 5/22/2024 | 3:00pm - 3:25pm | Room 103 C

Cement Kiln Co-Processing for Managing End of Life Glass Fiber-Thermoset Composites: A Case Study Using Wind Turbine Blades

Dr. Mitchell Rencheck, Research Engineer IV, Electric Power Research Institute

Wednesday 5/22/2024 | 3:30pm - 3:55pm | Room 103 C

Producing Multifunctional Pa6/Organosheet Composites with Sustainable Plant Based Graphene Coatings

Daniel Mulqueen, CTO, Climate Robotics

Wednesday 5/22/2024 | 4:00pm - 4:25pm | Room 103 C

Development of Rapid Electrolytic Method to Recycle Amine Cured Epoxy Carbon Fiber Reinforced Polymer Composites with Methyl Radicals

Mr. Y. Justin Lim, Graduate Student, USC Department of Chemistry

Wednesday 5/22/2024 | 4:30pm - 4:55pm | Room 103 C

Chitosan Membranes Developed for a Biomimetic Saltwater Cell

Dr. Ross Lee, Professor of Practice, Villanova University

Thursday 5/23/2024 | 10:00am - 10:25am | Room 103 C

Analyzing the Influence of Secondary Activation Temperature on Activated Biochar's Adsorption Behavior

Dr. Melike Dizbay-Onat, Assistant Professor, University of South Alabama

Thursday 5/23/2024 | 10:30am - 10:55am | Room 103 C

Renewable and Recyclable Thermosets for Continuous Carbon Fiber Recovery

Ms. Jaclyn McLaughlin, PhD Candidate, Rowan University

Thursday 5/23/2024 | 11:00am - 11:25am | Room 103 C

Decision-Support in Composite Sustainability and Circularity Evaluation

Dr. Ali Al-Lami, Project Manager, DLR

Thursday 5/23/2024 | 11:30am - 11:55am | Room 103 C



Influence of Organic Nucleating Agents on the Crystallization Behavior of Polylactic Acid

Dr. Peng Gao, Assistant Professor, Polymer Materials Engineering, Western Washington University

Thursday 5/23/2024 | 9:30am - 9:55am | Room 103 C

Thermoplastic Materials & Processes

ITAR Presentation (Information Coming Soon)

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 102 C

Heat Generation Analysis During The Ultrasonic Welding Process In Thermoplastic Composite Joints

Mr. Felipe Savella, Research Assistant, Louisiana State University (LSU)

Tuesday 5/21/2024 | 1:00pm - 1:25pm | Room 103 B

Effect Of Deposition Rate On Mechanical Properties Of An In-Situ Consolidated Lm-Paek Laminate Made With Laser Automated Fiber Placement

Mr. Will London, Research engineer, University of Maine

Tuesday 5/21/2024 | 1:30pm - 1:55pm | Room 103 B

Revolutionary Joining Technology Cib[®] Applications Of A Covalent Intermediate Bonding Technology

Mr. Jan Verhaeghe, CEO, AGESIA BV

Tuesday 5/21/2024 | 2:00pm - 2:25pm | Room 103 B

Vitrimers: Thermoplastic-Like Properties in a Thermoset Polymer for Fiber Reinforced Composites

Mr. Patricio Martinez Martinez, PhD Student, University of Southern California

Tuesday 5/21/2024 | 2:30pm - 2:55pm | Room 103 B

Characterization of A Test Bench System for Continuous Resistance Welding of Thermoplastic Composite Joints

Mr. Marc Palardy-Sim, Research Officer, National Research Council Canada

Tuesday 5/21/2024 | 3:00pm - 3:25pm | Room 103 B

Ultra-High-Rate Manufacturing of Thermoplastic Window Plug Using Hybrid Overmolding

Dr. Waruna Seneviratne, Director, National Institute for Aviation Research/WSU

Tuesday 5/21/2024 | 3:30pm - 3:55pm | Room 103 B

Magnetic Properties Evaluation of Polyamide 4.6 Bonded Magnetic Composite

Mr. Pratik Uday Karkhanis, Graduate Researcher, Texas State University

Tuesday 5/21/2024 | 4:00pm - 4:25pm | Room 103 B



Multi-Objective Optimisation of Tape Positioning in Injection Molded Components Considering Warpage Reduction

Mr. Martin Giersberg Sola, Research Assistant, Institute for Plastics Processing at RWTH Aachen University

Tuesday 5/21/2024 | 4:30pm - 4:55pm | Room 103 B

Vacuum-Bag-Only (Vbo) Consolidation of Tc1225 T1100G Thermoplastic Composite Laminates Prepared Via Automated Fiber Placement (Afp) at Varied Nip Temperatures

Terry Hines, Expert Services Engineer, Toray Advanced Composites

Wednesday 5/22/2024 | 8:00am - 8:25am | Room 103 B

Recycled Carbon Fiber Reinforced Polyphenylene Sulphide In Aerospace

Ms. Ilse Bruggencate, Process Engineer, TPAC - Saxion University of Applied Science

Wednesday 5/22/2024 | 8:30am - 8:55am | Room 103 B

Characterisation of Defects in Strand-Based Thermoplastic Composite Parts Using Ultrasonic Inspection

Dr. Hanae Pattery, Master Student, Ecole de Technologie Supérieure

Wednesday 5/22/2024 | 9:00am - 9:25am | Room 103 B

Honeycomb Molding - Forming Thermoplastic Sandwich Structures for Interior Applications

Mr. Santino Wist, Research Project Manager, Institute for Textile Technology of the RWTH Aachen University

Wednesday 5/22/2024 | 9:30am - 9:55am | Room 103 B

Modeling the Impact of Tool Geometry on Thickness Changes during the Thermoforming of a Thermoplastic Composite

Dr. James Sherwood, Dean & Professor, University of Massachusetts Lowell

Thursday 5/23/2024 | 10:00am - 10:25am | Room 103 B

Shape Compensation of Stamp Formed Thermoplastic Composites

Dr. Eduardo Barocio, Director of Composites Additive Manufacturing and Simulation Consortium, Purdue University - CMSC

Thursday 5/23/2024 | 10:30am - 10:55am | Room 103 B

Inter- And Intra-Laminar Properties Of An Afp Post-Processed Thermoplastic Composite

Dr. Mehran Tehrani, Associate Professor, University of California, San Diego

Thursday 5/23/2024 | 11:00am - 11:25am | Room 103 B

Thermally Conductive Melt-Processable Polyimide Hbn Micro-Composites for High Temperature Electrical Insulation Applications

Dr. Witold Fuchs, Research Materials Engineer, NASA

Thursday 5/23/2024 | 11:30am - 11:55am | Room 103 B

Induction Welding of Polyaryletherketone Thermoplastic Composites

Dr. Yiqiang Zhao, Sr Scientist, Solvay Composite Materials

Thursday 5/23/2024 | 9:30am - 9:55am | Room 103 B