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. Canidate, 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, Th 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 amd 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

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, Associste 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

Vitrimer: 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