

Day/Time	Automotive Composites	AUTHORS
Mon 13:30-13:55	29674 Design of Composite Transmission Shaft and Composite-Metal Interference Fit Joint	Nontapath Thanakornrithit, Sontipee Aimmanee, Kitchanon Ruangjirakit, Witichuda Daud, Kazuaki Inaba
Mon 13:55-14:20	30364 Characterization of Unsaturated Polyester Syntactic Foams with Glass Fiber Reinforcements	Arielle Elise Berman, Edward DiLoreto, Kyriaki Kalaitzidou
Mon 14:20-14:45	29713 Design and analysis of an optimized Formula 3 nosecone structure	Archit Milind Deshpande, Naven Venugopal, Hamid Dalir
Mon 14:45-15:10	30239 ANALYSIS AND OPTIMIZATION OF A COMPOSITE MONOCOQUE FOR STRUCTURAL PERFORMANCE	Meghana Pramod Kamble, Talal Shakfeh, Hamid Dalir
Day/Time	Impact Dynamic Response	AUTHORS
Mon 9:00-9:25	29692 Post-Impact Flexural Collapse of Composite Sandwich Structures in Low-Temperature Arctic Conditions	MD Mahfujul Haque Khan, KT Tan
Mon 9:25-9:50	30129 Automated Computed Tomography Segmentation of Impact-Damaged Curved Composite Structures	Andrew Cannon Ellison, Hyonny Kim
Mon 9:50-10:15	28315 Low-velocity Impact Response and Compression After Impact Behavior of Non-planar Composites Sandwich Structures	Chao Zhang, KT Tan
Mon 10:15-10:40	28354 Ballistic performance of E glass polyester composites modified with functionalized nanoceramic particles	Harish Sai Prasad Kallagunta, Jitendra S Tate
Mon 10:55-11:20	30252 Multiscale Modeling of Adiabatic Heating and Fiber Breakage in Polymer Matrix Composites Subjected to Impact Loading	Christopher W Sorini, Aditi Chattopadhyay, Robert K Goldberg
Mon 11:20-11:45	30229 Understanding Kevlar Deformation During Ballistic Impact Using an Integrated FBG Sensor	Gregory John Hodges, Drew Hackney, Alexander Noeviere, Kara Peters, Mark Pankow
Mon 11:45-12:10	30357 Effect of Shear Thickening Fluids on the Mechanical and Impact Response Behavior of GFRP Composite for Protective Applications	Alexander Kallil David, Ermas Koriche Mall
Mon 13:30-13:55	27957 Progressive Damage and Failure Analysis of Bonded Composite Joints at High Energy Dynamic Impacts	Akhil Bhasin, Suresh Raju Keshavanarayana, Luis Gomez, Aswini Kona Ravi, Brian P. Justusson, Gerardo Olivares
Mon 13:55-14:20	28220 ABAQUS simulations to predict compression-after-impact behavior	Arun Krishnan, Shenal Perera, Waruna Seneviratne
Mon 14:20-14:45	30194 Impact response for sensor-less, speckle-less elastic and viscoelastic material properties of flexible polymer composites	Rafael Gomez Consarnau, Jose Escobedo, Daniel Whisler
Mon 14:45-15:10	28279 Micromechanics model of the FRC subject to heating high-velocity impact using continuum damage mechanics with adiabatic heating	Zhiye Li, Somnath Ghosh
Mon 15:20-15:45	30373 Oblique ballistic impact testing of carbon epoxy torsion tubes	Charles E. Bakis, Aniruddh Vashisth, Todd C. Henry, Brent T. Mills, Joseph Lee
Mon 15:45-16:10	30094 Transverse impact on a single layer S-Glass/SC15 epoxy composite strip	Jinling Gao, Zhenli Guo, Yizhou Nie, Julio Hernandez, Boon Him Lim, Nesredin Kadir, Tyler Tallman, Weihong Chen
Mon 16:10-16:35	30267 Numerical assessment of compression strength after impact for enhanced aircraft sustainment	Alex Harman, Jim Lua
Mon 16:35-17:00	29662 Specific Energy Absorption Improvement of Rear Crash Attenuator by Numerical Modelling for Various Angles of Impact	Naven Venugopal, Archit Milind Deshpande, Hamid Dalir
Day/Time	Progressive Damage and Failure Analysis of Composites	AUTHORS
Tue 9:10-9:35	30185 A Numerical Approach for Determining Peridynamic Material Parameters	Forrest Baber, Brian Justusson, Vipul Ranatunga, Joseph Schaefer, Ibrahim Guven
Tue 9:35-10:00	30356 Peridynamic fatigue model for composites under constant and variable amplitude loads	Erdogan Madenci, Atilla Barut, Nam Phan
Tue 10:00-10:25	29708 High-fidelity Numerical Prediction of the Compressive Strength of Laminated Composites after Low Velocity Impact	Shiyao Lin, Anthony Waas
Tue 10:25-10:50	28086 Test/Analysis Correlation of Damage States in Stiffened Post-buckled Validation Building Block Specimens	Frank A. Leone, Kyongchan Song, William Johnston, Cheryl A. Rose, Wade C. Jackson, Cyrus J. Kosztowny, Carlos G. Dávila
Tue 11:00-11:25	30182 Computational Considerations in Scaling the Application of Progressive Damage Analysis Methods from Coupons to Sub-Components	Andrew Bergan, Frank Leone Jr., Stewart Boyd, Imran Hyder, Joseph Schaefer
Tue 11:25-11:50	28452 Effect of hole orientations on the strength of composite materials using peridynamic method	Vahid Tavaf, Mohammadsadeq Saadatzi, subir patra, Sourav Banerjee
Tue 11:50-12:15	28702 Automated Fiber Placement (AFP) - Effects of Features and Defects	Waruna Seneviratne, John Tomblin, Shenal Perera, Mohamed Shafie
Tue 12:20-12:45	30192 Damage Mechanisms in Tapered Composite Structures under Static and Fatigue Loading	Prabhakar M. Rao, Mark R. Gurvich, Upul R. Palliyaguru, Waruna Seneviratne
Tue 14:45-15:10	29719 Stochastic Modeling of Progressive Damage and Its Scaling in Polymer Composites	Marc Salvato
Tue 15:20-15:45	29706 Multiscale fatigue modeling of composite materials	Paul Davidson, Armanj Hasanyan, Anthony M Waas
Tue 15:45-16:10	30247 Investigating progressive damage via Biaxial Bending	Nathan Sesar, Mark Flores, Mark Pankow
Tue 16:10-16:35	29712 Experimental and Numerical Investigation on the Three Point Bending Response of a Highly Anisotropic Composite Beam	Shiyao Lin, Paul Davidson, James Steiber, Anthony Waas
Tue 16:35-17:00	29938 Influence of In-situ Constraining Effect on Transverse Ply Crack Formation in Unidirectional Composite Laminates	Farzad Sharifpour, John Montesano
Day/Time	Adhesive Joints	AUTHORS
Mon 13:30-13:55	28313 Effect of Cooling Rate on Adhesive Thermal Strains in Bonded Joints	Syed Fahad Hassan, Suhail Hyder Vattathuralappil, Mahmoodul Haq
Mon 13:55-14:20	28311 Monitoring Residual Strains in Oven- and Induction- Bonded Joints	Suhail Hyder Vattathuralappil, Syed Fahad Hassan, Mahmoodul Haq
Mon 14:20-14:45	28320 Damage Analysis of Carbon Fiber Reinforced Polymer and Titanium Adhesive Joints	Isaiah Kaiser, KT Tan
Mon 14:45-15:10	30231 Tailoring Substrate Stiffness in Bi-Material Adhesive Joints	Saratchandra Kundurthi, Mahmoodul Haq
Mon 15:20-15:45	30068 Ultrasonic welding of thermoset to thermoplastic based composites: effect of the process parameters on the weld strength	Eirini Tsingou, Sofia Teixeira de Freitas, Irene Fernandez Villegas, Rinze Benedictus
Mon 15:45-16:10	28442 Strain Energy Release Rate Calculations of Adhesively Bonded Joints using Spring Foundation Models	Scott E Stapleton
Mon 16:10-16:35	30179 Implementation of a simulation tool of strains induced during the co-bonding of autoclave-cured parts.	Philippe Alain OLIVIER
Mon 16:35-17:00	29524 Effect of Total Bonded Area on Hydrodynamic Ram Resistance of a T-Joint	Teddy Sedalor
Day/Time	Additive Manufacturing	AUTHORS
Tue 14:20-14:45	29724 Investigation of Rheology and 3D Printability of PDMS Nanocomposites Ink	Mrinal Saha
Tue 14:45-15:10	30262 Twisted composite structures made by 4D printing method	Suong Van Hoa, Xiao Cai
Tue 15:20-15:45	30369 Additively Manufactured Silica Matrix Composite Structures	Padmalatha Kakanuru, Kishore Pochiraju
Tue 15:45-16:10	29729 Improving Properties of Additively Manufactured Carbon Fiber Composites via Post Pressing	Nekoda van de Werken, Pratik Koirala, Jafar Ghorbani, Matthew Abel, Mehran Tehrani
Tue 16:10-16:35	30243 Development of a Multivariate Statistical Material Model for Fused Deposition Modeling (FDM) of ULTEM 9085	Brian A. Caspor, Thomas J. Whitney
Tue 16:35-17:00	28455 3D Based 3D Printing of Low Density Composite Formulations for Unit Cells for Mechanical Metamaterials	Darshil Shah, Joshua Morris, Christopher Hansen, Alireza Amirkhizi
Day/Time	Advanced Manufacturing of Composites	AUTHORS
Mon 9:00-9:25	29725 Investigation of Needle Tip Geometry on Orientation, Fiber Morphology and Mechanical Properties of E-Spun Nanofiber	Mrinal Saha
Mon 9:25-9:50	29210 The bending properties of CFRP I-shaped cross-sectional beam with dispersing cellulose nanofibers on the surface	Kazuki Katagiri, Shinya Honda, Kimu Daiki, Shimpei Yamaguchi, Tomoatsu Ozaki, Hirotsuke Sonomura, Sonomi Kawakita, Sohei Uchida, Masayuki Nedu, Mamoru Takemura, Yayoi Yoshioka, Katsuhiko Sasaki
Mon 9:50-10:15	29506 Design and Analysis of a Tool for Automated Fiber Placement of Composite Wind Tunnel Blades	Brian H Mason
Mon 10:15-10:40	30130 A Novel Reinforcement Characterization Framework for Liquid Composite Molding Processes	Rehan Umer, Muhammad Ali, Kamran Khan, Wesley Cantwell
Mon 10:55-11:20	28856 Effect of Debulking Cycles on the Fiber Volume Fraction of 3D Fabrics for Vacuum Assisted Resin Infusion Process	Muhammad A Ali, Rehan Umer, Kamran A Khan
Mon 11:20-11:45	28347 Experimental and Modeling Investigation of Bending Behavior during Processing of Unidirectional Cross-ply UHMWPE Materials	Kari D White, James A Sherwood
Mon 11:45-12:10	29666 Analysis of Spring-in for composite plates using ANSYS Composite Cure Simulation	Ameya Sanjay Patil, Talal Shakfeh, Hamid Dalir
Day/Time	Testing and Material Characterization	AUTHORS
Mon 9:00-9:25	28430 Multi-scale and multi-physics computational framework to predict oxidation damage in C/C ceramic matrix composites	Vinay Damodaran, Pavana Prabhakar, Muhammad Ali Imam
Mon 9:25-9:50	28384 Recycling of Disposed CFRP by Undergraduate Research Programs	Waleed Ahmed, Ali Alnagbi, Hamad Al Jassmi
Mon 9:50-10:15	30219 Direction-Dependent Mechanical Properties of a Triaxially Braided Quasi-Isotropic Carbon/Epoxy Composite	Rudy T Haluzta, Charles E Bakis, Kevin L Koudebs, J Michael Pereira
Mon 10:15-10:40	29687 EFFECTS OF OFF-AXIS ANGLE AND LAYER THICKNESS ON THE COMPRESSIVE STRENGTH OF CROSS-PLY CFRP LAMINATES	Kota Takamoto, Sota Oshima, Toshio Ogasawara
Mon 10:55-11:20	30249 2-Dimensional Mapping of Damage in Moisture Contaminated Polymer Composites using Dielectric	Ogheneovo Idolor, Rishabh Guha, Logan Bilich, Landon Grace
Mon 11:20-11:45	30360 In-Plane Shear Response of GFRP Laminates by ± 45° and 10° Off-axis Tensile Testing using Digital Image Correlation	Matthias Merzkirch, Qi An, Aaron Forster
Mon 11:45-12:10	30131 Notched Composite Laminate Design for Improved Compression Strength using Non-Standard Angles and Customized Stacking Sequence	Su Yu, Gaurav Batra, Jonathan S. Colton
Mon 13:30-13:55	30233 Characterization of Interface Shear Stress-Strain and Mode II Fracture Properties using DIC in Thick Adherent Shear Tests	Bastiaan Van der Vossen, Andrew Makeev
Mon 13:55-14:20	30214 A novel method to measure laminate shear modulus development of interlayer toughened composite laminates during the curing process	CHENG CHEN, ANOUSH POURSAITIP, GÖRAN FERNLUND
Mon 14:20-14:45	30223 Structural Re-Use of De-Commissioned Wind Turbine Blades in Civil Engineering	Russell Gentry, Ammar Alshannaq, David Scott, Lawrence Bank, Mehmet Bermek
Mon 14:45-15:10	29573 Strength Reduction of Unidirectional Composites using Micromechanical Damage Analysis of Scanned Microstructure	Uri Breiman, Ido Meshi, Melrav Grimbreg, Jacob Aboudi, Rami Haj-Abi
Mon 15:20-15:45	30246 Characterization of discontinuous fiber reinforced sheet molding compounds under tension-tension fatigue load	Miriam Barhownik, Harnes West, John Montesano, Kay Andre Weidemann
Mon 15:45-16:10	30269 Nondestructive evaluation of randomly distributed fiber reinforced composite using optical transmission scanning (OTS) technique	Ermas Gebrekidan Koricho, Oliver Kine, Alexander David, Anton khomenko
Mon 16:10-16:35	29961 Determination of in-plane shear properties of UHMWPE composites for input into a thermforming model	Julia Elaine Cline, Michael Yeazer, Travis A Bozett
Mon 16:35-17:00	29723 Predicting Decomposition Processes of Fiber-Reinforced Polymer Matrix Composites Heated in N2 and Air Environments	Sangwook Sihm, Gregory J Ehler, Ajit K Roy, Jonathan P Vernon
Day/Time	Bio-based Composites	AUTHORS
Wed 9:00-9:25	28318 Bio-like Composite Microstructure Designs for Enhanced Resilience via Machine Learning	Sarah Hankins, Lars Kothhoff, Ray S Fertig III
Wed 9:25-9:50	30354 Optimization of flax roving for bio-based composites reinforced by 3D warp interlock fabric	Henri Lansiaux, Damien Soulat, François Bousso, Ahmad Rashed Labanieh
Wed 9:50-10:15	30366 Bio-Industrial Materials Institute: Characterization of Natural Fiber Material Property Variability	Jared Nelson, Ronald B Bucinell, Daniel Walczyk
Wed 10:15-10:40	30238 Nanocellulose Fiber Sizing for Fiberglass Composites	Ejaz Haque, Joyanta Goswami, Robert J. Moon, Kyriaki Kalaitzidou
Wed 10:40-11:05	30271 Bio-based Mycelium Composites for Aerospace Applications	Sonia Travaglini, CKH Dharan
Day/Time	Buckling and Post-Buckling of Composite Structures	AUTHORS
Wed 9:00-9:25	29660 Manufacturable designs for optimized buckling performance of flat panels using steered fibers	Avinirishnan Ambika Vijayachandran, Paul Davidson, Anthony M Waas
Wed 9:25-9:50	30350 Buckling Analysis and Optimization of Stiffened Varying-Angle-Tow Laminates with Manufacturing Constraints	Wies Zhao, Roberto K Kapanin
Wed 9:50-10:15	28704 Numerical Studies on Buckling and Post-Buckling Behavior of Stiffened Curved Composite Panel with Repairs	Waruna Seneviratne, John Tomblin, Vishnu Saseendran, Shenal Perera, Brandon Saathoff
Wed 10:15-10:40	28870 The effect of circular cut-out on buckling analysis of laminated composite plated using FEM	Emre Gungor
Wed 10:40-11:05	30220 Design, Manufacturing and Testing of an In-situ Consolidated Variable Stiffness Thermoplastic Composite Wingbox for Bending and Torsion	Vincenzo Oliveri, Giovanni Zucco, Daniel Peeters, Gearoid Clancy, Ciaran McHale, Ronan M O'Higgins, Trevor M Young, Paul M Weaver
Day/Time	Certification of Composites	AUTHORS
Tue 14:20-14:45	30235 Modeling Complex Sub-Elements by using Discrete Damage Modeling	Kevin H Hoos
Tue 14:45-15:10	28450 Exploring the Use of a Digital Thread for Efficient Design of Composite Structures	Tyler Goode

Day/Time	Composites in Extreme Environments	AUTHORS
Wed 9:00-9:25	28373 Epoxy resin (DGEBA/TETA) under extreme environment	Suma Sindhu Panchagnula
Wed 9:25-9:50	28380 Mitigation of mechanical property degradation of epoxy resin subjected to UV with addition of different nanofillers	Suma Sindhu Panchagnula
Wed 9:50-10:15	28845 Cavitation erosion of polyurea composite coatings	Vahidreza Alizadeh, Joshua Morris, Alireza V. Amirkhazi
Wed 10:15-10:40	30222 Epoxy Resin with Carbon Nanotube Additives for Lightning Strike Damage Mitigation of Carbon Fiber Composite Laminates	Yeqing Wang
Wed 10:40-11:05	28862 Ablative Carbon Nanotube/Phenolic Resin Thermal Protection System for High Temperature Composite Applications	Richard Liang, Zhe Liu, Youri Samuel Dessureault, Songlin Zhang, Ayuo Hao
Day/Time	Effects of Defects	AUTHORS
Wed 11:15-11:40	29667 Influence of automated fiber placement (AFP) manufacturing signature on the mechanical performance of a composite	Minh Hoang Nguyen, Paul Davidson, Anthony M. Waas
Wed 11:40-12:05	30284 Defects Characterization and Evaluation of Their Effects on Compressive Failure of Composite Components	Xiaodong Cui, Dinh Chi Pham, Anand Karupiah, Jim Lua, Caleb Saathoff, Waruna Seneviratne
Wed 12:05-12:30	28389 An Analytical Analysis of Fiber Waviness for Laminated Curved Beam under Four-Point Bending	Wei-Tsun Lu, Yu-Jui Liang, Endel V. larve
Wed 13:30-13:55	29655 Towards a Novel Defect Severity Model for Compressive Failure Analysis of Unidirectional Composites	Leif Erik Asp
Wed 13:55-14:20	27951 Parasitic Effects of Including Microwire Sensor Tube on In-Plane Compressive Strength of Carbon-Fiber Reinforced Polymeric Composite Laminates	Akhil Bhasin, Suresh Raju Keshavanarayana
Wed 14:20-14:45	29728 Effects of Localized Manufacturing-Induced Porosity Defects on the Fatigue of Wind Turbine Blades – Experiment and Modeling	Juan Su, James Sherwood
Day/Time	Environmental Effects	AUTHORS
Tue 15:20-15:45	28250 Deterioration Modeling of Large Glass Fiber Reinforced Polymer Composite Structures/Systems	Zhiye Li
Tue 15:45-16:10	30259 Effect of hygrothermal aging on the mechanical and optical behaviors of hybrid randomly distributed fibers/woven glass composites	Ermas Gebrekidan Koricho
Tue 16:10-16:35	30216 Computational analysis of thermal degradation of carbon nanotube reinforced nano-engineered composites	Bonsung Koo, Jacob Schichtel, Karthik Rajan Venkatesan, Aditi Chattopadhyay
Tue 16:35-17:00	29587 Carbon Fiber Composites under Combined Environmental-Compressive Loading Leveraging Nonparametric Full-Field Techniques	Daniel Pardo, Andrew Matejunas, Stylianos Koumlis, Leslie Elise Lamberson
Day/Time	Micromechanics	AUTHORS
Tue 9:10-9:35	30372 Effective properties of fiber composites using stress functions	Seiichi Nomura
Tue 9:35-10:00	29716 Overall Thermal Conductivity of Carbon Fiber Polymer Matrix Composites Undergoing Thermal Decomposition	Olesya I Zhupanska, Teja G. K. Konduri
Tue 10:00-10:25	28397 Understanding High-Modulus CFRP Compressive Strength	Saravanan Ghaffari, Andrew Makeev, Dmytro Kuksenko, Guillaume Seon
Tue 10:25-10:50	30193 Modeling of the Influence of a Damaged Thermally Grown Oxide (TGO) Layer in an Environmental Barrier Coating System	Subodh K Mital
Tue 11:00-11:25	29796 Effect of pick spacing and warp and weft volume fraction on intrinsic residual stresses in 3D woven composites	Todd S. Gross
Tue 11:25-11:50	30257 Micromechanical Modeling of High Rate Punch Shear Behavior of Unidirectional Composites	Bazle Zahurul Haque, Molla Ahmamed Ali, Daniel J. O'Brien, John W. Gillespie Jr.
Tue 11:50-12:15	29480 Cohesive Parametric High-Fidelity-Generalized-Method-of-Cells Micromechanical Model	Ido Meshi, Uri Breiman, Jacob Aboudi, Rami Hajj-Ali
Tue 14:20-14:45	30190 Mesoscale and Continuum Models of Wave Propagation in a Woven Composite	Christopher Meyer
Tue 14:45-15:10	28398 A Comparative Numerical and Experimental Study of Mode-I Interlaminar Fracture of Self-Healing Composites using Cohesive Zone Modeling	Mishal Thapa, Boduzzaman Jony, Nilesh Jagannath Vishe, Sameer B Mulani, Samit Roy
Day/Time	Model-based Design for Manufacturing	AUTHORS
Tue 9:10-9:35	28359 Composite Drilling Characterization and Performance Evaluation	Jian Xiao, Dinh Chi Pham, Jim Lua, Caleb Saathoff, Waruna Seneviratne
Tue 9:35-10:00	29714 Factory-Scale Simulation and Economic Modeling for the Advancement of the Manufacturing Process of Composite Wind Turbine Blades	Matteo J. Polcari, Stephen B. Johnson, James A. Sherwood
Tue 10:00-10:25	30251 Optimization of a Parametric Composite Wing using Engineering Sketch Pad and Nastran	John Joe, Christian Apricio, Hamid Dalir
Tue 10:25-10:50	30199 A thermo-mechanically coupled constitutive model for curing of polymers	Trisha Sain, Shawn Chester
Tue 11:00-11:25	28268 Modeling of the in-plane shear behavior of uncured thermoset prepreg	Yi Wang, Jonathan Beloune, Dmitry Ivanov, James Kratz, Stephen Hallett
Tue 11:25-11:50	30234 Defect prediction during forming and consolidation of composite materials using finite element analysis	Paulo Silva
Day/Time	Molecular Modeling of Nanomaterials and Nanocomposites	AUTHORS
Wed 9:00-9:25	28297 The Effect of Chirality and Strain Rate on Mechanical Properties of Carbon Nanotube (CNT) and CNT/Epoxy Composites	Olanrewaju Aluko, Shankara Gowtham, Gregory M. Odegard
Wed 9:25-9:50	28348 Molecular Modeling of Silica-Epoxy Interphase with Monolayer Silane	Sanjib C Chowdhury
Wed 9:50-10:15	28285 Molecular Dynamics(MD) Simulation of a Polymer Composite Matrix with Varying Degree of moisture : Investigation of secondary bonding interactions	Rishabh Debraj Guha, Ogheneovo Idolor, Landon Grace
Wed 10:15-10:40	28843 Extensive study of carbon nanotube junctions with different chirality, angles specifications and overlap	Shusil Bhusal
Wed 10:40-11:05	30367 Ultra-Thin and Stiff Randomly-Oriented Discontinuous Composites	Marco Alves, David Carlstedt, Soraila Pimenta, Leif Asp, Fredrik Ohlsson
Day/Time	Multifunctional Composites	AUTHORS
Mon 9:00-9:25	29590 Thermal energy storage with polymer composites	Alessandro Pegoretti
Mon 9:25-9:50	29717 defect properties in MoS2 structure as 2D material gas sensor	Jay Lee, Ajit Roy
Mon 9:50-10:15	29736 Design of a Multi-Functional Energy Storage Composite Electric Skateboard	Anthony Bombik, Liam Brown, Nathaniel Corey, David Darden, Alexander Kaplan, Gavin Liu, Ryan Samuels, Alexander Strange, Alec Taraborrelli, Zhiheng Zhou, Jihan Zhuang, Fu-Kuo Chang
Mon 10:15-10:40	28893 Multifunctional Interfaces for combined mechanical, thermal and electrical properties	John Baker Ferguson
Mon 10:55-11:20	28865 Highly Conductive and Lightweight Carbon Nanotube Conductors and Scalable Manufacturing	Richard Liang, Songlin Zhang, Ayuo Hao, Nam Nguyen, Claire Jolowsky, Abiodun Oluwalowo, Jin Gyu Park
Mon 11:20-11:45	29697 Electromechanical properties of architected periodic multifunctional foams and composites	Kamran Khan, Falah Al Hajeri, Muhammad Khan
Day/Time	Multiscale process modeling for ICME	AUTHORS
Wed 11:15-11:40	30375 An ICME Approach to Performance Prediction of Composites Manufactured Using Resin Transfer Molding	Weijia Chen, Dianyuan Zhang, Xiang Ren, Jim Lua
Wed 11:40-12:05	28145 MD Modeling of Epoxy-Based Nanocomposites Reinforced with Functionalized Graphene Nanoplatelets	Hashim Najj-Azooz Al Mahmud, Matthew Radue, Sorayot Chinkanjanarot, Gregory Odegard
Wed 12:05-12:30	28242 Prediction of residual stress build-up in polymer matrix composite during cure using a two-scale approach	Sagar Umesh Patil, Sagar Shah, Prathamesh Deshpande, Khateerh Kashmiri, Gregory Odegard, Marianna Maiaru
Wed 13:30-13:55	28248 A multiscale approach for modeling the cure of thermoset polymers within ICME	Prathamesh Prashant Deshpande
Wed 13:55-14:20	30353 Maximizing Model Predictive Performance Using Minimal Experimental Data with Multiscale Designer	Colin McAlluffe, Jeff Wollschlaeger, Jacob Fish
Wed 14:20-14:45	28849 Multiscale Analysis of Electron Transport in Filled Elastomer Materials	Sergei Shengdin, Lauren Ferguson, Ajit Roy
Day/Time	Nanostructures Composites: Modeling and Testing	AUTHORS
Tue 9:10-9:35	29794 Improving Fracture Toughness at the Nanoscale using Length-scale Effect	Samir Roy, Jony Boduzzaman
Tue 9:35-10:00	30365 Enhancing the Strength of CFRP Composites using Cellulose Nanocrystals-Bonded Carbon Nanotubes	Amir Asadi, Mohammad Aramfar, Annuatha Kumar
Tue 10:00-10:25	28860 Quantitative Microstructure Study of Pan and Pitch-based Carbon Fibers through TEM and X-ray scattering analysis	Richard Liang, Jin Gyu Park, Rebekah Sweet
Tue 10:25-10:50	28874 Polymer-physics-based multiscale modeling approach for inhomogeneous deformation of polymeric nanocomposites	Chanwook Park, Jiwon Jung, Taehoon Park, Gunjin Yun
Tue 11:00-11:25	29195 RVE models with various filler morphology for what-if analysis of random heterogeneous materials	Raghu Pucha, William Chen, Anuja Kandare
Tue 11:25-11:50	28436 Multiscale analysis for interlaminar and intralaminar reinforcement of composite laminates with carbon nanotube architecture	Karthik Rajan Venkatesan, Aditi Chattopadhyay
Tue 11:50-12:15	29720 Coarse-grained molecular dynamics force field for carbon black filled natural rubber by energy renormalization method	Jiwon Jung, Chanwook Park, Taehoon Park, Gunjin Yun
Day/Time	Next Generation Composites: Constituents and Microstructures	AUTHORS
Tue 15:20-15:45	30183 Effect of Processing and Particle Size on the Properties and Morphology of MWCNT-Polymer and SiC-Polymer Composites	Morgan Renee Watt, Rosario Gerhardt
Tue 15:45-16:10	27958 TiGr-Nacre Damage Tolerance through damage diffusion	John-Alan Pascoe, Soraila Pimenta, Silvestre Taveira Pinho
Tue 16:10-16:35	30274 Modifying interfacial chemistry of cellulose-reinforced epoxy resin composites	Jamie P Wooding, Yi Li, Kyriaki Kalatzidou, Mark D Loozege
Tue 16:35-17:00	28861 Alignment induced self-assembly of carbon nanotubes for structural composite applications	Richard Liang, Claire Jolowsky, Youri Samuel Dessureault, Rebekah Sweet, Ayuo Hao, Jin Gyu Park
Day/Time	Sandwich Composites	AUTHORS
Wed 11:15-11:40	29880 Influence of Through-Thickness Stitching on the Fracture Behavior of Sandwich Composites	Daniel Adam Drake, Rani Warsi Sullivan, Stephen Clay, Kevin Brown
Wed 11:40-12:05	30208 Anisotropic Hyperelastic Constitutive Modeling of Fiberglass/Phenolic Hexagonal Honeycomb Core Subjected to Large In-Plane Deformations	Hooman Shahverdi Moghaddam, Suresh Keshavanarayana, Charles Yang, Allison Horner, Dmitriy Ivanov
Wed 12:05-12:30	27962 A Systematic Experimental Approach for Damage Quantification in Sandwich Structures under Low-Heat Fire Induced Damage	Elias A Toubia, Mark Flores, Daniel Rappings
Wed 13:30-13:55	30198 Characterization of Bending Stiffness for Honeycomb Sandwich Plate in Three-Point Bending Test Using Mechanics of Structure Genome	Banghua Zhao, Wenbin Yu, Jaffe Tseng, Rong Chiu
Wed 13:55-14:20	29117 Damage Growth Analysis of Sandwich Structures Subjected to Combined Compression and Pressure Loading	Waruna P Seneviratne, John Tomblin, Shenal Perera, Pirashandan Varatharaj
Wed 14:20-14:45	30377 Energy Release Rate and Mode Partitioning of Face/Core Debond under Bending and Shear based on an Elastic Foundation Approach	George Kardomateas, Niels Pichler, Zhangxian Yuan
Day/Time	Solvay Student Competition	AUTHORS
Mon 15:20-15:45	30224 A Multiscale Infusion-Cure Modeling Framework to Predict the Residual Stress of a Vacuum Assisted Resin Transfer Molded Composite	Weijia Chen, Xiang Ren, Dianyuan Zhang
Mon 15:45-16:10	28374 An ABAQUS Implementation of Regularized Extended Finite Element Method (Rk-FEM) for Modeling the Interaction between Matrix Cracking and Delamination in Composites	Jay-Jui Liang, Jeffrey S. McQuen, Endel V. larve
Mon 16:10-16:35	28425 Manufacturing Study of Thin-Ply Composite Prepregs with Automated Fiber Placement (AFP)	Jessica Ferguson, Konstantine Fettsidis, Christopher Hansen
Mon 16:35-17:00	30380 Organism-inspired Foldable Textile Composites	Niae Alkanson, Kamran Khan, Wesley Cartmell
Tue 15:20-15:45	28410 Thermoplastic Self-healing of Mode I and Mode II quasi-static and fatigue crack growth in CFRP composite using PCL/SMP dual phase healant	Boduzzaman Jony, Nilesh Jagannath Vishe, Samit Roy
Tue 15:45-16:10	28429 Design and Fabrication of resilient sandwich composite structures with multi-stable energy absorption core	Vinay Damodaran, Kelsey Hacker, Pavana Prabhakar
Tue 16:10-16:35	28291 Modeling Delamination of Stitch-bonded Composite Laminates	Yeqing Wang
Day/Time	Stochastic Modeling and Analysis of Composites	AUTHORS
Tue 9:10-9:35	30241 Quasi Monte Carlo Simulations for Stochastic Failure Analysis in Composites	Emil Jacob Pitz, Kishore V. Pochiraju
Tue 9:35-10:00	28325 Prediction of Sub-Element and Common Feature Test Component Failure using Continuum Damage Modeling	Yuri Nikishkov, Gennadiy Nikishkov, Guillaume Seon, Andrew Makeev
Tue 10:00-10:25	30204 Comparison of Multiscale and Kernel-Based Correlations for Stochastic Permeability Models in Composites Manufacturing	Roger Ghanem, Ziad Gauch
Tue 10:25-10:50	28421 Determining a Length Scale of FRP Composite Microstructures	Mathew Joshua Schey
Tue 11:00-11:25	30273 Effect of CNT Waviness on the Elastic Modulus of Carbon Nanotube Reinforced Polymer Composites	Rajni Chahal, Ashfaq Adnan, Ajit Roy
Tue 11:25-11:50	30211 Experimental Validation of Multiscale Stochastic Models for Composites	Loujaine Mehrez, Roger Ghanem
Tue 11:50-12:15	30221 Modeling and Linear Analysis of Stitched Carbon Fiber Epoxy Composite Laminates for Mode I Delamination	Yeqing Wang

Tue 14:20-14:45	30378	Uncertainty Quantification of the Dimensional Variations of a Curved Composite Flange	Kai Zhou, Rui Li, Weijia Chen, Jiong Tang, Dianyun Zhang
Tue 14:45-15:10	28892	Intelligent optimisation of aligned discontinuous composites	James M. Finley, Sorala Pimenta, Milo S.P. Shaffer
Day/Time		Sensing and Health Monitoring	AUTHORS
Wed 11:15-11:40	28355	Strain Distributions in Bonded Composites using Optical Fibers and Digital Image Correlation	Shuvam Saha, Rani W Sullivan
Wed 11:40-12:05	28371	Investigation of Composite Bond Thickness using Optical Fibers	Aditya Kumar Shah, Shuvam Saha, Rani Warsi Sullivan
Wed 12:05-12:30	28372	Investigation of Damage in Composite Structures under Vibration using Hilbert-Huang transform.	Radwa Alaziz, Rani W Sullivan
Wed 13:30-13:55	29696	Cure Process Monitoring for Carbon Fiber/ Epoxy Composite Laminates Using Tilted FBG sensors	Itsuhiko Hirota
Wed 13:55-14:20	28896	Carbon Nanotube-Based Flexible Sensors For Human Motion Analysis	Sagar M Doshi, Amit Chaudhari, Erik T. Thostenson
Day/Time		Textile Composites	AUTHORS
Mon 9:00-9:25	29598	An investigation on the mechanical behavior of 3D warp interlock carbon fabrics	Mehmet KORKMAZ, Ahmad Rashed LABANIEH, Francois BOUSSU, Ayge OKUR
Mon 9:25-9:50	30230	Experimental investigation of multiaxial loading behavior of Dyneema® SK-76 yarns using a fragment simulating projectile	Karan Shah, Subramani Seckalingam
Mon 9:50-10:15	30276	Design and Fabrication of 3-D Woven Composite Preforms with Complex Topologies	Youqi Wang, Binghui Liu, Chian-Fong Yen
Mon 10:15-10:40	29358	Interlaminar fracture toughness of a quasi 3D braided composite	Tony Wentze, Xinyu Mao, Danielle Zeng, Homa Torab, Jeff Dahl, Xinran Xiao
Mon 10:55-11:20	30358	Multi-scale Modeling of Non-Orthogonal Twill Weave Composites	Venkat R Aitharaju, Gurbinder S. Dhaliwal, William R Rodgers
Mon 11:20-11:45	30196	Effect of unit cell geometry and fiber waviness on the overall mechanical response of 3D woven composites	Borys Drach
Mon 11:45-12:10	30374	Investigation of a Twill Orthogonally Woven Textile Composite under In-Plane Extension	John Whitcomb, Michael Keith Ballard
Mon 13:30-13:55	28231	High Curvature Bending of Viscoelastic Thin-Ply Composites	Milinda Madhusanka Yapa Yapa Hamillage, Kawai Kwok
Mon 13:55-14:20	30089	Strain Rate Dependent Response of Non-Crimp Fabric Composites	Khizar Rouf, José Imbert, Michael Warswick, John Montesano
Mon 14:20-14:45	30355	Enhancing Load Capacity of Plastic Gears via the Application of Woven Composite Blankets	Hany A Ghoneim, Alfonso Fuentes-Aznar, Victor Braescu
Day/Time		Processing Science in Manufacturing	AUTHORS
Mon 15:20-15:45	28701	Process design to eliminate voids during co-cure of honeycomb	Navid Niknafs Kermani, Pavel Simacek, Suresh Advani
Mon 15:45-16:10	30255	PROCESSING OF POST-INDUSTRIAL UNIDIRECTIONAL PREPREG TAPES USING SMC EQUIPMENT	Conner John Chadwick, Yumpei Yang, Kyriaki Kalaitzidou, Jonathan Colton
Mon 16:10-16:35	29789	Glass Fiber Reinforced Polyester Syntactic Foam	Edward DiLoreto, Arielle Berman, Robert Moon, Kyriaki Kalaitzidou
Mon 16:35-17:00	28454	Predicting Defect Formation at Early Stages of Manufacturing Process	Guillaume Seon, Brian Shonkwiler, Andrew Makeev