

## John W. Gillespie, Jr.

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## Table of Content

<b>Executive Summary</b> .....	<b>3</b>
<b>Most Important Achievements</b> .....	<b>6</b>
<b>Publications: Summary (1019 publications)</b> .....	<b>9</b>
<b>Education</b> .....	<b>9</b>
<b>Experience</b> .....	<b>10</b>
<b>Professional Awards</b> .....	<b>12</b>
<b>Best Paper Awards</b> .....	<b>14</b>
<b>Encyclopedia</b> .....	<b>15</b>
<b>Books and Book Chapters</b> .....	<b>15</b>
<b>Patents</b> .....	<b>17</b>
<b>Referred Journal Publications</b> .....	<b>19</b>
<b>Conference Publications (Also presented at Conferences)</b> .....	<b>55</b>
<b>Technical Reports (Final Reports and ARL Technical Reports)</b> .....	<b>103</b>
<b>Presentations</b> .....	<b>111</b>
<i>Invited Presentations</i> .....	<i>111</i>
<i>Other Presentations</i> .....	<i>117</i>

<b>Service</b> -----	<b>121</b>
<i>University of Delaware</i> -----	121
<i>External</i> -----	123
<b>Reviewer for Promotion and Tenure Committees:</b> -----	<b>129</b>
<b>Examiner on Ph. D Committees:</b> -----	<b>129</b>
<b>Reviewer</b> -----	<b>130</b>
<b>Consulting</b> -----	<b>132</b>
<b>Teaching and Advisement</b> -----	<b>133</b>
<i>Education Courseware</i> -----	133
<i>Courses Taught</i> -----	133
<i>Current &amp; Completed Ph.D. Students</i> -----	134
<i>Current &amp; Completed Master's Degree Students</i> -----	137
<i>Conflict of Interest</i> -----	140
<i>Past Students Now Teaching</i> -----	143
<i>Science &amp; Engineering Scholars</i> -----	144
<i>Past and Present Research Professionals and Administrative Staff</i> -----	146
<i>Visiting Scholars and Interns</i> -----	151
<i>Over 342 Undergraduate Research Assistants and Summer Interns, 1981 - 2022</i> -----	159
<i>Undergraduate Research Projects</i> -----	163
<i>Design Projects</i> -----	164
<i>Continuing Education</i> -----	165
<b>Research Funding</b> -----	<b>167</b>

## Executive Summary

Dr. Gillespie has served the University of Delaware Center for Composite Materials (UD-CCM) in several roles since 1981, achieving the position of Director in 1996. Dr. Gillespie is also the Donald C. Phillips Professor of Civil and Environmental Engineering and holds joint appointments in the departments of Materials Science and Engineering, Mechanical Engineering and Electrical and Computer Engineering.

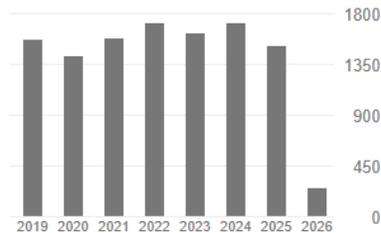
As Director, Dr. Gillespie has established an internationally recognized center of excellence in composites. He has created an intellectually stimulating and highly interdisciplinary research environment for affiliated faculty, research professionals, graduate and undergraduate students, postdoctoral fellows, visiting scholars and industry partners to collaborate among themselves as well as with the Center's government and industrial sponsors. Dr. Gillespie has established a dedicated state-of-the art composites facility and maintains an open-lab philosophy to encourage participation in research and educational activities. Under his leadership, he has nearly doubled the size of UD-CCM with 52,000 sq. ft of laboratory space housed in two facilities housing more than \$25M in equipment. On campus, basic and applied research is conducted in our Composites Manufacturing Science Laboratory. Off-campus, larger scale manufacturing and prototyping is conducted at his Application and Technology Transfer Laboratory. As Director, Dr. Gillespie directly supervises approximately 40 research professionals, administration and technical support staff and manages an annual research expenditure of \$15.3M derived from contracts and grants in FY 22.

Building on traditional strengths and by funding new initiatives, Dr. Gillespie has engaged more than 57 affiliated faculty from 5 colleges that advise undergraduate, graduate, and post-doctoral students in exciting new composite research areas of basic research. Dr. Gillespie has maintained a commitment to undergraduate education and research by continuing the CCM undergraduate research program with more than 76 students and over 40 researchers have been involved in CCM activities in 2022.

In 1996, Dr. Gillespie assumed leadership of the Center's University-Industry Consortium, "Application of Composite Materials to Industrial Products," with only three members. More than 400 companies have participated in the consortium. To meet the needs for applied research and technology transfer, Dr. Gillespie has hired a full-time research professional staff with a wide range of expertise in composites to work closely with our industrial and government sponsors as well as the faculty and students. Dr. Gillespie has worked diligently to maintain an optimum balance of basic and applied research to ensure that CCM is not only at the forefront of the science of composites but also able to solve real-world engineering problems to benefit the Center's sponsors. Dr. Gillespie has established major research programs through numerous university-industry-government partnerships.

Dr. Gillespie is also an accomplished researcher and educator. Dr. Gillespie has been the Principal Investigator (PI) or co-PI on five prestigious Centers of Excellence since 1996. He was the PI of two Army Research Laboratory (ARL) Centers of Excellence (1996-2014), one in multifunctional composite materials and the other in mechanics and performance of composites. He was also co-PI on an Office of Naval Research (advanced materials and intelligent processing) established in 1997-2014. The fourth was funded by the Federal Aviation Association (advanced composite materials for commercial aircraft) as part of the Wichita State University team. In 2012, ARL established a Cooperative Research Alliance with Hopkins, Rutgers and Cal Tech and UD on Materials Under Extreme Dynamic Environments of which Dr. Gillespie is a member of the core management committee and UD's PI. This major center was renewed this year through 2022. Overall, Dr. Gillespie has received over \$180 million as PI/Co-PI and supervised as Director \$223 million from industry and government sources to support his research and Center activities.

Cited by	VIEW ALL	
	All	Since 2021
Citations	28307	8406
h-index	87	45
i10-index	421	212



Dr. Gillespie has an impressive record of scholarship conducting high quality basic and applied research in collaboration with his students and colleagues from academia, government, and industry. He has authored/co-authored more than 1,000 publications in composites science and technology including 1 encyclopedia set, 18 book/book chapters, 24 patents, 399 refereed journal papers and 577 proceeding papers (also presented at the conferences). His work has been highly cited by his peers with more than 28,307 citations and an h-index of 87 and i10-index of 421.

*(Google Scholar 3/5/2026)*

As a teacher and mentor, he has advised more than 48 PhD and 57 master’s students. His former students have gone on to successful careers in academia (20 teaching at other universities), government, and industry. He was chosen as the recipient of the Faculty Advisors Award from SAMPE in 2001. He has also been proactive as a mentor to Historically Black Colleges and Universities as a Member of the National Science Foundation Task Force for Development of the first Doctoral Program at Tuskegee University (an HBCU). Today, he is an adjunct faculty member at Tuskegee. He also served as Chair of the external advisory board for the NSF CREST program for Southern University (a Minority Institution). He has hosted faculty and students from both HBCU schools at UD-CCM. In addition to his graduate students, Dr. Gillespie’s research group also includes 50 research faculty, professionals, and technicians.

Dr. Gillespie has served as a member of the prestigious and influential National Research Council Board on Manufacturing and Engineering Design, and Chair of the National Materials Advisory Board Committee on High-Performance Structural Fibers for Advanced Polymer-Matrix Composites. Dr. Gillespie has been Editor of the Journal of Thermoplastic Composite Materials since 1993, and he serves on numerous editorial boards. Over the past few years, Dr. Gillespie was the Co-Chair of the 24<sup>th</sup> Technical Conference of the American Society for Composites and the Canadian Association for Composite Structures and Materials, Chair of the International Advisory Committee for the Second World Conference on 3D Fabrics and Their Applications, Co-Chair, TEXCOMP9, International Conference on Textile Composites and International Co-Chair of the 13<sup>th</sup> US-Japan Conference on Composite Materials, held in Tokyo, Japan. He has been a member of Society of Plastics Engineers since 1991 as member and secretary of the Steering Committee of the Special Interest Group on Joining of Plastics and Composites (1991-2002) and currently serves on the Board of Directors for SPE Composites Division.

Dr. Gillespie’s contributions have been recognized through a number of honors and awards. He was a co-recipient of the U.S. Army’s Paul A. Siple Memorial Award, announced at the 21st Army Science Conference in 1998, for his research on processing of multifunctional armor materials. His work on diffusion-enhanced adhesion for improved ballistics was cited in 1997 in the Department of Defense (DOD) booklet, Defense Basic Research-Rapid Transition from the Laboratory to the Field. The technology was one of only 17 examples of basic research recognized throughout the entire DOD. He was the first academic recipient of the prestigious Jud Hall Composites Manufacturing Award bestowed in 2000 by the Composites Manufacturing Association of the Society of Manufacturing Engineers. His research team was selected in 2004 by the American Composites Manufacturing Association for the Best of Show Award recognizing projects that are superior to all others in manufacturing, design, process innovation and use of composite materials. In 2008, he was acknowledged as the Most Cited Author (2005-2008) by the International Journal of Solids and Structures. In 2009, he was selected by the American Society for Composites as the recipient of the Outstanding Research Award and acknowledged with the Department

of Mechanical Engineering Distinguished Career Alumni Award. In 2012, he was selected as a fellow of the American Society for Composites. In 2013 he was recognized as the co-recipient of the American Society for Civil Engineers Charles Pankow Award for Innovation. He was also one of only six individuals elected to the 2013 Society of Manufacturing Engineers College of Fellows. In 2015, he was one of four elected as a Fellow of SAMPE. In 2016, he received the Wayne W. Stinchcomb Memorial Award from the American Society for Testing and Materials. At CAMx 2016, his UD-CCM team and industry (BMW, NCMS) and government partners (National Highway Transportation Safety Administration) was selected as a Finalist for Unsurpassed Innovation Category for their project on Carbon Fiber Thermoplastic B-Pillars. Dr. Gillespie has also received numerous best papers and best presentation awards over the years.

In 2018, he was elected as a Fellow of SME. In 2019, his research team was selected as the recipient of the CAMX Award for Composites Excellence (ACE) in the Infinite Possibility for Market Growth Category. In 2020, SAMPE selected his team as the recipient of the Delmonte Award for Innovation Excellence. Dr. Gillespie has also received numerous best papers and best presentation awards over the years.

In 2025, he received the inaugural John W Gillespie Jr Distinguished Alumni Medal and the Medal of Excellence in Composite Materials bestowed at the International Confernece in Composite Materials.

***Specialty Areas: Composites, processing, mechanics, design, interphase science, adhesion, joining, experimental methods***

## Most Important Achievements

- 1) To meet the needs of industry, Dr. Gillespie led his research group to develop the co-injection resin transfer molding process. In this process, vacuum assisted resin transfer molding process was advanced to allow for the infusion and control of multiple resins through thickness of a composite preform in single step. The original application was the need for fire retardant resin such as phenolic to be infused with structural resins such as epoxy and vinyl ester to meet the flammability requirements for Navy topside structures and Army ground vehicle applications. A key to the success of the process was the incorporation of an impermeable barrier layer in the preform and the retention of excellent bonding of the dissimilar resins with this layer. This led to the invention of diffusion-enhanced adhesion, where thermosetting resins diffuse into thermoplastic barrier layers and cure leading to outstanding damage tolerance. These inventions were transferred to Navy industrial subcontracts and used in full-scale manufacturing demonstrations of the Director Room on Navy ships. These technologies were also transitioned to United Defense and used in Tank Automotive Research and Development Center's Composite Armored Vehicle Advanced Technology Demonstrator (a 22-ton all-composite combat vehicle). In this program, the damage tolerance of the interface was proven out through ballistic testing and 6,000 miles of durability testing of the vehicle. These two technologies were recognized by Assistant Secretary of the Army Anita Jones in Defense Basic Research—Rapid Transition from the Laboratory to the Field. This technology was one of only 17 examples of basic research recognized throughout the entire DoD. The science associated with these inventions led to many journal papers as well as receipt of the U.S. Army's Paul A. Siple Memorial Award, announced at the 21st Army Science Conference, for our research on processing of multifunctional armor materials.
  
- 2) A second highlight of the successful transition of research and development into practice was Dr. Gillespie's research into induction processing of thermoplastic composite materials. In this project, basic research established the three important volumetric heat generation mechanisms resulting from the interaction of electromagnetic fields with continuous fiber thermoplastic prepreg. These studies established the foundation for the invention of new induction-based lamination processes. Process models were developed allowing for coil design to promote uniform heating in arbitrary laminate stacking sequences. Process models established in UD-CCM's thermoplastic tape placement process (another highlight) were adapted to optimize the consolidation process and to design the manufacturing equipment including sensors and control systems. Laboratory-scale equipment was built, and the process was proven out. The process was then hardened and transitioned to our industrial partner (Alliant Tech Systems) and integrated into their automated factory. Our automated induction-based laminator produced autoclave quality at production rates of 20ft/min leading to labor cost savings of nearly 40% by replacing more than 20 hand-lay-up vacuum debulk stations. This process has been a commercial success producing thick-section composites for the US Army for nearly a decade. This project resulted in multiple patents and many high-quality publications in materials, processing and manufacturing. This project is an excellent example of bridging basic research to commercial success (TRL 1-9)
  
- 3) A third highlight of the success transition of research and development was the development of the thermoplastic composite tow placement manufacturing for aerospace structures. This effort was funded as part of a DARPA program on affordable composites manufacturing and brought DuPont, Hercules, NASA, Cincinnati Milacron and UD together. In this project UD-CCM was the prime, and Dr. Gillespie provided overall program management for the team as well as

leading his research group. The original need was to develop a new manufacturing process for large-scale aerospace wing and fuselage structures using high-temperature thermoplastic composites to meet the demanding service environment of the high-speed transport. Today this process is highly desirable as an affordable out-of-autoclave manufacturing process. The vision was to marry DuPont's thermoplastic filament winding technology with Hercules thermoset fiber placement equipment. The technical challenge was to develop and commercialize new head technology with heating, consolidation, and cooling capability to produce aerospace quality laminates without secondary processing. Dr. Gillespie's group focused on understanding the relationship between the process physics to final material part quality and properties. Comprehensive modeling and simulation of the tape placement process was conducted incorporating the effects of multiple passes on void reduction within tapes, the interdiffusion between tapes required to achieve full interlaminar properties and the final residual stress states including part-tool interactions. This project led to the design and fabrication of a laboratory-scale robotic head for processing trials and model validation. Later these models were used to optimize the head configuration for maximum throughput and over time this culminated in a series of commercial heads sold originally by Cincinnati Milacron and more recently Accudyne Systems.

- 4) A fourth highlight was the development of composites for bridge infrastructure renewal that was funded by DARPA. Our team consisted of DelDOT, FHWA, DuPont Hardcore Composites and HCB. Dr. Gillespie and Dr. Mertz were the UD co-PI's. The project designed and erected one of the first all-composite bridge on the federal highway system that met all State and Federal bridge requirements. The project received the State of Delaware Project of the Year Award in 1998. The project continued with the development of affordable manufacturing methods for composite girders for rail and bridge systems. Dr. Gillespie's research group worked closely with a bridge designer and inventor to turn a concept into full scale projection process for bridge girders up to 70 ft in length. The girders were tested at various length scales in the laboratory and proven out in the field on the nation's rail test track. The bridge systems have now passed all federal requirements and are commercially products. This project was selected as the recipient of the prestigious ASCE Charles Pankow Award for Innovation in 2013.
- 5) The fifth achievement is related to the management, leadership, impact, and sustainment of the Center for Composite Materials at the University of Delaware. UD-CCM has achieved international recognition as a leader in composites education and research. Under Dr. Gillespie's leadership, UD-CCM has been designated a Center of Excellence by DOD (1996-2022) through multiple competitions throughout his tenure as Director and PI/co-PI of those programs. He has tripled the size of the research enterprise and nearly doubled the size of the laboratory space. He has successfully created a center where long term basic research by faculty and students and industry relevant applied research by research professionals are further matured leading to successful innovation and product development within a single organization. Dr. Gillespie has established over the past decade a shared research and development facility that spans TRL1-9. Our government funded Centers of Excellence combined with our strategic industry (University-Industry Consortium Application of Composite Materials to Industrial Products) and our academic partnerships with our collaborative research environment has resulted in a highly successful university-industry-government partnerships and successful transitions and commercialization of technology. This has been the key to long term sustainment of UD-CCM as a soft-funded research center for more than 40 years.

- 6) A sixth achievement is the development of the Materials in Extreme Dynamic Environments (MEDE) program. UD-CCM along with Johns Hopkins University, California Institute of Technology, Rutgers and the Army Research Laboratory under the authority of MEDE Collaborative Research Alliance, joins experts from across the country to collaborate and help the US Army develop new lightweight materials to better protect soldiers and vehicles. The objectives of the MEDE program are to develop the technical and workforce capability to design, create, and optimize novel material systems that exhibit revolutionary performance in extreme dynamic environments. The objective is not necessarily to produce a specific material system that is optimized for a specific range of applications, but rather to produce a way of thinking that will allow the design of lightweight protective material systems that can be used for extreme dynamic environments. To achieve the MEDE program objectives, research activities are focused on a materials-by-design process for composite and polymeric materials involving a canonical model and a mechanism-based strategy. This involves the development of new computational tools whose predictive capabilities span length scales from the atomistic level to the macroscopic building block (single filament-yarn-single composite ply) as well as time scales ranging from 10<sup>-1</sup>-10<sup>-9</sup> seconds. In order to obtain model input parameters and provide model validation, new experimental techniques are being developed to identify and quantify rate-dependent failure modes for both composite and polymer textile materials. The intent is that insights generated through this effort are used to guide the optimization of material composition (molecular architecture, fiber/Resin adhesion, composite microstructure) and process techniques to achieve new material systems with dynamic mechanical properties that significantly exceed those of the state of the art. This program brings the very latest cutting edge computational and experimental technologies to CCM's long history of a "Materials by Design" philosophy.
- 7) Most recent achievement, in coordination with the Defense Advanced Research Projects Agency (DARPA) our team developed a manufacturing process and facility to produce TuFF (Tailored Universal Feedstock for Forming. TuFF is a highly aligned discontinuous carbon fiber preform in thin-ply format which can be combined with thermoplastic or thermoset resins for prepreg or used in dry form for infusion-based manufacturing processes. A patented discontinuous fiber alignment and preforming process has been developed and implemented in a pilot facility at UD-CCM. The alignment process is fiber agnostic and TuFF preforms have been manufactured with aerospace grade fiber (IM7, T800), pitch carbon fiber, and recycled carbon fiber. Using discontinuous IM7 carbon fiber and Polyetherimide (PEI) thermoplastic resin, TuFF composites with aerospace quality requirements (<1% voids, up to 63% fiber volume fraction) have demonstrated 100% translation of fiber stiffness and strength in tension, and >40% bi-axial in-plane strain capability during forming. The in-plane stretch ability of TuFF preforms enables conformability of simple planar preforms to complex geometries, eliminating the need for darning and complex ply patterns while minimizing associated scrap during composite layup. Closed-loop recycling and reuse strategies are possible for the first time with the ability to reuse fiber and preform scrap, prepreg scrap and recycled composite parts.

**Publications: Summary (1019 publications)**

- 1 Encyclopedia (six book series)
- 18 Book and Book Chapters
- 24 Patents
- 399 Refereed Journal Publications: 1978-Present
- 577 Conference Proceedings (also presented at Meetings): 1978-Present
- 88 Invited Presentations: 1986-2022

***Specialty Areas: Composites, processing, mechanics, design, interphase science, adhesion, experimental methods.***

**Education**

- Ph.D., 1985, Mechanical and Aerospace Engineering, University of Delaware
- M.M.A.E., 1978, Mechanical and Aerospace Engineering, University of Delaware
- B.M.E., 1976, Mechanical and Aerospace Engineering, University of Delaware

**Experience****2024 – Present**

Donald C Phillips Emeritus Professor of Department of Materials Sciences & Engineering, Department of Mechanical Engineering, and Department of Civil, Construction and Environmental Engineering

**2019 to 2022**

Professor, Department of Electrical and Computer Engineering, University of Delaware

**2013 to Present**

Professor, Department of Mechanical Engineering, University of Delaware

**2005 to Present**

Named Donald C. Phillips Professor, Department of Civil & Environmental Engineering, University of Delaware

**1999 to Present**

Professor, Department of Civil & Environmental Engineering, University of Delaware  
Professor, Department of Materials Science & Engineering, University of Delaware

**1998 to 2010**

Adjunct Faculty, Materials Science and Engineering Program, Tuskegee University

**1996 to 2023**

Director, Center for Composite Materials, University of Delaware

**1996 to 1999**

Associate Professor, Department of Civil & Environmental Engineering, University of Delaware

**1994 to 1999**

Associate Professor, Department of Materials Science & Engineering, University of Delaware

**1990 to 1996**

Associate Director and Member of Board of Directors, Center for Composite Materials, University of Delaware

**February 1989 to 1994**

Research Faculty Member, Materials Science Program, University of Delaware  
Research Faculty Member, Department of Mechanical Engineering, University of Delaware

**August 1986 to 1990**

Assistant Director for Research, Center for Composite Materials, University of Delaware

**September 1986 to July 1989**

Research Assistant Professor of Mechanical Engineering, University of Delaware

**January 1986 to March 1989**

Scientist, University of Delaware

**July 1983 to December 1985**

Associate Scientist, Center for Composite Materials, University of Delaware

**October 1981 to June 1983**

Research Associate III, Center for Composite Materials, University of Delaware

**Professional Awards**

1. 2025 Medal of Excellence in Composite Materials
2. 2025 John W Gillespie Jr Distinguished Alumni Medal
3. 2020 SAMPE Delmonte Award for Innovation Excellence – SAMPE North America Awards Committee
4. CAMX Award for Composite Excellence (ACE): Infinite Possibility for Market Growth Category. September 2019.
5. Elected in May 2018 as SPE Fellow.
6. CAMX Finalist for Unsurpassed Innovation Category: Carbon Thermoplastic B-Pillars.
7. Wayne W. Stinchcomb Memorial Award from the American Society for Testing and Materials, September 2016.
8. SAMPE Fellow Award in recognition of your extensive history of research support, technology advancement, individual mentoring and support of the society, June 2015.
9. Elected in 2013 to the SME College of Fellows.
10. Selected as co-recipient of the American Society for Civil Engineers 2013 Charles Pankow Award for Innovation.
11. Elected in 2012 as Fellow of the American Society for Composites.
12. 2009 ASC Outstanding Research Award; Quoting the Society guidelines: A nominee for the ASC Outstanding Research Award shall have made contributions to the science and technology of composite materials by way of analytical modeling, numerical modeling, design methodologies, and/or experimental work that have led to a greater understanding of the behavior of composite materials.
13. Distinguished Career Alumni Award, Department of Mechanical Engineering, University of Delaware, May 1, 2009.
14. 2004 American Composites Manufacturing Association Best of Show Award recognizing projects that are superior to all others in manufacturing, design, process innovation, and use of composite materials, November 2004.
15. Space Act Award, "Ceramic Composite Advanced Tow Placement (CCATP) Process: A Rapid Prototyping Technique for Continuous Fiber Reinforced Ceramic Matrix Composites," NASA Tech Briefs Magazine, September 2002.
16. Faculty Advisors Award, Society for the Advancement of Material and Process Engineering, 2001.
17. J. H. "Jud" Hall Composites Manufacturing Award of the Composites Manufacturing Association, Society of Manufacturing Engineers, 2000 Award recognizing outstanding contributions to the advancement of composites manufacturing.
18. ASCE Delaware Section Project of the Year Award: "Use of Glass-Fiber-Reinforced Composite Panels to Replace the Superstructure for Bridge 351 on N387A Over Muddy Run," February 1999.

19. Paul A. Siple Memorial Award: “Co-Injection Resin Transfer Molding for Optimization of Integral Armor,” (with B. K. Fink and S. H. McKnight), 21st Army Science Conference, *Science and Technology for Army After Next*, Norfolk, VA, June 15–17, 1998 recognizes best basic research contributions in U.S. Army.
20. “Defense Basic Research-Rapid Transitions from the Laboratory to the Field” recognized notable achievements by world-class scientists and engineers. Dr. Gillespie’s research on Diffusion Enhanced Adhesion was selected as one of only 17 examples throughout the entire Department of Defense, May 1997.

**Best Paper Awards**

1. Best Paper Award. Proceedings of the Automotive Composites Conference & Exhibition, Society of Plastic Engineers, Detroit, MI, Sept. 5-7, 2018. Tamrakar, S., R. Ganesh, S. Sockalingam, J. W. Gillespie, Jr., "Determination of Mode II Traction Separation Law for S-2 Glass/Epoxy Interface Under Different Loading Rates Using a Microdroplet Test Method."
2. Outstanding Paper Award 2<sup>nd</sup> Place SAMPE 2015, Baltimore, MD, May 18-21, 2015 Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Role of Prepreg Interlayer Permeability on Void Reduction During Oven Vacuum Bag Processing of Thick Section Thermoplastic Composites."
3. ASME Mechanisms & Robotics Committee Best Paper Award at the 39<sup>th</sup> Mechanisms and Robotics Conference, Boston, MA, August 4, 2015, J-H Park, S. Yarlagadda, P. Stegall, J. Tierney, S. K. Agrawal, S. Sharma, and J. W. Gillespie, Jr., "Wearable Upper Body Suit for Assisting Human Load Carriage."
4. Best Paper Award, presented at the 25<sup>th</sup> Annual Technical Conference, hosted by the University of Dayton, Dayton, OH, September 21, 2010, for paper presented at the 24<sup>th</sup> Annual Technical Conference of the American Society for Composite and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009, with B. A. Gama, T. A. Bogetti, and J. W. Gillespie, Jr., "Impact, Damage and Penetration Modeling of Thick-Section Composites using LS-Dyna MAT 162."
5. Best Paper Award 1<sup>st</sup> Place SAMPE 2005 Symposium & Exhibition (50th ISSE), Long Beach, CA, May 1-5, 2005, with B. A. Gama, S. M. W. Islam, M. Rahman, T. A. Bogetti, B. A. Cheeseman, C-F. Yen, and C. P. R. Hoppel, "Punch Shear Behavior of Thick-Section Composites under Quasi-Static, Low Velocity, and Ballistic Impact Loading."
6. Best Paper Award, Joining of Plastics & Composites Special Interest Group, ANTEC 98: "A Predictive Neural Network Controller for Thermoplastic Tow Placement," with D. Heider, and M. J. Piovoso, Society of Plastics Engineers, 1998.
7. Best Paper in the Body/Fuselage session: "The Role of Surface Preparation on the Performance of Metal to Polymer Adhesive Joints," (with S. H. McKnight and P. E. Bourban), 10th Annual ASM/ESD Advanced Composites Conference, November 7–10, 1994.
8. Best Paper in Track: "A Study of Improved Bonding Techniques for High Performance Thermoplastic Composites," (with R. C. Don and S. H. McKnight), Advanced Composites X: Proceedings of the 10th Annual ASM/ESD Advanced Composites Conference and Exposition, 1994.
9. Best Presentation: "Design, Analysis, and Hydrotesting of a Composite Cylinder Joint for Pressure-Hull Applications," (with S. M. Andersen, K. Newman, M. A. Lamontia and B. Olson), ASTM STP on Compression Response of Composite Structures, November 1992.
10. Best Advanced Composites Paper: "Processing and Performance of Resistance Welded Thermoplastic Composites," (with L. J. Bastien and R. C. Don), 45th Annual Conference of the Composites Institute (SPI), February 1990.
11. Tamrakar, Sandeep, Couvreur, R., Kiziltas, A., Mielewski, D., Gillespie, Jr., John W., "Water Absorption Behavior of Recycled PP and PA6 Composites Reinforced with Natural Fibers", <https://www.4spe.org/i4a/pages/index.cfm?pageid=6163>, SPE Automotive Composites Conference & Exhibition (ACCE), Virtual Event, Sept. 9 – 11, 2020

## Encyclopedia

1. Gillespie, J. W. Jr., Series Editor, *Delaware Composites Design Encyclopedia*, Volumes 1–6, Technomic Publishing Company, Inc., Lancaster, PA, 1990.

## Books and Book Chapters

1. Heider, D., J. W. Gillespie, Jr., S. Yarlagadda, J. Tierney, B. Haque, N. Shevchenko, S. Sharma, D. Roseman, A. Yiournas, and J. Sun (UD-CCM), A. Campbell, L. Keuthage, and D. Rinehardt (BMW), R. Myers (NCMS), National Center for Manufacturing Sciences, (2017, April). *High-Performance Computing Studies* (Report No. DOT HS 812 404). Washington, DC: National Highway Traffic Safety Administration. April 2017.
2. Deitzel, J., P. McDaniel, and J. W. Gillespie, Jr., Chapter 10: High Performance Polyethylene Fibers. In *Structure and Properties of High-Performance Fibers*; Bhat, G., Ed; Elsevier, <https://doi.org/10.1016/B978-0-08-100550-7.00007-3> , pages 167, August 21, 2016.
3. Haque, B. A. (Gama), J. W. Gillespie, “A Quasi-Static Penetration Model of Ballistic Penetration of Thick-Section Composites,” *Failure in Composites – Volume 4*, A. M. Waas and B. V. Sankar (eds.) (American Society for Composites Series on Advances in Composite Materials, DEStech Publications, ISBN: 978-1-60595-088-4, December 2012.
4. McAllister, Q. P., J. W. Gillespie, Jr., M. R. Vanlandingham, *Experimental Measurement of the Energy Dissipative Mechanisms of the Kevlar Micro-fibrillar Network for Multi-Scale Application*, Chapter 8, G. P. Tandon et al. (eds.), *Experimental Mechanics of Composite, Hybrid, and Multifunctional Materials*, Volume 6, Conference Proceedings of the Society for Experimental Mechanics Series, DOI 10.1007/978-3-319-00873-8\_8, # The Society for Experimental Mechanics, Inc., 2014.
5. Xiao, J. R. and J. W. Gillespie, Jr., “Fracture Behaviors of Graphene Sheets and Carbon Nanotubes,” accepted ‘Graphene, Theory, Research and Applications, 10.5772/14948, *Physics and Applications of Graphene – Theory*, ISBN 978-953-307-152-7, March 2011.
6. Gillespie, J. W. Jr. and Hoa, S., Editors, *Proceedings of the 24<sup>th</sup> Annual Technical Conference of the American Society for Composites*, 2009.
7. Advani, S. G. and J. W. Gillespie, Jr., Editors, (Volume 9 in the TexComp Series) *Proceedings of TEXCOMP9: Recent Advances in Textile Composites*, 2008.
8. Gillespie, J. W. Jr., (contributing author and Chair), *High-Performance Structural Fibers for Advanced Polymer Matrix Composites*, National Materials Advisory Board, National Research Council, National Academy Press, Washington, DC, 2005.
9. Gillespie, J. W. Jr. (contributing author), “An Assessment of the U.S. Army’s Manufacturing Technology Program Relative to the Needs of the Future Combat Systems Program in *Final Report of the Army’s Future Combat Systems (FCS) Critical Technologies: Industry ManTech Independent Assessment Panel*, National Center for Advanced Technologies, Washington, D.C., Report Number 01-MT2A, July 2002.
10. Tierney, J. J., J. W. Gillespie Jr., and P-E. Bourban, “Joining of Composites,” Chapter in Volume 2, *Polymer-Matrix Composites, Comprehensive Composite Materials*, Pergamon, Elsevier Science Limited, 2001.

11. Gillespie, J. W. Jr. (contributing author), "Composite Armored Vehicle Advanced Technology Demonstrator (CAV-ATD) Design Guide, United Defense, L. P. Ground Systems Division, Contract DAAE07-94-C-R011, August 1999.
12. Benatar, A., K. T. Kedward, and J. W. Gillespie, Jr., "Joining of Composites," Chapter 12 in *Advanced Composites Manufacturing*, Editor: T. G. Gutowski, John Wiley & Sons Publishers, pp. 487–512, 1997.
13. Gillespie, J. W. Jr., contributing author, *New Materials for Next-Generation Commercial Transports*, National Research Council, Publication NMAB-476, National Academy Press, Washington, DC, 1996.
14. Hansen, U. and J. W. Gillespie Jr., "Transverse Cracking of Composite Laminates with Interleaves: A Variational Approach," *Fracture of Composites*, E. Armanios (ed.), TransTec Publications, Ltd., Switzerland, pp. 521–548, 1996.
15. Advani, S. G. and J. W. Gillespie, Jr., Editors, *Proceedings of CADCOMP 92: Third International Conference on Computer Aided Design in Composite Material Technology*, 1992.
16. Carlsson, L. A., J. W. Gillespie Jr., and K. Friedrich, "Fracture of Thermoplastic Composites," *Thermoplastic Composite Materials*, L. A. Carlsson (volume ed.), Elsevier Book Series on Composite Materials, R. B. Pipes (series ed.) Elsevier Science Publishers, 1990.
17. Gillespie, J. W. Jr., and L. A. Carlsson, "Interlaminar Fracture of Composite Materials," Vol. 6, *Delaware Composites Design Encyclopedia*, Technomic Publishing Company, Inc., Lancaster, PA, 1990.
18. L. A. Carlsson, and J. W. Gillespie Jr., "Mode II Interlaminar Fracture," *Application of Fracture Mechanics to Composite Materials*, Volume Editor: K. Friedrich, Elsevier Book Series on Composite Materials, Series Editor: R. B. Pipes, Elsevier Science Publishers, 1989.

## Patents

1. Tierney, J., A. Vanarelli, D. Heider, S. Yarlagadda, J.W. Gillespie, Jr., "Aligned Discontinuous Fiber Preforms, Composites and Systems and Process of Manufacture." European Patent No. 3664985, granted August 11, 2023, Unitary Patent effective November 8, 2023.
2. Tierney, J., A. Vanarelli, D. Heider, S. Yarlagadda, J.W. Gillespie, Jr., "Aligned Discontinuous Fiber Preforms, Composites and Systems and Process of Manufacture." U.S. Patent No. 11047078-B2, June 29, 2021.
3. Tierney, J., A. Vanarelli, D. Heider, S. Yarlagadda, J. W. Gillespie, Jr., "Aligned Discontinuous Fiber Preforms, Composites and Systems and Processes of Manufacture," Patent No. US 10,669,659. June 2, 2020.
4. Gillespie, Jr., J. W., J. Tierney, and N. Shevchenko, "Fuel Cell Net-Shape Molded Flow-Fields: Process Design and Optimization," Patent Disclosure Form (Req ID: 376650), Provisional Patent Application UD17-08, Serial Number 62/404,423, October 5, 2016.
5. DeLuca, M. J., C. J. Felker, D. Heider, G. Pandey, A. Abu-Obaid, E. T. Thostenson, and J. W. Gillespie, Jr., "System and Methods for use in Monitoring a Structure," U. S. Patent No. 9,329,021, May 3, 2016.
6. Heider, D., J. Dossmann, and J. W. Gillespie, Jr., "Composites Material Forming with Carrier Layer," Invention Disclosure No. UD16-16, October 14, 2015.
7. Yarlagadda, S., J. W. Gillespie, Jr., J. Tierney, and S. Sharma, "Wearable Upper Body Suit to Assist Load Carriage," Invention Disclosure No. UD16-13, September 18, 2015.
8. Gillespie, Jr., J. W., D. Heider, E. T. Thostenson, G. Pandey, A. Abu-Obaid, "Carbon Nanotube-based Sensing Skin for Real-Time Structural Health Monitoring," US Patent No. 13/887,592 9,329,021, May 2013.
9. Cavanagh, P. R., T. B. Hurley, J. Tierney, J. W. Gillespie, Jr., "Footwear System with Composite Orthosis," Patent No. 10,098,414, March 4, 2018.
10. Gillespie, J. W., Jr., J. Tierney, N. Shevchenko, D. Heider, and D. Sandusky, "Composite Hockey Stick and Related Method of Manufacture," Provisional Application 61768640, UD13-09, February 25, 2013.
11. Nilakantan, G., J. W. Gillespie, Jr., and M. Keefe, "Ballistic Resistant Fabric Armor," Patent No. US 2010/0154621 A1. June 24, 2010.
12. Gerhard, J. K., E. J. Lynam, M. R. Shaffer, S. Yarlagadda, N. B. Shevchenko, B. K. Fink, D. Heider, J. Tierney, J. W. Gillespie, Jr., "Apparatus and Method for Induction Lamination of Electrically Conductive Fiber-Reinforced Composite Materials," U. S. Patent No. 7,419,373 issued September 2, 2008.
13. Vaidyanathan, K. R., J. Walish, M. Fox, J. W. Gillespie, Jr., S. Yarlagadda, M. R. Effinger, A. C. Mulligan, and M. J. Rigali, "Continuous Fiber Reinforced Composites and Methods, Apparatuses, and Compositions for Making the Same," U. S. Patent No. 6,899,777, issued May 2005.
14. Vaidyanathan, K. R., S. Yarlagadda, C. Green, G. J. Artz, J. W. Gillespie Jr., "Composite Components with Integral Protective Casings, U. S. Patent No. 6,935,594, issued August 30, 2005

15. Gerhard, J. K., E. J. Lynam, M. R. Shaffer, S. Yarlagadda, N. B. Shevchenko, B. K. Fink, D. Heider, J. J. Tierney, J.W. Gillespie Jr., "Method for Induction Lamination of Electrically Conductive Fiber Reinforced Composite Materials," U. S. Patent Number 6,881,374, issued April 19, 2005.
16. Delanoy, C. and J. W. Gillespie, Jr., "Composite Carbon Fiber Material and Method of Making Same," U. S. Patent No. 6,759,352, issued July 6, 2004.
17. Bogetti, T., J. W. Gillespie, Jr., J. Tierney, S. Yarlagadda, and J. Clews, "Automated Tape Placement of Electrical Conductive Composites Using Localized Induction Heating," patent application filed September 29, 2004.
18. Fink, B. K., J. W. Gillespie Jr., E. F. Gillio, and K. R. Bernetich, "One-Step Resin Transfer Molding of Multifunctional Composites Consisting of Multiple Resins," U. S. Patent No. 6,048,488, issued April 11, 2000.
19. Fink, B. K., J. W. Gillespie Jr., and S. Yarlagadda, "Tailored Mesh Susceptors for Uniform Induction Heating, Curing, and Bonding of Method of Materials," U. S. Patent No. 6,043,469, issued March 28, 2000.
20. Gillespie, J. W., and M. Tanoglu "Dynamic Interphase-Loading Apparatus and Method of Using the Same," U. S. Patent No. 6,778,914, issued August 2004.
21. Don, R. C., J. W. Gillespie Jr., and S. H. McKnight, "Bonding Techniques for High-Performance Thermoplastic Compositions," U. S. Patent No. 5,643,390, issued July 1, 1997.
22. Howie, I., R. C. Don, J. W. Gillespie Jr., and S. T. Holmes, "Adjustable Hot Gas Torch Nozzle," U. S. Patent No. 5,626,472, issued May 6, 1997.
23. Crane, R. M., D. C. Loup, J. W. Gillespie Jr., S. M. Andersen, and D. D. Coppens, "High Damping Composite Joint for Mechanical Vibration and Acoustic Energy Dissipation," U. S. Patent No. 5,573,344, issued November 12, 1996.
24. Lambing, C. L. T., S. M. Andersen, S. T. Holmes, R. C. Don, B. S. Leach, and J. W. Gillespie Jr., "Apparatus and Method for Resistance Welding," U. S. Patent No. 5,225,025, issued July 6, 1993.

## Referred Journal Publications

### Submitted 2026

1. Lavaggi, Tania, Gillespie, Jr., J.W., Advani, S.G., "Simulation of Pyrolysis of Carbon-Carbon Composites with Data Informed Porosity Generation", *Carbon*, March 2026
2. Dewapriya, Nuwan, Gillespie, Jr., J.W., Pineda, E.J., Bednarczyk, B.A., "Atomistic Modeling of Strain Rate and Temperature Dependent Tensile Response of Amorphous PEEK", *Polymer*, March 2026
3. Dewapriya, Nuwan, Gillespie, Jr., J.W., Deitzel, J.M., "Mixed-Mode Traction-Separation Laws for Crystalline UHMWPE Interphases Derived from Molecular Dynamics", *International Journal of Solids and Structures*, 2026

### Published 2025

4. Kermani, Navid Niknafs, Parambil, N. K., Gillespie, Jr., J.W., "Strain-Rate Dependent Constitutive Tensile Behavior of Uncured Aligned Discontinuous Fiber Composites for Forming Applications", *Journal of Composite Materials*, Submitted January 2026
5. Bisht, Anika, Kubota, M., Patterson, B., Gillespie, Jr., J.W., "Investigating the Evolution of Silane Coating Deposition on Silicon Substrate using Room-Temperature CVD", *Surfaces and Interfaces*, <https://doi.org/10.1016/j.surfin.2025.107586>
6. Mahoney, Bernard, Tetteh, O., Gyabaah, K., Mensah, P., Gillespie, Jr., J.W., Guoqiang, L., "Effect of Healing Parameters on the Healing Efficiency of A Vitriimer", *Journal of Applied Polymer Science*, Volume 142, Issue 46, <https://doi.org/10.1002/app.57810>
7. Lavaggi, Tania, Gillespie, Jr., J.W., Mulye, P.D., Binetruy, C., Advani, S.G., "Influence of Sample Size on Permeability of Carbon-Carbon Composites with Stochastic Microstructure", *Composites Part A*, <https://doi.org/10.1016/j.compositesa.2025.109126>
8. Bhesania, Abhishek S., Sirk, T.W., Rinderspacher, B.C., Benvenuto, M., Kubota, M., Chowdhury, S.C., Gillespie, Jr., J.W., "Optimization of Silane Chemistry with Machine Learning and Molecular Dynamics", *Journal of Molecular Simulation*, <https://doi.org/10.1080/08927022.2025.2470804>
9. Dewapriya, Nuwan, Gillespie, Jr., J.W., Deitzel, J.M., "Exploring the Effects of Temperature, Transverse Pressure, and Strain Rate on Axial Tensile Behavior of Pristine Polyethylene Crystals Using Molecular Dynamics", *Composites Part B* 294 (2025) 112160, <https://doi.org/10.1016/j.compositesb.2025.112160>
10. I.A. (Iveena) Mukherjee, Dewapriya, M.A.N. (Nuwan), Gillespie, Jr., J.W., Deitzel, J.M., "Developing Mode I Cohesive Traction Laws for Crystalline Ultra-High Molecular Weight Polyethylene Interphases Using Molecular Dynamics Simulations", <https://doi.org/10.1016/j.commat.2024.113552>, *Computational Material Science*, Volume 247 (2025) 113552

**Published 2024**

11. Dewapriya, M.A.N. (Nuwan), Gillespie, Jr., J.W., Deitzel, J.M., “Molecular Dynamics Study of Axial Tensile Response of Crystalline Ultra-High Molecular Weight Polyethylene Under Different Loading Conditions”, <https://doi.org/10.1016/j.polymer.2024.127564>, *Polymer*, Volume 311, October 2024, 127564
12. Legenstein, Alexander, Fuessel, L., Heider, D., Gillespie, Jr., J.W., Cender, T.A., “Stretch-Steering of Highly Aligned Discontinuous Fiber Tape with Automated Fiber Placement”, <https://doi.org/10.1016/j.compositesb.2024.111801>, *Composites Part B: Engineering*, Volume 287, December 2024, 111801
13. Cender, Thomas A., Simacek, P., Gillespie, Jr., J.W., Advani, S.G., “Microstructural Evolution of Highly Aligned Discontinuous Fiber Composites during Longitudinal Extension in Forming”, <https://doi.org/10.1016/j.compscitech.2024.110649>, *Composites Science and Technology*, Submitted February 2024
14. Lavaggi, Tania, Muhammed, F., Moretti, L., Gillespie, Jr., J.W., Advani, S.G., “Correlation of the Premaeability and Porosity Development of Carbon/Carbon Composites During Pyrolysis”, <https://doi.org/10.1016/j.compositesa.2024.108156>, *Composites Part A*, Volume 181, June 2024
15. Chowdhury, S.C., Gillespie, Jr., J.W., “Strain-Rate Dependent Mixed-Mode traction Laws for Glass Fiber-Epoxy Interphase using Molecular Dynamics Simulations”, <https://doi.org/10.1016/j.compositesb.2024.111351>, *Composites Part B*, Submitted 2024
16. Dewapriya, Nuwan, Chowdhury, S., Deitzel, J.D., Gillespie, Jr., J.W., “Strain Rate Effects on the Axial Tensile Behavior of Crystalline Polyethylene: Insights from Molecular Dynamics Simulations”, <https://doi.org/10.1016/j.polymer.2024.126779>, *Polymer*, Volume 295, March 2024, 126779
17. Doshi, Sagar M., Barry, A., Schneider, A., Parambil, N., Mulzer, C., Yayahzadehfar, M., Samadi-Dooki, A., Foltz, B., Warrington, K., Wessel, R., Zhang, L., Simone, C., Blackman, G.S., Lamontia, M.A., Gillespie, Jr., J.W., “Adhesion Characterization and Enhancement between Polyimide-Silica Composite and Nodulated Copper for Applications in Next Generation Microelectronics”, <https://doi.org/10.1021/acsami.3c14434>, *ACS Applied Materials and Interfaces*, 2024, 16(2), 2692-2703
18. Parambil, Nithin K., Chen, B. R., Gillespie, Jr., J.W., “Process-Induced Residual Stress in a Single Carbon Fiber Semicrystalline Polypropylene Thin Film”, <https://doi.org/10.1016/j.compositesa.2023.107969>, *Composite Part A*, Volume 178, March 2024, 107969

**Published 2023**

19. Jaber, Albraa, Gillespie, Jr., J.W., “Feasibility of Kelvin Probe Force Microscopy to Measure the Surface Potential Decay of Polystyrene Film Due to Relative Humidity”,

- <https://doi.org/10.1002/app.55058>, *Journal of Applied Polymer Science*, Volume 141, Issue 10, March 10, 2024, e55058
20. Ganesh, Raja, Gillespie, Jr., J.W., "Dynamic 3D effects of single fiber tensile break within unidirectional composites including resin plasticity, residual stress, interfacial debonding and sliding friction", <https://doi.org/10.1177/00219983231199168>, *Journal of Composite Materials*, Submitted, August 2023
  21. Muhammed, Faheem, Lavaggi, T., Advani, S.G., Gillespie, Jr., J.W., "Relating the microstructural and glass transition temperature evolution of a carbon-carbon composite precursor during pyrolysis using thermomechanical analysis", <https://doi.org/10.1002/app.54526>, *Applied Polymer Science*, August 2023
  22. Ganesh, Raja, AbuObaid, A., Gillespie, Jr., J.W., "Novel Continuous Fiber Bending Experiment to Determine Size- and Spatial- Distributions of Surface Defects in Glass Fibers", <https://doi.org/10.1016/j.compscitech.2023.110146>, *Composite Science and Technology*, Volume 241, August 2023, 110146
  23. Muhammed, Faheem, Lavaggi, T., Moretti, L., Advani, S.G., Gillespie, Jr., J.W., "Pyrolysis Schedule Optimization of Benzoxazine-Derived Carbon/Carbon Composites through Reaction Rate Optimization", <https://doi.org/10.1016/j.ceramint.2023.03.121>, *Ceramics International*, Volume 49, Issue 12, June 2023, Pages 19996-20006
  24. Ganesh, Raja, AbuObaid, A., Gillespie, Jr., J.W., "Experimental Determination of Bimodal Strength Distribution of S-Glass Fibers", <https://doi.org/10.1016/j.compositesb.2023.110559>, *Composites Part B*, Volume 254, April 2023, 110559
  25. Haque, Bazle Z. (Gama), Gillespie, Jr., J.W., "Perforation Mechanics of UHMWPE Soft ballistic Sub-Laminate and Soft Ballistic Armor Pack: A Finite Element Study", <https://doi.org/10.1177/08927057211042058>, *Journal of Thermoplastic Composite Materials*, 2023;36(3):932-960.
  26. Chowdhury, Sanjib C., Longoria, T., Gillespie, Jr., J.W., "Effects of Transverse Compression on the Structure and Axial Tensile Properties of Polyethylene: A Molecular Simulation Study", <https://doi.org/10.1016/j.polymer.2022.125660>, *Polymer*, Volume 267, February 2023, 125660
- 2022**
27. Tamrakar, Sandeep, Couvreur, R., Kiziltas, A., Mielewski, D., Gillespie, Jr., J.W., "Effects of Recycling and Hygrothermal Environment on Mechanical Properties of Thermoplastic Composites", <https://doi.org/10.1016/j.polymdegradstab.2022.110233>, *Polymer Degradation and Stability*, 2022, 110233, Volume 207, January 2023, 110233
  28. Muhammed, Faheem, Moretti, L., Lavaggi, T., Lam, C., Tao, T., Advani, S. G., Gillespie, Jr., J.W., "Influence of Pyrolytic Decomposition on the Microstructure Evolution of Benzoxazine-Derived Carbon-Carbon Composites", <https://doi.org/10.1007/s10853-022-08007-9>, *Journal for Materials Science*, 57, pages 21915–21934 (2022)
  29. Yeon, Jejoon, Chowdhury, S.C., Gillespie, Jr., J.W., "Hydroxylation and Water-Surface Interaction for S-Glass and Silica Glass using ReaxFF based Molecular Dynamics Simulations",

- <https://doi.org/10.1016/j.apsusc.2022.155078>, Applied Surface Science, 2023, 608:155078
30. AbuObaid, Ahmed, Gillespie, Jr., J.W., Chaudhari, S., Baxter, L., Vaidyanathan, R., "Sandwich Composites for Improved Thermal and Acoustic Protection", Accepted, [SAMPE Journal](#) Nov./Dec., 2022
  31. Meyer, Christopher S., Haque (Gama), B.Z., Gillespie, Jr., J.W., "Impact-Induced Through-Thickness Stress Wave Propagation and Damage in Woven Composites", <https://doi.org/10.1007/s40870-022-00354-7>, Journal of Dynamic Behavior for Materials, 2022
  32. Haque (Gama), B.Z., Kubota, M., Gillespie, Jr., J.W., "Depth of Penetration Experiments of S-2 Glass/Epoxy Composites: A New Experimental Methodology in Determining the Rate Dependent Dynamic Crush Strength of Composites", <https://doi.org/10.1016/j.compositesb.2022.109917> Composites Part B, Volume 238, 109917, 2022
  33. Chowdhury, S.C., Gillespie, Jr., J.W., "Strain-Rate Dependent Mode I Cohesive Traction laws for Glass Fiber-Epoxy Interphase using Molecular Dynamics Simulations", <https://doi.org/10.1016/j.compositesb.2022.109877>, Composites Part B, 109877, 2022
  34. Meyer, Christopher, O'Brien, D. J., Haque (Gama), B.Z., Gillespie, Jr., J.W., "Mesoscale Modeling of Ballistic Impact Experiments on a Single Layer of Plain Weave Composite", <https://doi.org/10.1016/j.compositesb.2022.109753>, Composites Part B, 109753, 2022
  35. Yeon, Jejoon, Chowdhury, S.C., Gillespie, Jr., J.W., "Mechanical Properties and Damage Analysis of S-Glass Fiber: A Reactive Molecular Dynamics Study", <https://doi.org/10.1016/j.compositesb.2022.109706>, Composites Part B, Volume 234, 109706, 2022
  36. Vanarelli, Alex, Gillespie, Jr., J.W., "Response of Thin Flexible Compression Columns with Self-Reacting Lateral Constraint", <https://doi.org/10.1177/00219983211070094>, Journal of Composite Materials, Volume 0(0), 1-16, 2022
- 2021**
37. Meyer, Christopher, Haque, B.Z., Gillespie, Jr., J.W., "Bridging Length Scales from Micro to Mesoscale through Rate-Dependent Traction-Separation Law Predictions", <https://doi.org/10.1016/j.compositesb.2021.109558>, Composites Part B, Volume 231, 109558, 2021
  38. Parambil, Nithin Kaliyath, Chen, B., Deitzel, J., Gillespie, Jr., J.W., "A Methodology for Predicting Processing Induced Thermal Residual Stress in Thermoplastic Composite at the Microscale", <https://doi.org/10.1016/j.compositesb.2021.109562>, Composites Part B, volume 231, 109561, 2021
  39. Simacek, Pavel, Advani, S., Gillespie, Jr., J.W., "Modeling Short Fiber Deformation in Dilute Suspension: Fiber Deposition." <https://doi.org/10.1016/j.compscitech.2021.109149>, Composites Science and Technology, Volume 218, 109149, 2021
  40. Jaber, Albraa, AbuObaid, A., Advani, S.G., Gillespie, Jr., J.W., "Experimental Investigation of Dry Powder Coating Processing Parameters on the Polystyrene Particle's Distribution on the Surface of Carbon Fibers", <https://doi.org/10.1016/j.powtec.2021.07.089>, Powder Technology, Volume 393, 461-470, 2021

41. Bhaduri, A., Meyer, C., Gillespie, J.W., Haque, B., and Shields, M., Graham-Brady, L., "Probabilistic modeling of discrete structural response with application to composite plate penetration models," [https://doi.org/10.1061/\(ASCE\)EM.1943-7889.0001996](https://doi.org/10.1061/(ASCE)EM.1943-7889.0001996), *Journal of Engineering Mechanics*, Volume 147, Issue 11, 2021
42. Meyer, Christopher S., Catugas, I.G., Gillespie, Jr., J.W., Haque, B.Z., "Investigation of Normal, Lateral and Oblique Impact of Microscale Projectiles into Unidirectional Glass/Epoxy Composites", <https://doi.org/10.1016/j.dt.2021.08.012>, *Defense Technology*, 2021
43. Muhammed, Faheem, Lavaggi, T., Advani, S., Mirotznik, M., Gillespie, Jr., J.W., "Influence of Material and Process Parameters on Microstructure Evolution during the Fabrication of Carbon-Carbon Composites." <https://doi.org/10.1007/s10853-021-06401-3>, *Journal of Materials Science*, 56, 17877-17914, 2021
44. Yeon, Jejoon, Chowdhury, S.C., Daksha, C.M., Gillespie, Jr., J.W., "Development of Mg/Al/Si/O ReaxFF Parameters for Magnesium Aluminosilicate Glass using Artificial Neural network Assisted Genetic Algorithm." <https://doi.org/10.2021/acs.jpcc.1c01190>, *Journal of Physical Chemistry*, 2021, 125 (33), 18380-183694
45. Jaber, Albraa A., A. AbuObaid, S.G. Advani, J.W. Gillespie, Jr., "Prediction of Circumferential Equilibrium Spacing between Charged Polymer Particles in Contact with Grounded Carbon Fiber." <https://doi.org/10.1016/j.powtec.2021.03.060>, *Powder Technology*, Volume 386, 307-318, 2021
46. Haque (Gama), Bazle Z., J.W. Gillespie, Jr., "Depth of Penetration of Dyneema HB26 Hard Ballistic Laminates.", <https://doi.org/10.1177/08927057211018532>, *Journal of Thermoplastic Composite Materials*, 2021
47. Meyer, C., Bonyi, E., Drake, K., Obafemi-Babatunde, T., Daodu, A., Ajifa, D. Bigio, A., Taylor, J., Haque, B., O'Brien, D., Gillespie, J.W., Aslan, K., "Automated detection and quantification of transverse cracks on woven composites," <https://doi.org/10.1177%2F07316844211017647>, *Journal of Reinforced Plastics and Composites*, 2021
48. Jaber, Albraa A., A. AbuObaid, S.G. Advani, J.W. Gillespie, Jr., "Prediction of equilibrium spacing between charge polymer particles in contact with a carbon fiber." <https://doi.org/10.1016/j.elstat.2021.103577>, *Journal of Electrostatics*, Volume 111, 103577, 2021
49. Chowdhury, S. C., Prosser, R., Sirk, T.W., Elder, R.M., Gillespie, Jr., J.W., "Glass fiber-epoxy interactions in the presence of silane: A molecular dynamics study", <https://doi.org/10.1016/j.apsusc.2020.148738> *Applied Surface Science*, Volume, 542, 2021
50. Jaber, A., Abu Obaid, A., Advani, S. G., Gillespie, Jr, J.W., "Influence of Relative Humidity on Charge Stability of Ozone Treated Polystyrene Particles," <https://doi.org/10.1002/app.49900> *Journal of Applied Polymer Science*, Volume 138, Issue 9, 49900, 2021
51. Daksha, Chaitanya, Yeon, Jejoon, Chowdhury, S.C., Gillespie, J.W., "Automated ReaxFF Parametrization using Machine Learning.", <https://doi.org/10.1016/j.commatsci.2020.110107>, *Journal of Computational Materials Science*, Volume 187, 110107, 2021

**2020**

52. Zhang, Danning, D. Heider, J.W. Gillespie, Jr., "Design and Optimization of Oven Vacuum Bag (OVB) Processing for void Air Removal in High Performance Thermoplastic Composites.", <https://doi.org/10.1177/0892705720978248>, *Journal of Thermoplastic Composite Materials*, Published, December 2020
53. Bhaduri, A., Meyer, C., Gillespie, J.W., Haque, B., and Shields, M., Graham-Brady, L., "Probabilistic modeling of discrete structural response with application to composite plate penetration models," , <https://arxiv.org/abs/2011.11780>, *Journal of Engineering Mechanics* Submitted 2020
54. Chowdhury, S. C., R. M. Elder, T. W. Sirk, and J. W. Gillespie, Jr., "Epoxy Resin Thermo-Mechanics and Failure Modes: Effects of Cure and Cross-Linker Length," <https://doi.org/10.1016/j.compositesb.2020.107814>, *Composites Part B*, Volume 186, 107814, April 2020. ,
55. Sockalingam, S., S. C. Chowdhury, and J. W. Gillespie, Jr., "Inter-Molecular Interactions in Ultrahigh Molecular Weight Polyethylene Single Crystals," <https://doi.org/10.1016/j.commat.2019.109360>, *Computational Materials Science*, **172** (1) February 2020.,
56. Tamrakar, S., R. Ganesh, S. Sockalingam, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Strain Rate-Dependent Large Deformation Inelastic Behavior of an Epoxy Resin," <https://doi.org/10.1177%2F0021998319859054>, *Journal of Composite Materials*, **52** (1), 71-87, 2020.,
57. Bonyi, E., B. Kioko, C. S. Meyer, O. Adesina, T. Obafemi-Babatunde, J. Guy, D. J. O'Brien, B. Z. (Gama) Haque, J. W. Gillespie, Jr., and K. Aslan, "Toward automated identification and quantification of meso-scale damage modes in plain weave glass/epoxy composite laminates," , <https://doi.org/10.1177%2F1056789519887215>, *International Journal of Damage Mechanics*, 1056789519887215, Volume 29, Issue 5 , 2020

**2019**

58. Gillespie, Jr., J. W. and A. Abu-Obaid, "Effects of Abrasion on Mechanical Properties of Kevlar KM2-600 and S Glass Tows," , <https://doi.org/10.1177/0040517518760753>, *Textile Research Journal*, **89** (6), 989-1002, 2019.
59. Haque, B. (Gama), M. Ali, R. Ganesh, S. Tamrakar, C. Yen, D. O'Brien, J. W. Gillespie, Jr., "Stochastic Micromechanical Modeling of Transverse Punch Shear Damage Behavior of Unidirectional Composites," <https://doi.org/10.1177/0021998318796174>, *Journal of Composites Materials*, **53** (9), 1197-1213, 2019.
60. Sockalingam, S., F. Thomas, D. Casem, J. W. Gillespie, Jr., T. Weerasooriya, "Failure of Dyneema® SK76 Single Fiber Under Multiaxial Transverse Loading," <https://doi.org/10.1177/0040517518798653>, *Textile Research Journal*, **89** (13), 2659-2673, 2019.
61. Tamrakar, S., R. Ganesh, S. Sockalingam, and J. W. Gillespie, Jr., "Rate Dependent Mode II Traction Separation Law for S-2 Glass/Epoxy Interface using a Microdroplet Test Method," , <https://doi.org/10.1016/j.compositesa.2019.105487>, *Composites Part A*, 124 (2019) 105487, June 2019.

62. Bonyi, E., C. S. Meyer, B. Kioko, O. Adesina, C. Lansiquot, Z. Onuk, D. J. O'Brien, B. Z. (Gama) Haque, J. W. Gillespie, Jr., and K. Aslan, "Assessment and Quantification of Ballistic Impact Damage of a Single-Layer Woven Fabric Composite," <https://doi.org/10.1177/1056789518758153>, *International Journal of Damage Mechanics*, **28** (2), 249-269 2019.
63. Gravelle, N. P., C. Allen, A. Keyes, D. Heider, J. Tierney, and J. W. Gillespie, Jr., "Composite Car Door Design," *SAMPE Journal*, **55** (1), 8-18, 2019.
64. Chowdhury, S., E. Wise, R. Ganesh, and J. W. Gillespie, Jr., "Effects of Surface Crack on the Mechanical Properties of Silica: A Molecular Dynamics Simulation Study," <https://doi.org/10.1016/j.engfracmech.2018.12.025>, *Engineering Fracture Mechanics*, **207**, 99-108, Feb.15, 2019.
65. Abu-Obaid, A., R. Ganesh, and J. W. Gillespie, Jr., "Investigation of Axial Compressive Behavior of Kevlar Fibers Using Dynamic Loop Test," <https://doi.org/10.1177/0040517518821898>, *Textile Research Journal*, **28**, 3825-3838, 2019.
66. Thomas, F. D., D. Casem, T. Weerasooriya, S. Sockalingam, and J. W. Gillespie, Jr., "Influence of High Strain Rate Transverse Compression on the Tensile Strength of Polyethylene Ballistic Single Fibers," *Dynamic Behavior of Materials*, **1**, 339-334, 2019.
67. Meyer, C. S., E. Bonyi, B. Z. Haque, D. J. O'Brien, J. O'Brien, K. Aslan, and J. W. Gillespie, Jr., "Ballistic Impact Experiments and Quantitative Assessments of Mesoscale Damage Modes in a Single-layer Woven Composite," *Dynamic Behavior of Materials*, **1**, 9-17, 2019. [https://doi.org/10.1007/978-3-319-95089-1\\_2](https://doi.org/10.1007/978-3-319-95089-1_2)
- 2018**
68. Staniszewski, J. M., S. Sockalingam, T. A. Bogetti, and J. W. Gillespie, Jr., "Modeling the Fibrillation of Kevlar® KM2 Single Fibers Subjected to Transverse Compression," <https://doi.org/10.1007/s12221-018-8127-x>, *Fibers and Polymers*, **19** (7), 1479-1489, 2018.
69. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Influence of Multiaxial Loading on the Failure of Kevlar KM2 Single Fiber", <https://doi.org/10.1177/0040517516681961>, *Textile Research Journal*, **88** (5), 483-498, 2018.
70. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Characterization of Interlayer Air Permeability of Thermoplastic Prepreg Stacks", *Journal of Composite Materials*, <https://doi.org/10.1177/0021998317715089>, **52** (6), 731-745, 2018.
71. R Ganesh, S Sockalingam, BZ Haque, JW Gillespie Jr "Dynamic Effects of a Single Fiber Break in Unidirectional Glass Fiber-Reinforced Polymer Composites: Effects of Matrix Plasticity," <https://doi.org/10.1177/0021998317737604>, *Journal of Composite Materials*, **52** (14), 1873-1886, 2018.
72. Chowdhury, S. C. and J. W. Gillespie, Jr., "A Molecular Dynamics Study of the Effects of Hydrogen Bonds on Mechanical Properties of Kevlar® Crystal," <http://doi.org/10.1016/j.commatsci.2018.02.055>, *Computational Materials Science*, **148**, 286-300, 2018.
73. Sockalingam, S., D. T. Casem,, T. Weerasooriya, and J. W. Gillespie, Jr., "High Strain Rate Transverse Compression Response of Ballistic Single Fibers,"

- [https://link.springer.com/chapter/10.1007/978-3-319-62956-8\\_9](https://link.springer.com/chapter/10.1007/978-3-319-62956-8_9), *Dynamic Behavior of Materials*, **1**, 51-55, 2018.
74. Meyer, C., J. W. Gillespie, Jr., B. Haque, D. O'Brien, J. Yu, N. Getinet, K. Aslan, and E. Bonyi, "Mesoscale Ballistic Damage Mechanisms of a Single-Layer Woven Glass/Epoxy Composite," <https://doi.org/10.1016/j.ijimpeng.2017.11.005>, *International Journal of Impact Engineering*, **113**, 118-131, March 2018.
75. McDaniel, P. B., K. E. Strawhecker, J. M. Deitzel, and J. W. Gillespie, Jr., "Nanoscale Interfibrillar Adhesion in UHMWPE Fibers," <https://doi.org/10.1002/polb.24573>, *Journal of Polymer Science, Part B: Polymer Physics*, **56** (5), 391-401, 2018.
76. Tamrakar, S., R. Ganesh, S. Sockalingam, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Experimental Investigation of Strain Rate and Temperature Dependent Response of an Epoxy Resimicron Undergoing Large Deformation," <https://doi.org/10.1007/s40870-018-0144-8>, *Journal of Dynamic Behavior of Materials*, **4** (1), 114-128, 2018.
77. An, Q., S. Tamrakar, J. W. Gillespie, Jr., A. N. Rider, and E. T. Thostenson, "Tailored Glass Fiber Interphases via Electrophoretic Deposition of Carbon Nanotubes: Fiber and Interphase Characterization," <https://doi.org/10.1016/j.compscitech.2018.01.003>, *Composites Science and Technology*, **166**, 131–139 September 29, 2018.
78. McDaniel, P. B., J. M. Deitzel, D. Gregory, T. Polakovic, and J. W. Gillespie, Jr., "A Single Fiber Peel Test to Assess Ultra High Molecular Weight Polyethylene Fiber Mesostructured Interactions," <https://doi.org/10.1002/app.46247>, *Journal of Applied Polymer Science*, **135** (16), 46156, April 20, 2018.
- 2017**
79. Haque, B. Z., M. A. Ali, and J. W. Gillespie, Jr., "Modeling Transverse Impact on UHMWPE Soft Ballistic Sub-Laminate", <https://doi.org/10.1177/0892705716637114>, *Journal of Thermoplastic Composite Materials*, **30** (11), 1441-1483, 2017.
80. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Determination of Void Statistics and Statistical Representative Volume Elements (SRVE) in Carbon Fiber Reinforced Thermoplastic Prepregs", <https://doi.org/10.1177/0892705715618002>, *Journal of Thermoplastic Composite Materials*, **30** (8), 1103-1119, 2017.
81. Chowdhury, S. G. and J. W. Gillespie, Jr., "Silica-Silane Coupling Agent Interphase Properties using Molecular Dynamics Simulations," <https://link.springer.com/article/10.1007%2Fs10853-017-1412-z>, *Journal of Materials Science*, **52** (22), 12981-12998, 2017.
82. Chowdhury, S. C., R. M. Elder, T. W. Sirk, A. C. T. van Duin, and J. W. Gillespie, Jr., "Modeling of Glycidoxypropyltrimethoxy Silane Composites using Molecular Dynamic Simulations," <https://doi.org/10.1016/j.commat.2017.08.033>, *Computational Materials Science*, **140**, 82-88, 2017.
83. Ganesh, R., S. Sockalingam, B. (Gama) Haque, and J. W. Gillespie, Jr., "Dynamic Effects of Single Fiber Break in Unidirectional Glass Fiber-Reinforced Composites", <https://doi.org/10.1177/0021998316669218>, *Journal of Composite Materials*, **51** (9), 1307-1320, 2017.

84. Sockalingam, S., J. W. Gillespie, Jr., S. Chowdhury, M. Keefe, "Recent Advances in Modeling and Experiments of Kevlar Ballistic Fibrils, Fibers, Yarns and Flexible Textile Fabrics – A Review", <https://doi.org/10.1177/0040517516646039>, *Textile Research Journal*, **87** (8), 984-1010, 2017.
85. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Modeling the Fiber Length- Scale Response of Kevlar KM2 Yarn During Transverse Impact", <https://doi.org/10.1177/0040517516669074>, *Textile Research Journal*, **87**, (18), 2242-2254, 2017.
86. Chowdhury, S. C. and J. W. Gillespie, Jr., "Silica–Silane Coupling Agent Interphase Properties using Molecular Dynamics Simulations," <https://doi.org/10.1007/s10853-017-1412-z>, *Journal of Materials Science*, **52** (22), 12981-12998, 2017.
87. Sockalingam, S., D. T. Casem, T. Weerasooriya, P. B. McDaniel, and J. W. Gillespie, Jr. "Experimental Investigation of the High Strain Rate Transverse Compression Behavior of Ballistic Single Fibers," <https://doi.org/10.1007/s40870-017-0126-2>, *Journal of Dynamic Behavior of Materials*, **3**, 474-484, 2017.
88. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Characterization of Interlayer Air Permeability of Thermoplastic Prepreg Stacks" <https://doi.org/10.1177/0021998317715089>, *Journal of Composite Materials*, **52** (6), 731-745, 2018.
89. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Void Reduction of High Performance Thermoplastic Composites via Oven Vacuum Bag Processing", <https://doi.org/10.1177/0021998317700700>, *Journal of Composite Materials*, **51** (30), 4219-4230, March 2017.
90. McDaniel, P. B., S. Sockalingam, J. M. Deitzel, J. W. Gillespie, Jr., M. Keefe, T. A. Bogetti, T. Weerasooriya, and D. T. Casem, "The Effect of Fiber Meso/Nanostructure on the Transverse Compression Response of Ballistic Fibers", <https://doi.org/10.1016/j.compositesa.2016.12.003>, *Composites Part A: Applied Science and Manufacturing*, **94**, 133-145, March 2017.
91. Li, Y., W. Lu, S. Sockalingam, B. Gu, B. Sun, M. Keefe, J. W. Gillespie, Jr., and T-W. Chou, "Electromechanical Behavior of Carbon Nanotube Fibers under Transverse Compression", <https://doi.org/10.1088/1361-6463/aa587a>, *Journal of Physics D: Applied Physics*, **5** (8), 085303 February 2017.
92. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Role of Inelastic Transverse Compressive Behavior and Multiaxial Loading on the Transverse Impact of Kevlar KM2 Single Fiber" <https://doi.org/10.3390/fib5010009>, *Fibers*, **5** (1), 9 pages, February 2017.
93. Chowdhury, S. C., S. Sockalingam, and J. W. Gillespie, Jr., "Molecular Dynamics Modeling of the Effect of Axial Compression and Transverse Compression on the Residual Tensile Properties of Ballistic Fiber", <https://doi.org/10.3390/fib5010007>, *Fibers*, **5** (1), 7 pages, February 2017.

**2016**

94. Abu Obaid, A., S. Yarlagadda, and J. W. Gillespie, Jr., "Combined Effects of Kink Bands and Hygrothermal Conditioning on Tensile Strength of Polyarylate Liquid Crystal Co-polymer and Aramid Fibers", <https://doi.org/10.1177/0021998315574754>, *Journal of Composite Materials*; **50** (3), 339-350, February 2016.
95. Tamrakar, S., Q. An, E. T. Thostenson, A. Rider, B. Z. Haque, and J. W. Gillespie, Jr., "Tailoring Interfacial Properties by Controlling Carbon Nanotube Coating Thickness on Glass Fibers using Electrophoretic Deposition", <https://doi.org/10.1021/acsami.5b10903>, *American Chemical Society Applied Materials & Interfaces*, **8** (2), 1501-1510, 2016.

96. Misumi, J., R. H. Ganesh, S. Sockalingam, and J. W. Gillespie, "Experimental Characterization of Tensile Properties of Epoxy Resin by Using Micro Fiber Specimens", <https://doi.org/10.1177/0731684416669248>, *Journal of Reinforced Plastics and Composites*, **35** (24), 1792-1801, September 21, 2016.
97. Tamrakar, S., B. Haque, J. W. Gillespie, Jr. "High Rate Test Method for Fiber-Matrix Interface Characterization", <https://doi.org/10.1015/j.polymertesting>, *Polymer Testing*, **52**, 174-183, 2016.
98. Chowdhury, S. C., B. Z. (Gama) Haque, J. W. Gillespie., Jr., "Molecular Dynamics Simulations of the Structure and Mechanical Properties of Silica Glass using ReaxFF", <https://doi.org/10.1007/s10853-016-0242-8>, *Journal of Materials Science*, **51** (22), 10139-10159, 2016.
99. Sockalingam, S. R. Bremble, J. W. Gillespie, Jr., and M. Keefe, "Transverse Compression Behavior of Kevlar KM2 Single Fiber", <https://doi.org/10.1016/j.compositesa.2015.11.032>, *Composites Part A: Applied Science and Manufacturing*, **81**, 271-281, February 2016.
100. Haque, B. Z., S. C. Chowdhury, and J. W. Gillespie, Jr., "Molecular Simulations of Stress Wave Propagation and Perforation of Graphene Sheets under Transverse Impact", <https://doi.org/10.1016/j.carbon.2016.02.033>, *Carbon*, **102**, 126-140, 2016.

**2015**

101. Haque, (Gama), B. Z., and John W. Gillespie Jr. "Penetration and Perforation of Composite Structures", <http://www.cuet.ac.bd/merj/index.html>, *Mechanical Engineering Research Journal*, **9**, 37-42, 2013, Online, March 2015.
102. Haque, B. Z. (Gama) and J. W. Gillespie, Jr., "A New Penetration Equation for Ballistic Limit Analysis", <https://doi.org/10.1117/0892705713495430>, *Journal of Thermoplastic Composite Materials*, August 2013, **28** (7), 950-972, 2015.
103. McDaniel, P. B., J. M. Deitzel, and J. W. Gillespie, Jr., "Structural Hierarchy and Surface Morphology of Highly Drawn Ultra High Molecular Weight Polyethylene Fibers Studied by Atomic Force Microscopy and Wide Angle X-Ray Diffraction", <https://doi.org/10.1016/j.polymer.2015.05.010>, *Journal of Polymer Research*, **69**, 148-158, 2015.
104. Abu Obaid, A., D. Heider, J. W. Gillespie, Jr., "Investigation of Electro-Mechanical Behavior of Carbon Nanotube Yarns during Tensile Loading", <http://www.sciencedirect.com/science/article/pii/S0008622315004984>, *Carbon*, **93**, 731-741, November 2015.
105. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Dynamic Modeling of Kevlar KM2 Single Fiber Subjected to Transverse Impact", <http://dx.doi.org/10.1016/j.ijsolstr.2015.04.031>, *International Journal of Solids and Structures*, **67-68**, 297-310, August 2015.
106. Chowdhury, S. C., S. R. Swenson, B. Z. Haque, and J. W. Gillespie, Jr., "Molecular Dynamics Simulations of Singe-walled Carbon Nanotube Bundle under Mechanical Loading", FEATURE ARTICLE. *SAMPE Journal*, **51** (3), 40-48, May/June 2015.
107. Gao, X., R. E. Jensen, W. Li, B. Z. (Gama) Haque, J. W. Gillespie, Jr., and S. H. McKnight, "Effect of Fiber Surface Texture on the Mechanical Properties of Glass Fiber Reinforced Epoxy Composite", <http://dx.doi.org/10.1016j.compositesa.2015.03.023>, *Composites Part A*, PII: S1359-835X(15)00112-8, **74**, 10-17, July 2015.

108. Kelly, G. S., S. G. Advani, and J. W. Gillespie, Jr., "A Model to Describe Stick-slip Transition Time During Ultrasonic Consolidation", <https://doi.org/10.1007s00170-015-6939-z>, *International Journal of Advanced Manufacturing Technology*, **79** (9), 1931-1937, August 2015.
109. Nilakantan, G., R. L. Merrill, M. Keefe, J. W. Gillespie, Jr., and E. D. Wetzel, "Experimental Investigation of the Role of Frictional Yarn Pull-Out and Windowing on the Probabilistic Impact Response of Kevlar Fabrics", <https://doi.org/10.1016/j.compositesb.2014.08.033>, *Composites Part B*, **68**, 215-229, 2015.

**2014**

110. Sahin, O. S., Koellhoffer, S., J. W. Gillespie, Jr., Advani, S. G., and T. Bogetti. "Thermal Modeling During Continuous Ultrasonic Welding," <https://doi.org/10.3906/muh-1402-13>, *Turkish Journal of Engineering and Environmental Sciences*, **38**, 79-96, November 21, 2014.
111. Sietins, J. M., J. W. Gillespie, Jr., and S. G. Advani, "Transmission Electron Microscopy of an Ultrasonically Consolidated Copper-Aluminum Interface", <https://doi.org/10.1557/jmr.2014.176>, *Journal of Materials Research*, **29**, 17, 2014.
112. Zangenberg, J., P. Brondsted, and J. W. Gillespie, Jr., "Fatigue Damage Propagation in Unidirectional Glass Fibre Reinforced Composites made of a Non-Crimp Fabric", <https://doi.org/10.1177/0021998313502062>, *Journal of Composite Materials*, Sept. 13, 2013; **48** (22), 2711-2727, August 2014.
113. McAllister, Q. P., J. W. Gillespie, Jr. and M. VanLandingham, "The Energy Dissipative Mechanisms of Particle-Fiber Interactions in a Textile Composite", <https://doi.org/10.1177/0021998313511651>, *Journal of Composite Materials*, 2013.
114. Lopatnikov, S. L. and J. W. Gillespie, Jr., "Simple Analytical Model for Fiber Tensile Failure due to Droplet Impact", <https://doi.org/10.1063/1.4863207>, *Journal of Applied Physics*, **115** (6), Feb. 2014.
115. Dey, M., J. Deitzel, J. W. Gillespie, Jr., and S. Schweiger, "Influence of Sizing Formulations on Glass/Epoxy Interphase Properties", <https://doi.org/10.1016/j.compositesa.2014.04.006>, *Composites Part A*, **63**, 59-67, 2014.
116. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "On the Transverse Compression Response of Kevlar KM2 using Fiber-level Finite Element Model", <https://doi.org/10.1016/j.ijstr.2014.03.020>, *International Journal of Solids and Structures*, **51** (13), 2504-2517, May 2014.
117. Kelly, G. S., M. S. Just, S. G. Advani, and J. W. Gillespie, Jr., "Energy and Bond Strength Development during Ultrasonic Consolidation", <https://doi.org/10.1016/j.jmatprotec.2014.03.010>, *Journal of Materials Processing Technology*, *Journal of Materials Processing Technology*, **214**, 1665-1672, March 2014.
118. Chowdhury, S. C., B. Z. Haque, and J. W. Gillespie, Jr., "Molecular Simulations of the Carbon Nanotubes Intramolecular Junctions under Mechanical Loading", <https://doi.org/10.1016/j.commat.2013.10.025>, *Computational Materials Science*, **82**, 503 – 509, Feb. 2014
119. Sockalingam, S., M. Dey, J. W. Gillespie, Jr. and M. Keefe, "Finite Element Analysis of the Microdroplet Test Method using Cohesive Zone Model of the Fiber / Matrix Interface",

<https://doi.org/10.1016/j.compositesa.2013.10.021>, *Composites Part A: Applied Science and Manufacturing*, **56** (2), 239 – 247, Jan. 2014.

**2013**

120. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. Vanlandingham, “The Sub-Micron Scale Energy Dissipative Deformation Mechanisms of Kevlar Fibrils”, <https://doi.org/10.1007/s10853-013-7422-6>, *Journal of Material Science*, **48** (18), 6245-6261, Sept. 2013.
121. Kelly, G. S., S. G. Advani, and J. W. Gillespie, Jr., “A Model to Characterize Acoustic Softening during Ultrasonic Consolidation”, <https://doi.org/10.1016/j.jmatprotec.2013.05.008m> *Journal of Materials Processing Technology*, Accepted June 2013, **213** (11), 1835-1845, Nov. 2013.
122. Mueller, J., J. W. Gillespie, Jr., and S. Advani, “Effects of Interaction Volume on X-Ray Line-Scans Across an Ultrasonically Consolidated Aluminum/Copper Interface”, <https://doi.org/10.1002/sca.21071>, *Scanning*, 2012, **35** (5), 327-335, Sept. 2013.
123. Hinton, M. J., A. S. Kaddour, S. T. Pinho, G. M. Vyas, P. Robinson, Z. M. Huang, Y. X. Zhou, A. Rotem, N. Carrere, F. Laurin, J. F. Maire, D. Zhang, L. Xu, J. Ye, Y. Huang, C. Jin, S. K. Ha, T. A. Bogetti, J. Staniszewski, B. P. Burns, C. P. R. Hoppel, J. W. Gillespie, Jr., J. Tierney, A. C. Hansen, E. E. Nelson, and D. J. Kenik, “The Second World-Wide Failure Exercise (WWFE-II): Part B: Evaluation of Theories for Predicting Failure in Polymer Composite Laminates Under 3-D States of Stress: Comparison with Experiments Preface”, *Journal of Composite Materials*, (Special Issue) **47** (6-7), 643-652, March 2013.
124. McAllister, Q. P., J. W. Gillespie, Jr. and M. R. VanLandingham, “The Influence of Surface Microstructure on the Scratch Characteristics of Kevlar Fibers”, <https://doi.org/10.0007/s10853-012-6872-6>, *Journal of Materials Science*, **48** (3), 1292-1302, Feb. 2013.
125. Nilakantan, G. and J. W. Gillespie, Jr., “Yarn Pull-Out Behavior of Plain Woven Kevlar Fabrics: Effect of Yarn Sizing, Pull-Out Rate, and Fabric Pre-Tension”, <https://doi.org/10.1016/j.compstruct.2013.02.018>, *Composite Structures*, **101**, 215-224, 2013.
126. Bogetti, T. A., J. Staniszewski, B. P. Burns, C. P. R. Hoppel, J. W. Gillespie, Jr., and J. Tierney, “Predicting the Nonlinear Response and Progressive Failure of Composite Laminates under Tri-Axial Loading: Correlation with Experimental Results”, <https://doi.org/10.1177/0021998312462616>, *Journal of Composite Materials*, **47** (6-7), 793-804, March 2013.
127. Levy, A., D. Heider, J. J. Tierney, and J. W. Gillespie, Jr., “Inter-layer Thermal Contact Resistance Evolution with the Degree of Intimate Contact in the Processing of Thermoplastic Composite Laminates”, <https://doi.org/10.1177/0021998313476318>, *Journal of Composite Materials*, 2013.
128. Nilakantan, G., E. D. Wetzel, T. A. Bogetti, and J. W. Gillespie, Jr., “A Deterministic Finite Element Analysis of the Effects of Projectile Characteristics on the Impact Response of Fully Clamped Flexible Woven Fabrics”, <https://doi.org/10.1016/j.compstruct.2012.07.023>, *Composite Structures*, **95**, 191-201, January 2013.fvcgdvg

**2012**

129. Mei Zu, Qingwen Li, Yuntian Zhu, Moutushi Dey, Guojian Wang, Weibang L, Joseph M Deitzel, John W Gillespie Jr, Joon-Hyung Byun, and Tsu-Wei Cho “The effective interfacial shear strength of carbon nanotube fibers in an epo matrix characterized by a microdroplet test”

- <https://doi.org/10.1016/j.carbon.2011.10.047> *Carbon*, Volume 50 Issue 3 :1271–1279, March 2012.
130. Haque, B. Z. (Gama), J. L. Harrington, and J. W. Gillespie, Jr., “Multi-hit Ballistic Impact on S-2 Glass/SC15 Thick-section Composites: Finite Element Analyses”, <https://doi.org/10.1177/0309324712456823>, *Journal of Strain Analysis for Engineering Design*, **47** (7) Special Issue: SI, 495-512, Oct. 2012.
131. Haque, B. Z. (Gama), J. L. Harrington, and J. W. Gillespie, Jr., “Multi-hit Ballistic Impact on S-2 Glass/SC15 Thick-section Composites: Experiments”, <https://doi.org/10.1177/0309324712456797>, *Journal of Strain Analysis for Engineering Design*, **47** (7) Special Issue: SI, 480-494, Oct. 2012.
132. Nilakantan, G. and J. W. Gillespie, Jr., “Ballistic Impact Modeling of Woven Fabrics Considering Yarn Strength, Friction, Projectile Impact Location, and Fabric Boundary Condition Effects”, <https://doi.org/10.1016/j.compstruct.2012.05.030>, *Composite Structures*, **94** (12), 3624-3634, Dec. 2012.
133. Haque, B. Z. (Gama) and J. W. Gillespie, Jr., “A Combined Theoretical-Semiempirical Penetration Model of Ballistic Penetration of Thick Section Composites”, <https://doi.org/10.1177/0892705712450296>, *Journal of Thermoplastic Composite Materials*, **25** (5), 631-659; August 2012.
134. Lopatnikov, S. and J. W. Gillespie, Jr., “Poroelasticity – III: Conditions on the Interfaces”, <https://doi.org/10.1007/s11242-012-9971-6>, *Transport in Porous Media*, **93** (3), 597-607, July 2012.
135. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, “Evaluation of the Three-Dimensional Properties of Kevlar Across Length Scales”, <https://doi.org/10.1557/jmr.2012.80>, *Journal of Materials Research*, **27** (14), 1824-1837, July 2012.
136. Bogetti, T. A., J. Staniszewski, B. P. Burns, C. P. R. Hoppel, J. W. Gillespie, Jr., and J. Tierney, “Predicting the Nonlinear Response and Progressive Failure of Composite Laminates under Tri-Axial Loading”, <https://doi.org/10.1177/0021998312449889>, *Journal of Composite Materials*, **46** (19-20), 2443-2459, September 2012, June 2012.
137. Lopatnikov, S. L., A. S. Lim, and J. W. Gillespie, Jr., “Split Hopkinson Pressure Bar Data Reduction Methodology for Linear Materials with Memory”, [https://doi.org/10.1061/\(ASCE\)EM.1943-7889.0000419](https://doi.org/10.1061/(ASCE)EM.1943-7889.0000419), *Journal of Engineering Mechanics*, ASCE, **138** (9), 1157-1164, 2012.
138. Chowdhury, S. G., B. Z. (Gama) Haque, J. W. Gillespie, Jr., and D. R. Hartman, “Molecular Simulations of Pristine and Defective Carbon Nanotubes under Monotonic and Combined Loading”, <https://doi.org/10.1016/j.commatsci.2012.07.007>, *Computational Materials Science*, **65**, 133-143, 2012, Dec. 2012.
139. Gillespie, Jr., J. W., L. A. Carlsson, A. A. Gawandi, and T. A. Bogetti, “Fatigue Crack Growth at the Face Sheet-Core Interface in a Discontinuous Ceramic-Tile Cored Sandwich Structure”, <https://doi.org/10.1016/j.compstruct.2012.05.021>, *Composite Structures*, **94** (11), 3186-3193, Nov. 2012.
140. Cromer, K., J. W. Gillespie, Jr., and M. Keefe, “Effect of Multiple Non-Coincident Impacts on Residual Properties of Glass/Epoxy Laminates”, <https://doi.org/10.1177/0731684412448221>, *Journal of Reinforced Plastics and Composites behavior*, **31** (12), 815-827, June 2012.

141. (Gama) Haque, B. Z., M. M. Kearney, and J. W. Gillespie, Jr., "Advances in Protective Personnel and Vehicle Armors," *Recent Patents and Materials Science*, **5** (2), 103-134, 2012.
  142. Chowdhury, S. C., B. Z. Haque, T. Okabe, and J. W. Gillespie, Jr., "Modeling the Effect of Statistical Variations in Length & Diameter of Randomly Oriented CNTs on the Properties of CNT Reinforced Nanocomposites", <https://doi.org/10.1016/j.compositesb.2012.01.066>, *Composites Part B-Engineering*, **43** (4), 1756-1762, June 2012.
  143. Simacek, P., O. Eksik, D. Heider, J. W. Gillespie, Jr., and S. Advani, "Experimental Validation of Post- Filling Flow in Vacuum Assisted Resin Transfer Molding Processes", <https://doi.org/10.1016/j.compositesa.2011.10.002>, *Composites Part A: Applied Science & Manufacturing*, **43** (3), 370-380, March 2012.
  144. Alfredsson, K. S., A. Gawandi, J. W. Gillespie, Jr., L. A. Carlsson, and T. A. Bogetti, "Flexural Analysis of Discontinuous Tile Core Sandwich Structure", <https://doi.org/10.1016/j.compstruct.2011.11.028>, *Composite Structures*, **94**, (5), 1524-1532, April 2012.
  145. Lopatnikov, S. L., J. W. Gillespie, Jr., C. Morand, R. Lumpkin, and J. Dignam, "The New Test Method for High Velocity Water Jet Impact", <https://doi.org/10.1007/s11340-012-9608-2>, *Experimental Mechanics*, **52** (9), 1475-1481, 2012, November 2012.
  146. Wu, A. S., T-W. Chou, J. W. Gillespie, Jr., D. Lashmore, and J. Rioux, "Electromechanical Response and Failure Behaviour of Aerogel-Spun Carbon Nanotube Fibres under Tensile Loading", <https://doi.org/10.1039/c2jm15869h>, *Journal of Materials Chemistry*, **22**, (14), 6792-6798, 2012.
  147. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "Non-Linear Indentation of Fibers", <https://doi.org/10.1557/jmr.2011.336>, *Journal of Materials Research*, **27** (1), 197-213, January 2012.
  148. Sun, Z., J. M. Deitzel, J. Knopf and J. W. Gillespie, Jr., "The Effect of Solvent Dielectric Properties on the Collection of Oriented Electrospun Fibers", <https://doi.org/10.1002/app.35454>, *Journal of Applied Polymer Science* **125** (4), 2585-2594, August 2012.
  149. Nilakantan, G., E. D. Wetzel, T. A. Bogetti, J. W. Gillespie, Jr., "Finite Element Analysis of Projectile Size and Shape Effects on the Probabilistic Penetration Response of High Strength Fabrics", <https://doi.org/10.1016/j.compstruct.2011.12.028>, *Composite Structures*, **94**, (5), 1846-1854, April 2012.
  150. Zu, M., Q. Li, Y. Zhu, M. Dey, G. Wang, W. Lu, J. M. Deitzel, J. W. Gillespie, Jr., J-H, Byun, and T-W. Chou, "The Effective Interfacial Shear Strength of Carbon Nanotube Fibers in an Epoxy Matrix Characterized by Microdroplet Test", <https://doi.org/10.1016/j.carbon.2011.10.047>, *Carbon*, **50** (3), 1271-1279, March 2012.
  151. Nilakantan, G., M. Keefe, E. D. Wetzel, T. A. Bogetti, and J. W. Gillespie, Jr., "Effect of Statistical Yarn Tensile Strength on the Probabilistic Impact Response of Woven Fabrics", <https://doi.org/10.1016/j.carbon.2011.10.047>, *Composites Science and Technology*, **72** (2), 320-329, January 2012.
- 2011**
152. Gao, X., R. E. Jensen, S.H. McKnight, and J. W. Gillespie, Jr., "Effect of Colloidal Silica on the Strength and Energy Absorption of Glass Fiber/Epoxy Interphases",

- <https://doi.org/10.1016/j.compositesa.2011.07.029>, *Composites Part A*, **42** (11), 1738-1747, 2011.
153. Weidner, K., J. W. Gillespie, Jr., and N. Shevchenko, "Performance of Bolted Joints in Discontinuous Ceramic Cored Sandwich Structures – Static Experimental Testing", <https://doi.org/10.1016/j.compstruct.2011.06.012>, *Composite Structures*, **93**, (12), 3175-3184, November 2011.
154. Nilakantan, G., M. Keefe, E. D. Wetzel, T. A. Bogetti, and J. W. Gillespie, Jr., "Computational Modeling of the Probabilistic Impact Response of Flexible Fabrics", <https://doi.org/10.1016/j.compstruct.2011.06.013>, *Composite Structures*, **93**, (12), 3163-3174, November 2011.
155. Koellhoffer, S., J. W. Gillespie, Jr., Travis A. Bogetti, and S. G. Advani, "Role of Friction in the Thermal Development in Ultrasonically Consolidated Aluminum Foils and Composites", <https://doi.org/10.1016/j.jmatprotec.2011.06.011>, *Journal of Materials Processing Technology*, **211**, (11), 1864-1877, November 2011.
156. Lopatnikov, S. and J. W. Gillespie, Jr., "Poroelasticity – II: On the Equilibrium State of the Fluid-filled Penetrable Poro-Elastic Body", <https://doi.org/10.1007/s11242-011-9781-2>, *Transport in Porous Media*, **89** (3), 475-486, September 2011.
157. Nilakantan, G., A. Abu-Obaid, M. Keefe, and J. W. Gillespie, Jr., "Experimental Evaluation and Statistical Characterization of the Strength and Strain Energy Density Distribution of Kevlar KM2 Yarns: Exploring Length Scale and Weaving Effects", <https://doi.org/10.1177/0021998310387667>, *Journal of Composite Materials*, **45** (17), 1749-1769, August 2011.
158. Lim, A. S., S. L. Lopatnikov, N. J. Wagner, and J. W. Gillespie, Jr., "Phenomenological Modeling of the Response of a Dense Colloidal Suspension under Dynamic Squeezing Flow", <https://doi.org/10.1016/j.jnnfm.2011.03.005>, *Journal of Non-Newtonian Fluid Mechanics*, **166** (12-13), 680-688, July 2011.
159. Alfredsson, K. S., A. A. Gawandi, J. W. Gillespie, Jr., L. A. Carlsson, and R. A. Bogetti, "Stress Analysis of Axially and Thermally Loaded Discontinuous Tile Core Sandwich With and Without Adhesive Filled Core Gaps", <https://doi.org/10.1016/j.compstruct.2011.01.015>, *Composite Structures*, **93**, 1621-1630, June 2011.
160. Abu Obaid, A., J. M. Deitzel, J. W. Gillespie, Jr. and J. Q. Zheng, "The Effects of Environmental Conditioning on Tensile Properties of High Performance Aramid Fibers at Near-Ambient Temperatures", <https://doi.org/10.1177/0021998310381436>, *Journal of Composite Materials*, **45** (11), 1217-1231, June 2011.
161. Manzella, A. F., B. A. Gama, and J. W. Gillespie, Jr., "Effect of Punch and Specimen Dimensions on the Confined Compression Behavior of S-2 Glass/Epoxy Composites", <https://doi.org/10.1016/j.compstruct.2010.11.006>, *Composite Structures*, **93**, 1726-1737, June 2011.
162. Gama, B. A. and J. W. Gillespie, Jr., "Finite Element Modeling of Impact, Damage Evolution and Penetration of Thick-Section Composites", <https://doi.org/10.1016/j.ijimpeng.2010.11.001>, *International Journal of Impact Engineering*, **38**, 181-197, April 2011.

163. Gawandi, A., E. T. Thostenson, and J. W. Gillespie, Jr., "Tow Pullout Behavior of Polymer-Coated Kevlar Fabric", <https://doi.org/10.1007/s10853-010-4819-3>, *Journal of Materials Science*, **46**, 77-89, January 2011.

**2010**

164. Lim, A. S., S. L. Lopatnikov, N. J. Wagner, and J. W. Gillespie, Jr., "An Experimental Investigation into the Kinematics of a Concentrated Hard-Sphere Colloidal Suspension during Hopkinson Bar Evaluation at High Stresses," <https://doi.org/10.1016/j.jnnfm.2010.06.015>, *Journal of Non-Newtonian Fluid Mechanics*, **Journal of Non-Newtonian Fluid Mechanics**, **165**, **1342-1350**, **October 2010**.
165. Yoon, M. K., D. Heider, and J. W. Gillespie, Jr., "Local Damage Detection with the Global Fitting Method using Operating Deflection Shape Data," <https://doi.org/10.1007/s10921-010-0062-8>, *Journal of Nondestructive Evaluation*, **29** (1), 23-37, March 2010.
166. Lim, A., S. L. Lopatnikov, N. J. Wagner, and J. W. Gillespie, Jr., "Investigating the Transient Response of a Shear Thickening Fluid Using the Split Hopkinson Pressure Bar Technique", <http://dx.doi.org/10.1007/s00397-010-0463-8.s>, *Rheologica Acta*, **49** (8), 879-890, Aug. 2010.
167. Nilakantan, G., M. Keefe, T. A. Bogetti, and J. W. Gillespie, Jr., "Multiscale Modeling of the Impact of Textile Fabrics Based on Hybrid Element Analysis," <https://doi.org/10.1016/j.ijimpeng.2010.04.007>, *International Journal of Impact Engineering*, **37** (10), **1056-1071**, **October 2010**.
168. Nilakantan, G., M. Keefe, T. A. Bogetti, R. Adkinson, and J. W. Gillespie, Jr., "On the Finite Element Analysis of Woven Fabric Impact using Multiscale Modeling Techniques," *International Journal of Solids and Structures*, **47** (17), 2300-2315, August 15, 2010.
169. Lopatnikov, S. and J. W. Gillespie, Jr., "Poroelasticity – I: Governing Equations of the Mechanics of Fluid-Saturated Porous Materials," <https://doi.org/10.1007/s11242-009-9515-x> **Transport in Porous Media**, **84** (2), **471-492**, **September 2010**.
170. Amouroux, S. C., D. Heider, and J. W. Gillespie, Jr., "Characterization of Membranes used in Pressure Driven Composite Processing," <https://doi.org/10.1016/j.compositesa.2009.10.014>, *Composites: Part A-Applied Science and Manufacturing*, **41** (2), 207-214, February 2010.
171. Xiao, J. R., J. Staniszewski, and J. W. Gillespie, Jr., "Tensile Behaviors of Graphene Sheets and Carbon Nanotubes with Multiple Stone-Wales Defects," <https://doi.org/10.1016/j.msea.2009.10.052> *Materials Science & Engineering A-Structural Materials Properties Microstructure and Processing*, **527** (3), 715-723, January 2010.
172. Amouroux-Berthe, S., D. Heider, and J. W. Gillespie, Jr., "Permeability Estimation of Nano-Porous Membranes for Non-Wetting Fluids," DOI: 10.1615/JPorMedia.v13.i4.30 *Journal of Porous Media*, **13** (4), 319-329, 2010.

**2009**

173. Yoon, M-K., H. Chen, P. Simacek, D. Heider, and J. W. Gillespie, Jr., "Modeling VARTM Processes with Hybrid Media Incorporating Gravity Effects," <https://doi.org/10.1177/0021998309345306>, *Journal of Composite Materials*, **43** (24), 2903-2920, November 2009.
174. Chatterjee, A., J. W. Gillespie, Jr., "Room Temperature Curable VARTM Epoxy Resins: Promising Alternative to Vinyl Ester Resins," <https://doi.org/10.1002/app.307402009>, *Journal of Applied Polymer Science*, 2009, **115** (2), 665-673, January 2010.

175. Lopatnikov, S. L., B. A. Gama, T. A. Bogetti, and J. W. Gillespie, Jr., "Dynamics of a Rigid Plate Impacting a Glass Plate: A One Dimensional Analysis Considering Failure-Wave Propagation," <https://doi.org/10.1063/1.3245284>, *Journal of Applied Physics*, 2009 American Institute of Physics. 2009, **106** (9), Article Number 093521, November 2009.
176. Simacek, P., D. Heider, J. W. Gillespie, Jr., and S. G. Advani, "Post-Filling Flow in Vacuum Assisted Resin Transfer Molding Processes: Theoretical Analysis," <https://doi.org/10.1016/j.compositesa.2009.04.018>, *Composites Part A-Applied Science and Manufacturing*, **40** (6-7), 913-924, July 2009.
177. Leal, A. A., J. M. Deitzel, S. H. McKnight, and J. W. Gillespie, Jr., "Effect of Hydrogen Bonding and Moisture Cycling on the Compressive Performance of Poly-Pyridobisimidazole (M5) Fiber," <http://dx.doi.org/10.1016/j.polymer.2009.04.019>, *Polymer*, **50** (13), 2900-2905, June 2009.
178. Yoon, M. K., D. Heider, J. W. Gillespie, Jr., C. P. Ratcliffe, and R. M. Crane, "Local Damage Detection with the Global Fitting Method using Mode Shape Data in Notched Beams," <https://doi.org/10.1007/s10921-009-0048-6>, *Journal of Nondestructive Evaluation*, **28** (2), 63-74, June 2009.
179. Alfredsson, K. S., J. W. Gillespie, Jr., L. A. Carlsson, T. A. Bogetti, and A. Yiournas, "Flexure Analysis of Unsymmetric Orthotropic Beams with an Interlayer," <https://doi.org/10.1016/j.ijsolstr.2008.07.024>, *International Journal of Solids and Structures*, **46** (10), 2093-2110, May 2009.
180. Leal, A. A., J. M. Deitzel, and J. W. Gillespie, Jr., "Compressive Strength Analysis for High Performance Fibers with Different Modulus in Tension and Compression," <https://doi.org/10.1177/0021998308088589>, *Journal of Composite Materials*, **43** (6), 661-674, March 2009.
181. Leal, A. A., J. M. Deitzel, S. H. McKnight, and J. W. Gillespie, Jr., "Interfacial Behavior of High Performance Organic Fibers," <https://doi.org/10.1016/j.polymer.2009.01.018>, *Polymer*, **50**, (5), 1228-1235, Feb. 23, 2009.
182. Xiao, J. R., J. Staniszewski, and J. W. Gillespie, Jr., "Fracture and Progressive Failure of Defective Graphene Sheets and Carbon Nanotubes," <https://doi.org/10.1016/j.compstruct.2008.06.008>, *Composite Structures*, **88**, (4), 602-609, May 2009.
183. Lopatnikov, S., J. M. Deitzel, and J. W. Gillespie, Jr., "Shear Acoustic Wind Acting on Particles Embedded in a Liquid Crystal," <https://doi.org/10.1080/15421400902987701> *Molecular Crystals and Liquid Crystals*, **506**, 87-106, January 2009
184. Leal, A. A., J. M. Deitzel, and J. W. Gillespie, Jr., "Spectroscopic Analysis and Kinetics of Intermolecular Hydrogen Bond Formation in Poly-Pyridobisimidazole (M5) Fiber," <https://doi.org/10.1002/polb.21767> *Journal of Polymer Science Part B: Polymer Physics*, **47** (10), 1809-1824, September 2009.
185. Gawandi, A., L. A. Carlsson, T. A. Bogetti, and J. W. Gillespie, Jr., "Mechanics of Discontinuous Ceramic Tile Core Sandwich Structure: Influence of Thermal and Interlaminar Stresses," <https://doi.org/10.1016/j.compstruct.2009.07.022>, *Composite Structures*, **92** (2010), 164-172, January 2010.
186. Lim, A. S., S. L. Lopatnikov, and J. W. Gillespie, Jr., "Development of the Split-Hopkinson Pressure Bar Technique for Viscous Fluid Characterization,"

- <https://doi.org/10.1016/j.polymertesting.2009.08.002>, *Polymer Testing*, 28 (8), 891-900, December 2009.
187. Golt, M. C., S. Yarlagadda, and J. W. Gillespie, Jr., "Magnetic and Dielectric Properties of Composites Consisting of Oriented, Iron Flake Filler within a Thermoplastic Host – Part II. Transport Model Review and Evaluation," <https://doi.org/10.1177%2F0892705709099696> *Journal of Thermoplastic Composite Materials*, **22** (6), 551-567, November 2009
188. Golt, M. C., S. Yarlagadda, and J. W. Gillespie, Jr., "Magnetic and Dielectric Properties of Composites Consisting of Oriented, Iron Flake Filler Within a Thermoplastic Host – Part I. Material Fabrication and Electromagnetic Characterization," <https://doi.org/10.1177/0892705709099695>, *Journal of Thermoplastic Composite Materials*, **22** (6), 569-583, November 2009.
- 2008**
189. Chatterjee, A. and J. W. Gillespie, Jr., "Moisture Absorption Behavior of Epoxies and Their S<sub>2</sub> Glass Composite," <https://doi.org/10.1002/app.28076>, *Journal of Applied Polymer Science*, **108** (6), 3942-3951, June 2008.
190. Heider, D., H. Deffor, M. Reuter, J. W. Gillespie, Jr., M. Mohamed, A. Bogdanovich, and R. Crane, "Large-Scale Joint Fabrication using 3-D Fabric Preforms, Sandwich Core Structure and VARTM Processing," *SAMPE Journal*, **44** (5), 29-34, Sept. – Oct. 2008.
191. Kissounko, D. A., J. M. Deitzel, S. P. Doherty, A. Shah, and J. W. Gillespie, Jr., "Understanding the Role of Clay Silicate Nanoparticles with Organic Modifiers in Thermal Curing of Cyanate Ester Resin," <https://doi.org/10.1016/j.eurpolymj.2008.06.034>, *European Polymer Journal*, **44**, (9), 2807-2819, Sept. 2008.
192. Streilen, D., S. Yarlagadda, and J. W. Gillespie, Jr., "Predicting the Alignment of Ferromagnetic Particles in a Thermoplastic Matrix," <https://doi.org/10.1177/0892705708089471>, *Journal of Thermoplastic Composite Materials*, **21** (4), 291-307, July 2008.
193. Niggermann, C., Y. S. Song, J. W. Gillespie, Jr., and D. Heider, "Experimental Investigation of the Controlled Atmospheric Pressure Resin Infusion (CAPRI) Process," <https://doi.org/10.1177/0021998308090650>, *Journal of Composite Materials*, **42** (11), 1049-1061, June 2008
194. Gama, B. A. and J. W. Gillespie, Jr., "Punch Shear Based Penetration Model of Ballistic Impact of Thick-Section Composites," <https://doi.org/10.1016/j.compstruct.2007.11.001>, *Composite Structures*, **86** (4), 356-369, Dec. 2008.
195. Alfredsson, K. S., T. A. Bogetti, L. A. Carlsson, J. W. Gillespie, Jr., A. Yiournas, "Flexure of Beams with an Interlayer – Symmetric Beams with Orthotropic Adherends," <http://dx.doi.org/10.2140/jomms.2008.3.45> *Journal of Mechanics of Materials and Structures*, **3** (1), 45-62, Jan. 2008.
196. Ratcliffe, C., D. Heider, R. Crane, C. Krauthauser, M. K. Yoon, and J. W. Gillespie, Jr., "Investigation into the Use of Low Cost MEMS Accelerometers for Vibration Based Damage Detection," <https://doi.org/10.1016/j.compstruct.2006.11.012>, *Composite Structures*, **82** (1), 61-70, January 2008.
197. Gilhooley, D. F., J. R. Xiao, R. C. Batra, M. A. McCarthy, and J. W. Gillespie, Jr., "Two-Dimensional Stress Analysis of Functionally Graded Solids using the MLPG Method with Radial Basis

- Functions," <https://doi.org/10.1016/j.commat.2007.05.003> *Computational Materials Science*, **41** (4), 467-481, Feb. 2008.
198. Gao, X, R. E. Jensen, W. Li, J. Deitzel, S. H. McKnight, and J. W. Gillespie, Jr., "Effect of Fiber Surface Texture Created from Silane Blends on the Strength and Energy Absorption of the Glass Fiber/Epoxy Interphase," <https://doi.org/10.1177/0021998307086203>, *Journal of Composite Materials*, **42** (5), 485-511, March 2008.
199. Xiao, J-R., D.F. Gilhooley, R.C. Batra and J. W. Gillespie, Jr., "Analysis of Thick Composite Laminates Using a Higher-Order Shear and Normal Deformable Plate Theory (HOSNDPT) and a Meshless Method," <https://doi.org/10.1016/j.compositesb.2006.12.009>, *Composites Part B: Engineering*, **39**, (2), 414-427, 2008.
- 2007**
200. Pogula, S. D., S. V. Patwardhan, C. C. Perry, J. W. Gillespie, Jr., S. Yarlagadda, and K. L. Kiick, "Continuous Silica Coatings on Glass Fibers via Bioinspired Approaches," [https://doi.org/10.1021/1a063685a%20S0743-7463\(0\)03685-7](https://doi.org/10.1021/1a063685a%20S0743-7463(0)03685-7), *Langmuir*, **23** (12), 6677-6683, June 2007.
201. Gilhooley, D. F., R. C. Batra, J. R. Xiao, M. A. McCarthy, and J. W. Gillespie, Jr., "Analysis of Thick Functionally Graded Plates by using Higher-Order Shear and Normal Deformable Plate Theory and MLPG Method with Radial Basis Functions," <https://doi.org/10.1016/j.compstruct.2006.07.007>, *Composite Structures*, **80** (4), 539-552, Oct. 2007.
202. Scholz, S., J. W. Gillespie, Jr., and D. Heider, "Measurement of Transverse Permeability using Gaseous and Liquid Flow," <https://doi.org/10.1016/j.compositesa.2007.05.002>, *Composites Part A: Applied Science and Manufacturing*, **38** (9), 2034 – 2040, 2007.
203. Xiao, J. R., B. A. Gama, J. W. Gillespie, Jr., "Progressive Damage and Delamination in Plain Weave S-2 Glass/SC-15 Composites under Quasi-Static Punch Shear Loading," <https://doi.org/10.1016/j.compstruct.2005.09.001> *Composite Structures*, **78** (2), 182-196, April 2007.
204. Xiao, J. R., R. C. Batra, D. F. Gilhooley, J. W. Gillespie, Jr. and M. A. McCarthy, "Analysis of Thick Plates by using a Higher-order Shear and Normal Deformable Plate Theory and MLPG Method with Radial Basis Functions," *Computer Methods in Applied Mechanics and Engineering*, **196** (4-6), 979-987, 2007.
205. Leal, A. A., J. M. Deitzel, and J. W. Gillespie, Jr., "Assessment of Compressive Properties of High Performance Organic Fibers," <https://doi.org/10.1016/j.compscitech.2007.02.003>, *Composites Science and Technology*, **67** (13), 2786 – 2794, Oct. 2007.
206. Xiao, J. R. and J. W. Gillespie, Jr., "A Phenomenological Mohr-Coulomb Failure Criterion for Composite Laminates under Interlaminar Shear and Compression," <https://doi.org/10.1177%2F0021998306067318> *Journal of Composite Materials*, **41** (11), 1295-1309, June 2007.
207. Dominauskas, A., D. Heider, and J. W. Gillespie, Jr., "Electric Time-Domain Reflectometry Distributed Flow Sensor," <https://doi.org/10.1016/j.compositesa.2006.01.019>, *Composites Part A*, **38** (1), 138-146 2007.

208. Lopatnikov, S. L., B. A. Gama, J. W. Gillespie, Jr., "Modeling the Progressive Collapse Behavior of Metal Foams," <https://doi.org/10.1016/j.ijimpeng.2005.12.004>, *International Journal of Impact Engineering*, **34** (3), 587-595, 2007.

**2006**

209. Ekiert, T. F., M. C. Golt, S. Yarlagadda, J. W. Gillespie, K. M. Unruh, and J. Q. Xiao, "High Frequency Properties of Magnetodielectric Composites Consisting of Oriented Febased Flakes Embedded in Polymeric Matrix," <https://doi.org/10.1109/INTMAG.2006.375632>, Magnetics Conference, 2006, INTERMAG 2006, IEEE International, Vol., No., 132, 8-12, May 2006.
210. Xiao, J. R. and J. W. Gillespie, Jr., "Nonlinear Deformation and Progressive Failure of Multi-Walled Carbon Nanotubes under Internal Radial Pressure," <https://doi.org/10.1103/PhysRevB.74.155404> *Physical Review B*, **74**, 155404, October 2006 (also in *Virtual Journal of Nanoscale Science & Technology*), **14** (16), October 2006.
211. Tierney, J., J. W. Gillespie, Jr., "Modeling of In-Situ Strength Development for the Thermoplastic Composite Tow Placement Process," <https://doi.org/10.1177%2F0021998306060162> *Journal of Composite Materials*, **40** (16), 1487-1506, 2006.
212. Suwanwatana, W., S. Yarlagadda, J. W. Gillespie, Jr., "Influence of Particle Size on Hysteresis Heating Behavior of Nickel Particulate Polymer Films," <https://doi.org/10.1016/j.compscitech.2006.02.033>, *Composites Science and Technology*, **66** (15), 2825-2836, 2006.
213. Xiao, J. R., S. L. Lopatnikov, B. A. Gama, J. W. Gillespie, Jr., "Nanomechanics on the Deformation of Single- and Multi-Walled Carbon Nanotubes under External Radial Pressure," <https://doi.org/10.1016/j.msea.2005.09.105> *Materials Science and Engineering: A*, Vol. **416/1-2**, 192-204, 2006.
214. Xiao J. R., and J. W. Gillespie, "Nanomechanics of Single-Walled Carbon Nanotubes as Composite Reinforcement," <https://doi.org/10.1002/pen.20553> *Polymer Engineering and Science*, **46** (8), 1051-1059, August 2006.
215. Heider, D., P. Simacek, A. Dominauskas, H. Deffor, S. Advani, and J. W. Gillespie, Jr., "Infusion Design Methodology for Thick-Section, Low Permeability Preforms using Inter-Laminar Flow Media," <https://doi.org/10.1016/j.compositesa.2006.02.016> *Composites Part A*, **38** (2), 525-534, 2007.
216. Suwanwatana, S. Yarlagadda S, and J. W. Gillespie, Jr., "Hysteresis Heating Based Induction Bonding of Thermoplastic Composites," <https://doi.org/10.1016/j.compscitech.2005.11.009>, *Composites Science and Technology*, **66** (11-12), 1713-1723, September 2006.

**2005**

217. Gama, B. A., S. M. W. Islam, M. Rahman, et al., "Punch Shear Behavior of Thick-Section Composites Under Quasi-Static, Low Velocity, and Ballistic Impact Loading," *SAMPE Journal*, **41** (4), 6-13, July-August 2005.
218. Vaidyanathan, R., J. Campbell, R. Lopez, J. Halloran, S. Yarlagadda, and J. W. Gillespie, Jr., "Water Soluble Tooling Materials for Filament Winding and VARTM," *SAMPE Journal*, **41** (4), 49-55, July-August 2005.
219. Yoon M-K, J. Baidoo, J. W. Gillespie, Jr., D. Heider, "Vacuum Assisted Resin Transfer Molding (VARTM) Process Incorporating Gravitational Effects: A Closed Form Solution,"

- <https://doi.org/10.1177%2F0021998305053510> *Journal of Composite Materials*, **39** (24), 2227-2242, 2005.
220. Brody, J. C. and J. W. Gillespie, Jr., "Reactive and Non-Reactive Binders in Glass/Vinyl Ester Composites," <https://doi.org/10.1002/pc.20068> *Polymer Composites*, **26** (3), 377-387, June 2005.
221. Foley, M. E. and J. W. Gillespie, Jr., "Modeling the Effect of Fiber Diameter and Fiber Bundle Count on Tow Impregnation during Liquid Molding Processes," <https://doi.org/10.1177/0021998305048739>, *Journal of Composite Materials*, **39** (12), 1045-1065, June 2005.
222. Mahdi, S., B. A. Gama, S. Yarlagadda, J. W. Gillespie, Jr., "Structural Repair of Composite Structural Armor", <https://doi.org/10.1177/0021998305051114>, *Journal of Composite Materials*, **39** (19), 1695-1717, 2005.
223. Brody, J. C. and J. W. Gillespie, Jr. "The Effects of a Thermoplastic Polyester Preform Binder on Vinyl Ester Resin," <https://doi.org/10.1177/0892705705043535>, *Journal of Thermoplastic Composite Materials*, **18** (3), 157-179, May 2005.
224. Gillespie, Jr., J. W., B. A. Gama, C. E. Cichanowski, J. R. Xiao, "Interlaminar Shear Strength of Plain Weave S2-Glass/SC79 Composites Subjected to Out-of-Plane High Strain Rate Compressive Loadings," *Composites Science and Technology*, **65**, 1891-1908, 2005.
225. Obaid, A. A., J. G. Sloan, M. A. Lamontia, A. Paesano, S. Khan, J. W. Gillespie, Jr., "Test Method Development to Quantify the In Situ Elastic and Plastic Behavior of 62%Sn-36%Pb-2%Ag Solder Ball Arrays in Commercial Area Array Packages at -40°C, 23°C, and 125°C", <https://doi.org/10.1016/j.compscitech.2005.04.006>, *Journal of Electronic Packaging*, **127** (4), 483-495, 2005.
226. Obaid, A. A., J. G. Sloan, M. A. Lamontia, A. Paesano, S. Khan, J. W. Gillespie, Jr., "Experimental In Situ Characterization and Creep Modeling of Tin-Based Solder Joints on Commercial Area Array Packages at -40°C, 23°C, and 125°C", <https://doi.org/10.1115/1.2070049> *Journal of Electronic Packaging*, **127** (4), 430-439, 2005.
227. Xiao, J. R., B. A. Gama, J. W. Gillespie, Jr., E. J. Kansa, "Meshless Solutions of 2D Contact Problems by Subdomain Variational Inequality and MLPG Method with Radial Basis Function," <https://doi.org/10.1016/j.enganabound.2004.12.004>, *Engineering Analysis with Boundary Elements*, **29**, 95-106, 2005.
228. Yoon, M. K., D. Heider, J. W. Gillespie, Jr., C. P. Ratcliffe, R. M. Crane, "Local Damage Detection Using the Two-Dimensional Gapped Smoothing Method," <https://doi.org/10.1016/j.jsv.2003.10.058>, *Journal of Sound and Vibration*, **279** (1-2), 119-139, 2005.
229. Gama, B. A. S. Mahdi, C. Cichanowski, S. Yarlagadda, J. W. Gillespie, Jr., "Static and Dynamic Strength of Scarf-Repaired Thick-Section Composite Plates," *Joining and Repair of Composite Structures*, <https://doi.org/10.1520/STP12586S> ASTM STP 1455, pp 95-109, K. T. Kedward and H. Kim, Eds., ASTM International, West Conshohocken, PA, 2005.
230. Xiao, J. R., B. A. Gama, J. W. Gillespie, Jr., "An Analytical Molecular Structural Mechanics Model for the Mechanical Properties of Carbon Nanotubes," <https://doi.org/10.1016/j.ijsolstr.2004.10.031>, *International Journal of Solids and Structures*, (Most Cited Author 2005 – 2008 Award), **42/11-12**, 3075-3092, 2005.

231. Moon II, F. L. and J. W. Gillespie, Jr., "Experimental Validation of a Shear Stud Connection between Steel Girders and a Fiber Reinforced Polymer Deck in the Transverse Direction," [https://doi.org/10.1061/\(ASCE\)1090-0268\(2005\)9:3\(284\)](https://doi.org/10.1061/(ASCE)1090-0268(2005)9:3(284)) *Journal of Composites for Construction*, ASCE, **9** (3), pp. 284-287, May-June 2005.
232. Gama BA, Islam SMW, Rahman M, et al. Punch shear behavior of thick-section composites under quasi-static, low velocity, and ballistic impact loading, *Sampe Journal*, **41** (4), 6-13 Jul-Aug 2005.

**2004**

233. Lopatnikov, S. L. and J. W. Gillespie, Jr., "Interplay of Surface Effects in a Thin Nematic Liquid Crystal Layer," <https://doi.org/10.1134/1.1804597> *Technical Physics Letters*, **30** (9), 786-790, 2004.
234. Li, W., J. Krehl, D. Heider, J. W. Gillespie, Jr., "Process and Performance Evaluation of the VAP Process," <https://doi.org/10.1177%2F0021998304044769> *Journal of Composite Materials*, **38** (20), 2004.
235. Heider, D. and J. W. Gillespie, Jr. "Automated VARTM Processing of Large-Scale Composite Structures," *Journal of Advanced Materials*, **36** (4), October 2
236. Harkare, A. and J. W. Gillespie, Jr., "Insitu Barrier Layer Formation for Co-Injection Resin Transfer Molding," <https://doi.org/10.1177%2F0892705704035409> *Journal of Thermoplastic Composite Materials*, **17** (5), 387-409, 2004.
237. Lopatnikov, S. L., B. A. Gama, C. Krauthauser, J. W. Gillespie, Jr., "Applicability of the Classical Analysis of Experiments with Split Hopkins Pressure Bar," <https://doi.org/10.1134/1.1666953> *Technical Physics Letters*, **30** (2), 102-105, 2004.
238. Tackitt, K., and J. W. Gillespie, Jr., "A Statistical Model for Determining the Transmitted Ultrasonic Amplitude Response During Thermoplastic Fusion Bonding," <https://doi.org/10.1081/AMP-200035312> *Materials and Manufacturing Processes*, **19** (6), November 2004.
239. Lopatnikov, S. L., J. W. Gillespie, Jr., "Phase Transition Induced by a Two-Wall Competition Effect in a Thin Slab of Nematic Liquid Crystals," *Technical Physics Letters*, **30** (18), 70-78, September 2004.
240. Gama, B. A., S. L. Lopatnikov and J. W. Gillespie, Jr. "Hopkinson Bar Experimental Technique: A Critical Review," *Applied Mechanics Review*, **57** (4), July 2004.
241. Mahdi, S., J. W. Gillespie, Jr., "Finite Element Analysis of Tile-Reinforced Composite Structural Armor Subjected to Bending Loads," <https://doi.org/10.1016/j.compositesb.2003.10.001>, *Composites Part B: Engineering*, **35**, 57-71, 2004.
242. Grimal, Q., B. A. Gama, S. Naili, A. Watzky and J. W. Gillespie, Jr., "Finite Element Study of High-Speed Blunt Impact on Thorax: Linear Elastic Considerations," <https://doi.org/10.1016/j.ijimpeng.2003.08.002>, *International Journal of Impact Engineering*, **30** (6), 665-683, 2004.
243. Lopatnikov, S., P. Simacek, J. W. Gillespie, Jr., S. G. Advani, "Closed Form Solution to Describe Infusion of Resin under Vacuum in Deformable Fibrous Porous Media," <https://doi.org/10.1088/0965-0393/12/3/S09> *Modelling and Simulation in Materials, Science and Engineering*, **12**, S191-S204, May 2004, Institute of Physics Publishing, PII: S0965-0393(04)72427-4.

244. Tierney, J. and J. W. Gillespie, Jr. "Crystallization Kinetics Behavior of PEEK-based Composites Exposed to High Heating and Cooling Rates," <https://doi.org/10.1016/j.compositesa.2003.12.004> *Composites Part A: Applied Science and Manufacturing*, **35**, 547-558, 2004.
245. Tayalia, P., Heider, D., Gillespie, J.W. Jr., "Characterization and Theoretical Modeling of Magnetostrictive Strain Sensors," <https://doi.org/10.1016/j.sna.2003.11.011> *Sensors and Actuators A: Physical*, **11**, 267-274, 2004.
246. Lopatnikov, S. L., B. Gama, Md. J. Haque, C. Krauthauser and J.W. Gillespie, Jr., "High-Velocity Plate Impact of Metal Foams," [https://doi.org/10.1016/S0734-743X\(03\)00066-6](https://doi.org/10.1016/S0734-743X(03)00066-6), *International Journal of Impact Engineering*, **30** (4), 421-445, 2004.
247. Ratcliffe, Colin P., R. C. Crane, J. W. Gillespie, Jr. "Damage Detection In Large Composite Structures Using A Broadband Vibration Method," <https://doi.org/10.1784/insi.46.1.10.52653>, *Insight (Journal of the British Institute of Non-Destructive Testing)*, **46** (1), 10-16, January 2004.
- 2003**
248. Tierney, J. and J. W. Gillespie, Jr., "Modeling of Heat Transfer and Void Dynamics for the Thermoplastic Composite Tow Placement Process," <https://doi.org/10.1177%2F002199803035188> *Journal of Composite Materials*, **37** (19), 1745-1768, 2003.
249. Gillespie, J. W., Jr., A. M. Monib and L. A. Carlsson, "Damage Tolerance of Thick-Section S-2 Glass Fabric Composites Subjected to Ballistic Impact Loading," <https://doi.org/10.1177/002199803036243>, *Journal of Composite Materials*, **37** (23), 2131-2147, 2003.
250. Suwanwatana, W., S. Yarlagadda, and J. W. Gillespie, Jr., "An Investigation of Oxidation Effects on Hysteresis Heating of Nickel Particles," <https://doi.org/10.1023/A:1021854026668>, *Journal of Material Science*, **38** (3), 565-573, 2003.
251. Mahfuz, H., B. Gama, P. Das, S. Jeelani, J. W. Gillespie, Jr., B. Fink, "Response of S2-Glass/Vinyl Ester Composites under High Strain Rate Loading – An Experimental and Finite Element Study," *Journal of Advanced Materials*, **35** (4), 36-43, October 2003.
252. Lopatnikov, S. L., B. A. Gama, Md. J. Haque, C. Krauthauser, J. W. Gillespie, Jr., M. Guden, I. W. Hall, "Dynamics of Metal Foam Deformation during Taylor Cylinder – Hopkinson Bar Impact Experiment," [https://doi.org/10.1016/S0263-8223\(03\)00039-4](https://doi.org/10.1016/S0263-8223(03)00039-4) *Journal of Composite Structures*, **61**, 61-71, 2003.
253. Heider, D. and J. W. Gillespie Jr., "A Neural Network Model-Based Open-Loop Optimization for the Automated Thermoplastic Composite Tow-Placement System," [https://doi.org/10.1016/S1359-835X\(03\)00120-9](https://doi.org/10.1016/S1359-835X(03)00120-9), *Composites Part A: Applied Science and Manufacturing*, **34** (8), 791-799, August 2003.
254. Kim, H-J, S. Yarlagadda, N. B. Shevchenko, B. K. Fink, and J. W. Gillespie, "Development of a Numerical Model to Predict In-Plane Heat Generation Patterns during Induction Processing of Carbon Fiber Reinforced Prepreg Stacks," <https://doi.org/10.1177%2F0021998303034460> *Journal of Composite Materials*, **37** (16), 1461-1483, August 15, 2003.
255. Mahdi, S., B. A. Gama, S. Yarlagadda, and J. W. Gillespie, Jr., "Effect of the Manufacturing Process on the Interfacial Properties and Structural Performance of Multifunctional Composite

- Structures," [https://doi.org/10.1016/S1359-835X\(03\)00091-5](https://doi.org/10.1016/S1359-835X(03)00091-5) *Composites Part A: Applied Science and Manufacturing*, **34** (7), 561-686, July 2003.
256. Demitz, J. R., D. R. Mertz, and J. W. Gillespie, Jr., "Deflection Requirements for Bridges Constructed with Advanced Composite Materials," [https://doi.org/10.1061/\(ASCE\)1084-0702\(2003\)8:2\(73\)](https://doi.org/10.1061/(ASCE)1084-0702(2003)8:2(73)), *Journal of Bridge Engineering*, March/April, 73-83, 2003.
257. Mahdi, S., H-J Kim, B. A. Gama, S. Yarlagadda, and J. W. Gillespie, Jr., "A Comparison of Oven-Cured and Induction-Cured Adhesively Bonded Composite Joints," <https://doi.org/10.1177/0021998303037006776>, *Journal of Composite Materials*, **37** (6), 519-542, March 2003.
258. Vaidyanathan, R., J. Campbell, G. Artz, S. Yarlagadda, J. W. Gillespie, Jr., D. Dunaj, B. Guest, and K. L. Nesmith "A Water Soluble Tooling Material for Complex Polymer Composite Components and Honeycombs," *SAMPE Journal*, **39** (1), 22-33, January/February 2003.
259. Dominauskas, A., D. Heider, J. W. Gillespie Jr., "Electric Time-Domain-Reflectometry Sensor for Online Flow Sensing in Liquid Composite Molding Processing," *Composites Part A: Applied Science and Manufacturing*, **34**, 67-74, 2003
- 2002**
260. Foley, M. E., A. Abu-Obaid, X. Huang, M. Tanoglu, T. A. Bogetti, S. H. McKnight, and J. W. Gillespie Jr., "Fiber/Matrix Interphase Characterization Using the Dynamic Interphase Loading Apparatus," [https://doi.org/10.1016/S1359-835X\(02\)00172-0](https://doi.org/10.1016/S1359-835X(02)00172-0), *Composites Part A: Applied Science and Manufacturing*, **33**, 1345-1348, 2002.
261. Ma, G., B. Gama, J. W. Gillespie, Jr., "Plastic Limit Analysis of Cylindrically Orthotropic Circular Plates," [https://doi.org/10.1016/S0263-8223\(01\)00174-X](https://doi.org/10.1016/S0263-8223(01)00174-X), *Journal of Composite Structures*, **55** (4), 455-466, March 2002.
262. Flores, F., J. W. Gillespie, Jr., T. A. Bogetti, "Experimental Investigation of the Cure-Dependent Response of Vinyl Ester Resin," <https://doi.org/10.1002/pen.10973> *Polymer Engineering and Science*, **42** (3), 582-590, March 2002.
263. Yarlagadda, S., H-J. Kim, J. W. Gillespie, Jr., N. B. Shevchenko, B. F. Fink, "A Study on the Induction Heating of Conductive Fiber Reinforced Composites," <https://doi.org/10.1177/0021998302036004171>, *Journal of Composite Materials*, **36** (4), 401-421, 2002.
264. Kim, H-J., S. Yarlagadda, J. W. Gillespie, N. B. Shevchenko, B. K. Fink, "A Study on the Induction Heating of Carbon Fiber Reinforced Thermoplastic Composites," <http://dx.doi.org/10.1163/156855102753613309>, *Advanced Composite Materials*, **11** (1), 71-80, March 2002.
265. Moon, F. L., D. A. Eckel, II, J. W. Gillespie Jr., "Shear Stud Connections for the Development of Composite Action between Steel Girders and FRP Bridge Decks," [https://doi.org/10.1061/\(ASCE\)0733-9445\(2002\)128:6\(762\)](https://doi.org/10.1061/(ASCE)0733-9445(2002)128:6(762)) *Journal of Structural Engineering*, ASCE, **128** (6), 762-770, June 2002.
266. Heider, D., M. J. Piovoso, and J. W. Gillespie Jr., "Application of a Neural Network to Improve an Automated Thermoplastic Tow-Placement Process," [https://doi.org/10.1016/S0959-1524\(00\)00064-0](https://doi.org/10.1016/S0959-1524(00)00064-0), *Journal of Process Control*, **12**, 101-111, 2002.

**2001**

267. Augh, L. and J. W. Gillespie, Jr., "Degradation of Continuous Carbon Fiber Reinforced Polyetherimide Composites during Induction Heating," <https://doi.org/10.1106/LNR5-QDAO-QKKC-K16R>, *Journal of Thermoplastic Composite Materials*; **14** (2), 96-115, March 2001.
268. Gama, B. A., T. A. Bogetti, B. K. Fink, C-J Yu, H. C-J. Yu, T.D. Claar, H. Eifert, and J. W. Gillespie Jr., "Aluminum Foam Integral Armor: A New Dimension in Armor Design," [https://doi.org/10.1016/S0263-8223\(01\)00029-0](https://doi.org/10.1016/S0263-8223(01)00029-0), *Journal of Composite Structures*, **52**, 381-395, 2001.
269. Mathur, R., D. Heider, C. Hoffmann, J. W. Gillespie Jr., S. G. Advani, and B. K. Fink, "Flow Front Measurements and Model Validation in the Vacuum Assisted Resin Transfer Molding Process," <https://doi.org/10.1002/pc.10553> *Polymer Composites*, **22** (4), 477-490, August 2001.
270. Sands, J. M., B. K. Fink, S. H. McKnight, C. H. Newton, J. W. Gillespie, Jr., G. R. Palmese, "Environmental Issues for Polymer Matrix Composites and Structural Adhesives," <https://doi.org/10.1007/s100980000089>, *Clean Products and Processes*, **2**, 228-235, June 2001.
271. Demitz, J., D. R. Mertz, and J. W. Gillespie Jr., "Deflection Requirements for Bridges Constructed with Advanced Composite Materials," [https://doi.org/10.1061/\(ASCE\)1084-0702\(2003\)8:2\(73\)](https://doi.org/10.1061/(ASCE)1084-0702(2003)8:2(73)) *Journal of Bridge Engineering*, February 2001.
272. England, K. M., J. W. Gillespie, Jr., and B. K. Fink, "Ionic Doping of Low-Conductivity Structural Resins for Improved Direct Current Sensing," <https://doi.org/10.1106%2FJ0L0-E8BN-FKGD-PWCP> *Journal of Composite Materials*, **35** (15), 1392-1414, 2001.
273. Gama, B. A., J. W. Gillespie Jr., H. Mahfuz, R. P. Raines, A. Haque, S. Jeelani, T. A. Bogetti, and B. K. Fink, "High Strain-Rate Behavior of Plain-Weave S2-Glass/Vinyl-Ester Composites," <https://doi.org/10.1177%2F002199801772662299> *Journal of Composite Materials*, **35** (13), 1201-1228, 2001.
274. Hsiao, K-T., J. W. Gillespie Jr., S. G. Advani, and B. K. Fink, "Role of Vacuum Pressure and Port Locations on Flow Front Control for Liquid Composites Molding Processes," <https://doi.org/10.1002/pc.10568> *Polymer Composites*, **22** (5), October 2001.
275. Roychowdhury, S., J. W. Gillespie Jr., and S. G. Advani, "Volatile-Induced Formation in Amorphous Thermoplastic Polymeric Materials: I. Modeling and Parametric Studies", <https://doi.org/10.1177%2F002199801772662208> *Journal of Composite Materials*, **35** (4), 340, 2001.
276. Tanoglu, M., S. Robert, D. Heider, S. H. McKnight, V. Brachos, and J. W. Gillespie Jr., "Effects of Thermoplastic Preforming Binder on the Properties of S2-Glass Fabric Reinforced Epoxy Composites," [https://doi.org/10.1016/S0143-7496\(00\)00050-6](https://doi.org/10.1016/S0143-7496(00)00050-6), *International Journal of Adhesion and Adhesives*, **21**, 187-195, July 2001.
277. Tanoglu, M., S. H. McKnight, G. R. Palmese, and J. W. Gillespie Jr., "Dynamic Stress/Strain Response of the Interphase in Polymer-Matrix Composites," <https://doi.org/10.1002/pc.10565> *Polymer Composites*, **22** (5), October 2001.
278. Tanoglu, M., S. H. McKnight, G. R. Palmese, and J. W. Gillespie Jr., "Effects of Glass Fiber Sizings on the Strength and Energy Absorption of the Fiber/Matrix Interphase Under High Loading Rates," [https://doi.org/10.1016/S0266-3538\(00\)00195-0](https://doi.org/10.1016/S0266-3538(00)00195-0) *Composites Science & Technology*, **61** (2), 205-220, 2001.

279. Trethewey, B. R. Jr. and J. W. Gillespie Jr., "A Plate Theory Model for Thickness Tapered Composite Laminates," <https://doi.org/10.1106%2FJ5K3-7WYA-YD5P-JPNY> *Journal of Reinforced Plastics and Composites*, **20** (2), 105–128, 2001.
280. Tanoglu, M., S. Ziaee, S. H. McKnight, J. W. Gillespie Jr., and G. R. Palmese, "Investigation of the Properties of Fiber/Matrix Interphases Formed Due to Glass Fiber Sizings," <https://doi.org/10.1023/A:1017979126129> *Journal of Materials Science*, **36**, 3041-3053, 2001.
- 2000**
281. Gillespie, J. W., D. A. Eckel II, W.M. Edberg, S. A. Sabol, D. R. Mertz, M. J. Chajes, H. W. Shenton III, C. Hu, M. Chaudhri, A. Faquiri, and J. Soneji, "Bridge 1-351 Over Muddy Run: Design, Testing and Evaluation of an All-Composite Bridge," <https://doi.org/10.3141%2F1696-52> *Journal of the Transportation Research Board, TRB*, **1696** (2), 118-123, 2000.
282. Bischel, M. S., M. R. VanLandingham, R. F. Eduljee, J. W. Gillespie Jr., and J. M. Schultz, "On the Use of Nanoscale Indentation with the AFM in the Identification of Phases in Blends of Linear Low Density Polyethylene and High Density Polyethylene," <https://link.springer.com/article/10.1023%2FA%3A1004781725300?LI=true> *Journal of Materials Science*, **35** (1), 221–228, 2000.
283. Hsiao, K-T., R. Mathur, J. W. Gillespie Jr., S. G. Advani, and B. K. Fink, "A Closed-Form Solution for Flow During the Vacuum-Assisted Resin Transfer Molding Process," <https://doi.org/10.1115/1.1285907> *ASME Journal of Manufacturing Science and Technology*, **122**, August 2000.
284. Huang, X., J. W. Gillespie Jr., and T. A. Bogetti, "Process-Induced Stress for Woven Fabric Thick-Section Composite Structures," [https://doi.org/10.1016/S0263-8223\(00\)00062-3](https://doi.org/10.1016/S0263-8223(00)00062-3) *Composite Structures*, **49**, 303–312, 2000.
285. Huang, X., J. W. Gillespie Jr., R. F. Eduljee, and Z. Shen, "Matrix Cracking Behavior of K3B/IM7 Composite Laminates Subject to Static and Fatigue Loading," [https://doi.org/10.1016/S0263-8223\(00\)00078-7](https://doi.org/10.1016/S0263-8223(00)00078-7), *Composite Structures*, **49**, 435–441, 2000.
286. Jadhav, N. C., U. K. Vaidya, U. K., M. V. Hosur, J. W. Gillespie, Jr., and B. K. Fink, "Assessment of Flow and Cure Monitoring Using Direct Current and Alternating Current Sensing in Vacuum-Assisted Resin Transfer Molding," *Smart Materials and Structures*, **9**, 727–736, 2000.
287. Mahfuz, H., Y. Zhu, A. Haque, A. Abutalib, U. Vaidya, S. Jeelani, B. Gama, J. W. Gillespie Jr., and B. K. Fink, "Investigation of High-Velocity Impact on Integral Armor Using Finite Element Method," [https://doi.org/10.1016/S0734-743X\(99\)00047-0](https://doi.org/10.1016/S0734-743X(99)00047-0), *International Journal of Impact Engineering*, **24**, 203–217, 2000.
288. Rajagopalan, G., C. Narayanan, J. W. Gillespie Jr., and S. H. McKnight, "Diffusion and Reaction of Epoxy and Amine in Polysulfone: Transport Modeling and Experimental Validation," [https://doi.org/10.1016/S0032-3861\(00\)00251-2](https://doi.org/10.1016/S0032-3861(00)00251-2) *Polymer*, **41**, 8543–8556, 2000.
289. Rajagopalan, G., J. W. Gillespie Jr., and S. H. McKnight, "Diffusion of Reacting of Epoxy and Amine Monomers in Polysulfone: A Diffusivity Model," [https://doi.org/10.1016/S0032-3861\(00\)00131-2](https://doi.org/10.1016/S0032-3861(00)00131-2) *Polymer*, **41** (21), 7723-7734, October 2000.
290. Stone, M. A., B. K. Fink, T. A. Bogetti, and J. W. Gillespie Jr., "Thermo-chemical Response of Vinyl Ester Resin," *Polymer Engineering and Science*, **40** (12), 2489-2497, December 2000.

291. Rajagopalan, G., K. M. Immordino, J. W. Gillespie Jr., and S. H. McKnight, "Diffusion and Reaction of Epoxy and Amine in Polysulfone Studied Using Fourier Transform Infrared Spectroscopy: Experimental Results," [https://doi.org/10.1016/S0032-3861\(99\)00418-8](https://doi.org/10.1016/S0032-3861(99)00418-8), *Polymer*, **41**, pp. 2591–2602, 2000.
292. Stone, M. A., B. K. Fink, T. A. Bogetti, and J. W. Gillespie Jr., "Thermo-chemical Response of Vinyl Ester Resin," <https://doi.org/10.1002/pen.11380> *Polymer Engineering and Science*, **40** (12), 2489–2497, December 2000.
293. Tanoglu, M., S. H. McKnight, G. R. Palmese, and J. W. Gillespie Jr., "A New Technique to Characterize the Fiber/Matrix Interphase Properties Under High Strain Rates," [https://doi.org/10.1016/S1359-835X\(00\)00070-1](https://doi.org/10.1016/S1359-835X(00)00070-1), *Composites Part A: Applied Science and Manufacturing*, **31**, 1127–1138, October 2000.
294. Yim, J-H. and J. W. Gillespie Jr., "Damping Characteristics of 0-degree and 90-degree AS4/3501-6 Unidirectional Laminates Including the Transverse Shear Effect," *Composite Structures*, **50** (3), 217–225, 2000.
- 1999**
295. Yim, J. H., B. Z. Jang, J. C. Suhling, and J. W. Gillespie, Jr., "Effects of Interlaminar Stresses on Damping of 0-degree Unidirectional Laminated Composites," <https://doi.org/10.1002/pc.10403> *Polymer Composites*, **20** (6), 796–803, December 1999.
296. Heider, D., J. Tierney, M. J. Piovoso, and J. W. Gillespie Jr., "Artificial Neural Network Modeling of the Automated Thermoplastic Composite Tow-Placement System," [https://ui.adsabs.harvard.edu/link\\_gateway/1999JMPMS...7..360H/doi:10.1106/K93R-JWRR-GJCA-AMRY](https://ui.adsabs.harvard.edu/link_gateway/1999JMPMS...7..360H/doi:10.1106/K93R-JWRR-GJCA-AMRY) *Journal of Materials Processing and Manufacturing Science*, **7** (4), 360–379, April 1999.
297. Gillio, E. F., G. P. McKnight, J. W. Gillespie Jr., S. G. Advani, and K. R. Bernetich, "Processing and Properties of Co-Injected Resin Transfer Molded Vinyl-Ester and Phenolic Composites," <https://doi.org/10.1002/pc.10401> *Polymer Composites*, **20** (6), December 1999.
298. Tay, T. E., S. Yarlagadda, J. W. Gillespie Jr., B. K. Fink, and S. H. McKnight, "Accelerated Curing of Adhesives in Bonded Joints by Induction Heating," <https://doi.org/10.1177/002199839903301704>, *Journal of Composite Materials*, **33** (17), 1643–1664, 1999.
299. VanLandingham, M. R., R. R. Dagastine, R. F. Eduljee, R. L. McCullough, and J. W. Gillespie Jr., "Characterization of Nanoscale Property Variations in Polymer Composite Systems: Part 1—Experimental Results," [https://doi.org/10.1016/S1359-835X\(98\)00098-0](https://doi.org/10.1016/S1359-835X(98)00098-0), *Composites Part A*, **30**, 75–83, 1999.
300. Bogetti, T. A., T. Wang, M. R. VanLandingham, and J. W. Gillespie Jr., "Characterization of Nanoscale Property Variations in Polymer Composite Systems—Part 2: Numerical Modeling," [https://doi.org/10.1016/S1359-835X\(98\)00097-9](https://doi.org/10.1016/S1359-835X(98)00097-9), *Composites Part A*, **30**, 85–94, 1999.
301. VanLandingham, M. R., J. W. Gillespie Jr., and R. F. Eduljee, "Relationships Between Stoichiometry, Microstructure, and Properties for Amine-Cured Epoxies," [https://doi.org/10.1002/\(SICI\)1097-4628\(19990131\)71:5%3C699::AID-APP4%3E3.0.CO;2-D](https://doi.org/10.1002/(SICI)1097-4628(19990131)71:5%3C699::AID-APP4%3E3.0.CO;2-D), *Journal of Applied Polymer Science*, **71**, 699–712, 1999.

302. VanLandingham, M. R., J. W. Gillespie Jr., and R. F. Eduljee, "Moisture Diffusion in Epoxy Systems," [http://dx.doi.org/10.1002/\(SICI\)1097-4628\(19990131\)71:5%3c787::AID-APP12%3e3.0.CO;2-A](http://dx.doi.org/10.1002/(SICI)1097-4628(19990131)71:5%3c787::AID-APP12%3e3.0.CO;2-A) *Journal of Applied Polymer Science*, **71**, 787–798, 1999.

**1998**

303. Tanoglu, M., S. H. McKnight, J. W. Gillespie Jr., and G. R. Palmese, "Use of Silane Coupling Agents to Enhance the Performance of Adhesively Bonded Alumina to Resin Hybrid Composites," [https://doi.org/10.1016/S0143-7496\(98\)00021-9](https://doi.org/10.1016/S0143-7496(98)00021-9), *International Journal of Adhesion and Adhesives*, **18**, 431–434, 1998.
304. Heider, D., J. W. Gillespie Jr., and M. J. Piovoso, "Intelligent Control of the Thermoplastic Composite Tow Placement Process," <https://doi.org/10.1177%2F089270579801100604> *Journal of Thermoplastic Composite Materials*, **11**, July 1998.
305. Gillio, E. F., J. W. Gillespie Jr., B. K. Fink, and S. G. Advani, "Investigation of the Role of Transverse Flow in Co-Injection Resin Transfer Molding," <https://doi.org/10.1002/pc.10148> *Polymer Composites*, **19** (6), 738–746, 1998.
306. Yarlagadda, S., J. W. Gillespie Jr., and B. K. Fink, "Resistive Susceptor Design for Uniform Heating During Induction Bonding of Composites," <https://doi.org/10.1177/089270579801100403>, *Journal of Thermoplastic Composite Materials*, **11** (4), 321–337, July 1998.
307. Butler, C. A., R. L. McCullough, and J. W. Gillespie Jr., "An Analysis of Mechanisms Governing Fusion Bonding of Thermoplastic Composites," <https://doi.org/10.1177/089270579801100404>, *Journal of Thermoplastic Composite Materials*, **11** (4), 33–363, July 1998.
308. Huang, X., R. F. Eduljee, and J. W. Gillespie Jr., "The Influence of the Variation of the Coefficient of Thermal Expansion with Temperature on the Microcracking Behavior of K3B/IM7 and X5260/G40-800 Composites," [https://doi.org/10.1016/S1359-8368\(97\)00048-6](https://doi.org/10.1016/S1359-8368(97)00048-6), *Composites Part B: Engineering*, **29B**, 391–396, 1998.
309. Immordino, K. M., J. W. Gillespie Jr., and S. H. McKnight, "In-Situ Evaluation of the Diffusion of Epoxy and Amine in Thermoplastic Polymers," <http://dx.doi.org/10.1080/00218469808012242>, *Journal of Adhesion*, **65**, 115, 1998.
310. Hansen, U. and J. W. Gillespie Jr., "Dependence of Intralaminar Fracture Toughness on the Direction of Crack Propagation in Unidirectional Composites," <https://doi.org/10.1520/CTR10049J> *Journal of Composites Technology & Research*, **20** (2), 89–99, April 1998.
311. Mahfuz, H., B. A. Gama, R. P. Haines, A. Haque, B. K. Fink, S. Jeelani, and J. W. Gillespie Jr., "High-Strain-Rate Behavior of Plain Weave S-2 Glass/Vinyl-Ester Composites," <https://doi.org/10.1177%2F002199801772662299> *Composites, Part B: Engineering*, 1997.

**1997**

312. McKnight, S. H. and J. W. Gillespie Jr., "In Situ Examination of Water Diffusion to the Polypropylene-Silane Interface Using FTIR-ATR," [https://doi.org/10.1002/\(SICI\)1097-4628\(19970606\)64:10%3C1971::AID-APP12%3E3.0.CO;2-0](https://doi.org/10.1002/(SICI)1097-4628(19970606)64:10%3C1971::AID-APP12%3E3.0.CO;2-0) *Journal of Applied Polymer Science*, **64** (10), June 6, 1997.
313. Huang, X. G., J. W. Gillespie Jr., and R. F. Eduljee, "Matrix Cracking of High-Performance Composite Laminates with Variation of Laminate Stacking Sequence and Testing Temperatures,"

- <https://doi.org/10.1520/CTR10025J> *Journal of Composites Technology & Research*, **19** (3), 142–151, July 1997.
314. VanLandingham, M. R., S. H. McKnight, G. R. Palmese, J. R. Elings, X. G. Huang, T. A. Bogetti, R. F. Eduljee, and J. W. Gillespie Jr., “Nanoscale Indentation of Polymer Systems Using the Atomic Force Microscope,” <http://dx.doi.org/10.1080/00218469708010531> *Journal of Adhesion*, **64** (1–4), 31–59, 1997.
315. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr., “Design and Analysis of Composite Wraps for Concrete Columns,” <https://doi.org/10.1177/073168449701600701>, *Journal of Reinforced Plastics and Composites*, **16** (7), 588–602, 1997.
316. VanLandingham, M. R., S. H. McKnight, G. R. Palmese, R. F. Eduljee, J. W. Gillespie Jr., and R. L. McCullough, “Relating Elastic Modulus to Indentation Response Using Atomic Force Microscopy,” <https://doi.org/10.1023/A:1018533708655>, *Journal of Materials Science Letters*, **16** (2), pp. 117–119, 1997.
317. Gillespie, J. W. Jr. and U. Hansen, “Transverse Cracking of Composite Laminates with Interleaves: A Variational Approach,” <https://doi.org/10.4028/www.scientific.net/KEM.120-121.521>, *Journal of Reinforced Plastics and Composites*, **16** (12), 1066–1092, August 1997.
318. Huang, X. G., J. W. Gillespie Jr., and R. F. Eduljee, “Effect of Temperature on the Transverse Cracking Behavior of Cross-Ply Composite Laminates,” [https://doi.org/10.1016/S1359-8368\(96\)00062-5](https://doi.org/10.1016/S1359-8368(96)00062-5), *Composites Part B: Engineering*, **28B** (4), 419–424, 1997.
319. Alif, N., L. A. Carlsson, and J. W. Gillespie Jr., “Mode I, Mode II, and Mixed Mode Interlaminar Fracture of Woven Fabric Carbon/ Epoxy,” <https://doi.org/10.1520/STP18271S> ASTM STP-1242, S. J. Hooper, ed., 82–106, American Society for Testing and Materials, 1997.
320. Van Landingham, M. R., R. F. Eduljee, and J. W. Gillespie Jr., “The Effects of Moisture on the Material Properties and Behavior of Thermoplastic Polyimide Composites,” <https://doi.org/10.1520/STP11367S>, *High-Temperature and Environmental Effects on Polymer Composites*, ASTM STP 1302, T. S. Gates and A-H. Zureick, eds., American Society for Testing and Materials, 50–63, 1997.
321. McKnight, S. H., S. T. Holmes, J. W. Gillespie Jr., C. L. T. Lambing, and J. A. Marinelli, “Scaling Issues in Resistance Welded Thermoplastic Composite Joints,” [https://doi.org/10.1002/\(SICI\)1098-2329\(199711\)16:4%3C279::AID-ADV3%3E3.0.CO;2-S](https://doi.org/10.1002/(SICI)1098-2329(199711)16:4%3C279::AID-ADV3%3E3.0.CO;2-S) *Advances in Polymer Technology*, **16** (4), 279–295, Winter 1997.
322. Pitchumani, R., J. W. Gillespie Jr., and M. A. Lamontia, “Design and Optimization of a Thermoplastic Tow-Placement Process with In-situ Consolidation,” <https://doi.org/10.1177/002199839703100302>, *Journal of Composite Materials*, **31** (3), 244–275, 1997.
- 1996**
323. Eduljee, R. F. and J. W. Gillespie Jr., “Elastic Response of Post- and Insitu Consolidated Laminated Cylinders,” [https://doi.org/10.1016/1359-835X\(95\)00063-8](https://doi.org/10.1016/1359-835X(95)00063-8) *Composites: Part A - Applied Science and Manufacturing*, **27A** (6), 437–446, 1996.
324. Fink, B. K., J. W. Gillespie Jr., and R. L. McCullough, “Experimental Verification of Models for Induction Heating of Continuous-Carbon-Fiber Composites,” <https://doi.org/10.1002/pc.10605> *Polymer Composites*, **17** (2), 198–209, April 1996.

325. Burcham, L. J., M. R. Van Landingham, R. F. Eduljee, and J. W. Gillespie Jr., "The Effects of Moisture on the Behavior of Graphite/Polyimide Composites," <https://doi.org/10.1002/pc.10660> *Polymer Composites*, **17** (5), 682–690, October 1996.
326. Huang, X. G., J. W. Gillespie Jr., V. Kumar, and L. Gavin, "Mechanics of Integral Armor: Discontinuous Ceramic-Cored Sandwich Structures Under Tension and Shear," [https://doi.org/10.1016/S0263-8223\(96\)00068-2](https://doi.org/10.1016/S0263-8223(96)00068-2) *Composite Structures*, **36** (1–2), 81–90, Sept.–Oct. 1996.
327. Pitchumani, R., S. Ranganathan, R. C. Don, J. W. Gillespie Jr., and M. A. Lamontia, "Analysis of Transport Phenomena Governing Interfacial Bonding and Void Dynamics During Thermoplastic Tow-Placement," [https://doi.org/10.1016/0017-9310\(95\)00271-5](https://doi.org/10.1016/0017-9310(95)00271-5), *International Journal of Heat and Mass Transfer*, **39** (9), 1883–189, June 1996

**1995**

328. Olson, B. D., M. A. Lamontia, J. W. Gillespie Jr., and T. A. Bogetti, "Effects and Non-Destructive Evaluation of Defects in Thermoplastic Compression-Loaded Composite Cylinders," <https://doi.org/10.1177/089270579500800108>, *Journal of Thermoplastic Composite Materials*, **8** (1), 109–136, January 1995.
329. Lamontia, M. A., M. B. Gruber, M. A. Smoot, J. Sloan, and J. W. Gillespie Jr., "Performance of a Filament Wound Graphite/Thermoplastic Composite Ring Stiffened Pressure Hull," <https://doi.org/10.1177%2F089270579500800103> *Journal of Thermoplastic Composite Materials*, **8** (1), 15–36, January 1995.
330. Steiner, K. V., R. F. Eduljee, X. G. Huang, and J. W. Gillespie Jr., "Ultrasonic NDE Techniques for the Evaluation of Matrix Cracking in Composite Laminates," [https://doi.org/10.1016/0266-3538\(95\)00018-6](https://doi.org/10.1016/0266-3538(95)00018-6), *Composites Science and Technology*, **53** (2), 193–198, 1995.
331. Stanek, S., C. L. Pederson, J. W. Gillespie Jr., R. L. McCullough, and R. J. Rothschilds, "The Effect of Isothermal Aging on Transverse Crack Development in Carbon Fiber Reinforced Cross-Ply Laminates," <https://doi.org/10.1002/pc.750160207> *Polymer Composites*, **16** (2), 154–164, April 1995.
332. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr., "Literature Review—Effects of Hydrostatic Pressure on the Mechanical Behavior of Composite Materials," <https://doi.org/10.1177%2F089270579500800403> *Journal of Thermoplastic Composite Materials*, **8** (4), 375–409, October 1995.
333. Burcham, L. J., R. F. Eduljee, and J. W. Gillespie Jr., "Investigation of the Microcracking Behavior of Bismaleimide Composites During Thermal Aging," <http://dx.doi.org/10.1002/pc.750160609>, *Polymer Composites*, **16** (6), 507–517, December 1995.
334. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "Model to Predict the Through-Thickness Distribution of Heat Generation in Cross-Ply Carbon-Fiber Composites Subjected to Alternating Magnetic Fields," [https://doi.org/10.1016/0266-3538\(95\)80024-7](https://doi.org/10.1016/0266-3538(95)80024-7), *Composites Science and Technology*, **55** (2), 119–130, 1995.
335. Carlsson, L. A., F. Pomies, and J. W. Gillespie Jr., "Marine Environmental Effects on Polymer Matrix Composites," <https://doi.org/10.1520/STP14020S>, ASTM–STP 1260, 283–303, 1995.

336. Andersen, S. M., J. W. Gillespie Jr., M. A. Lamontia, B. D. Olson, J. G. Sloan, K. E. Newman, and G. K. A. Kodokian, "Design, Analysis and Hydrotesting of a Composite Cylinder Joint for Pressure-Hull Applications," <https://doi.org/10.1520/STP24334S> ASTM-STP 1185, 1995.

**1994**

337. Eduljee, R. F., R. L. McCullough, and J. W. Gillespie Jr., "Influence of Inclusion Geometry on the Elastic Properties of Discontinuous Fiber Composites," <https://doi.org/10.1002/pen.760340417>, *Polymer Engineering and Science*, **34** (4), 352–360, February 1994.
338. Bogetti, T. A., J. W. Gillespie Jr., and M. A. Lamontia, "Influence of Ply Waviness with Nonlinear Shear on the Stiffness and Strength Reduction of Composite Laminates," <http://www.citeulike.org/group/2604/article/1322550>, *Journal of Thermoplastic Composite Materials*, **7** (2), 76–90, April 1994.
339. Nejhad, G. M. N., J. W. Gillespie Jr., and R. D. Cope, "Effects of Processing Parameters on Material Responses During In-situ Filament Winding of Thermoplastic Composites," <https://dx.doi.org/10.1504/IJMPT.1994.036418> *International Journal of Materials and Product Technology*, **9** (1–3), 183–214, 1994.
340. Bogetti, T. A., J. W. Gillespie Jr., and R. L. McCullough, "Influence of Processing on the Development of Residual Stresses in Thick Section Thermoset Composites," <https://dx.doi.org/10.1504/IJMPT.1994.036417> *International Journal of Materials and Product Technology*, **9** (1–3), 170–182, 1994
341. Eduljee, R. F., R. L. McCullough, and J. W. Gillespie Jr., "The Influence of Aggregated and Dispersed Textures on the Elastic Properties of Discontinuous Fiber Composites," [https://doi.org/10.1016/0266-3538\(94\)90026-4](https://doi.org/10.1016/0266-3538(94)90026-4) *Composites Science and Technology*, **50** (3), 381–391, 1994.
342. Eduljee, R. F., J. W. Gillespie Jr., and R. L. McCullough, "Residual Stress Development in Neat Poly(etheretherketone)," <https://doi.org/10.1002/pen.760340607> *Polymer Engineering and Science*, **34** (6), 500–506, March 1994.

**1993**

343. Howie, I., J. W. Gillespie Jr., and A. J. Smiley, "Resistance Welding of Graphite/Polyarylsulfone Dual-Polymer Composites Using a Statistically Designed Experimental Approach," <https://doi.org/10.1177%2F089270579300600303> *Journal of Thermoplastic Composite Materials*, **6** (3), 205–225, July 1993.
344. Chapman T. J. and J. W. Gillespie, Jr., "The Influence of Residual Stress on Mode I Interlaminar Fracture of Thermoplastic Composites," <https://doi.org/10.1177%2F089270579300600206> *Journal of Thermoplastic Composite Materials*, **6** (2), 160–174, April 1993.
345. Holmes, S. T. and J. W. Gillespie Jr., "Thermal Analysis for Resistance Welding of Large-Scale Thermoplastic Composite Joints," <https://doi.org/10.1177/073168449301200609>, *Journal of Reinforced Plastics and Composites*, **12** (6), 723–736, 1993.
346. Sasdelli, M. A., V. M. Karbhari, and J. W. Gillespie Jr., "On the Use of Metal Inserts for Attachment of Composite Components to Structural Assemblies—A Review," <https://doi.org/10.1504/IJVD.1993.061843> *International Journal of Vehicle Design*, **14** (4), 353–369, 1993.

347. McGeehan, J. A., J. W. Gillespie Jr., and J. A. Hulway, "Processing/Performance Relationships Considering Voids in Structural Reaction Injection Molding," <https://doi.org/10.1002/pen.760332407>, *Polymer Engineering and Science*, **33** (24), 1627–1633, December 1993.
348. Camponeschi, E. T., J. W. Gillespie Jr., and D. J. Wilkins, "Kink-Band Failure Analysis of Thick Composites in Compression," <https://doi.org/10.1177/002199839302700502>, *Journal of Composite Materials*, **27** (5), 471–490, 1993.
349. Trethewey, B. R., J. W. Gillespie Jr., and D. J. Wilkins, "Delamination in Thickness Tapered Composite Laminates," <https://doi.org/10.1115/1.2904206>, *Journal of Engineering Materials and Technology*, Transactions of the ASME, **115** (2), 193–199, 1993.
350. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "A Model to Predict the Planar Electrical Potential Distribution in Cross-Ply Carbon-Fiber Composites Subjected to Alternating Magnetic Fields," [https://doi.org/10.1016/0266-3538\(93\)90023-A](https://doi.org/10.1016/0266-3538(93)90023-A), *Composites Science and Technology*, **49** (1), 71–80, 1993.

**1992**

351. Bogetti, T. A., J. W. Gillespie Jr., and M. A. Lamontia, "Influence of Ply Waviness on the Stiffness and Strength Reduction of Composite Laminates," *Journal of Thermoplastic Composite Materials*, <https://doi.org/10.1177%2F089270579200500405> **5** (4), 344–369, October 1992.
352. Bogetti, T. A. and J. W. Gillespie Jr., "Process-Induced Stress and Deformation in Thick-Section Thermoset Composite Laminates", <https://doi.org/10.1177/002199839202600502>, *Journal of Composite Materials*, **26** (5), 626–660, 1992.
353. Crane, R. M. and J. W. Gillespie Jr., "A Robust Testing Method for Determination of the Damping Loss Factor of Composites," <https://doi.org/10.1520/CTR10085J>, *Journal of Composites Technology and Research*, **14** (2), 70–79, 1992.
354. Monib, M. M., J. W. Gillespie Jr., and D. S. Kukich, "University-Industry Instructional Collaboration: A Model for Continuing Education and Retraining in Engineering," *International Journal of Applied Engineering Education*, **7** (5), 1992.
355. Crane, R. M. and J. W. Gillespie Jr., "Analytical Model for Prediction of the Damping Loss Factor of Composite Materials," <https://doi.org/10.1002/pc.750130306>, *Polymer Composites*, **13** (3), 179–190, June 1992.
356. Don, R. C., J. W. Gillespie Jr., and C. L. T. Lambing, "Experimental Characterization of Processing-Performance Relationships of Resistance Welded Graphite/Polyetheretherketone Composite Joints," <https://doi.org/10.1002/pen.760320908> *Polymer engineering and Science*, **32** (9), 620–631, May 1992.
357. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "A Local Theory of Heating in Cross-ply Carbon Fiber Thermoplastic Composites by Magnetic Induction," <https://doi.org/10.1002/pen.760320509> *Polymer Engineering and Science*, **32** (5), 357–369, March 1992.
358. Fink, B. K., J. W. Gillespie Jr., and R. L. McCullough, "The Influence of Moisture on the Dielectric Behavior of Poly-etheretherketone Carbon Fiber Composites," <https://doi.org/10.1177%2F089270579200500201> *Journal of Thermoplastic Composite Materials*, **5** (2), 90–104, April 1992.

359. Lawrence, W. E., J. C. Seferis, and J. W. Gillespie Jr., "Material Response of a Semicrystalline Thermoplastic Polymer and Composite in Relation to Process Cooling History," <https://doi.org/10.1002/pc.750130204>, *Polymer Composites*, **13** (2), 86–96, April 1992.

**1991**

360. Smiley, A. J., M. Chao, and J. W. Gillespie Jr., "Influence and Control of Bondline Thickness in Fusion Bonded Joints of Thermoplastic Composites," [https://doi.org/10.1016/0956-7143\(91\)90144-6](https://doi.org/10.1016/0956-7143(91)90144-6), *Composites Manufacturing*, **2** (3–4), 223–232, 1991.
361. Crane, R. M. and J. W. Gillespie Jr., "Characterization of the Vibration Damping Loss Factor of Glass and Graphite Fiber Composites," [https://doi.org/10.1016/0266-3538\(91\)90030-S](https://doi.org/10.1016/0266-3538(91)90030-S), *Composites Science and Technology*, **40** (4), 355–375, 1991.
362. Bastien, L. J. and J. W. Gillespie Jr., "A Nonisothermal Healing Model for Strength and Toughness of Fusion Bonded Joints of Amorphous Thermoplastics," <https://doi.org/10.1002/pen.760312406>, *Polymer Engineering and Science*, **31** (24), 1720–1730, December 1991.
363. Eduljee, R. F., J. W. Gillespie Jr., and R. L. McCullough, "On the Application of Micromechanics to the Prediction of Macroscopic Thermal Residual Stress in Short-Fiber-Reinforced Polyetheretherketone," <https://doi.org/10.1002/pen.760311705> *Polymer Engineering and Science*, **31** (17), 1257–1263, September 1991.
364. Gillespie, J. W. Jr., "Damage Tolerance of Composite Structures: The Role of Interlaminar Fracture Mechanics," <https://doi.org/10.1115/1.2919927>, *Journal of Offshore Mechanics and Arctic Engineering*, **113** (3), 247–252, August 1991.
365. Bogetti, T. A. and J. W. Gillespie Jr., "Two-Dimensional Cure Simulation of Thick Thermosetting Composites," <https://doi.org/10.1177/002199839102500302>, *Journal of Composite Materials*, **25** (3), 239–273 March 1991.
366. Shanker, R., J. W. Gillespie Jr., and S. I. Güçeri, "On the Effect of Nonhomogeneous Flow Fields on the Orientation Distribution and Rheology of Fiber Suspensions," <https://doi.org/10.1002/pen.760310304>, *Polymer Engineering and Science*, **31** (3), 161–171, February 1991.
367. Gillespie, J. W. Jr. and L. A. Carlsson, "Buckling and Growth of Delamination in Thermoset and Thermoplastic Composites," <https://doi.org/10.1115/1.2903387> *Journal of Engineering Materials and Technology*, Transaction of the ASME, **113** (1), 93–98, January 1991.

**1990**

368. Eduljee, R. F. and J. W. Gillespie Jr., "Analytical Solutions for Fiber Orientation in 2-D Flows of Dilute Suspensions," <https://doi.org/10.1002/pc.750110108> *Polymer Composites*, **11** (1), 56–64, 1990.
369. Chapman, T. J., J. W. Gillespie Jr., R. B. Pipes, J.-A. E. Manson, and J. C. Seferis, "Prediction of Processing-Induced Residual Stresses in Thermoplastic Composites," *Journal of Composite Materials*, **24** (6), 616–643, June 1990.
370. Byun, J. H., J. W. Gillespie Jr., and T-W. Chou, "Mode I Delamination of a Three-Dimensional Fabric Composite," <https://doi.org/10.1177/002199839002400503>, *Journal of Composite Materials*, **24** (5), 497–518, May 1990.

371. Maikuma, H., J. W. Gillespie Jr., and D. J. Wilkins, "Mode II Interlaminar Fracture of the Center Notch Flexural Specimen Under Impact Loading," <https://doi.org/10.1177/002199839002400201>, *Journal of Composite Materials*, **24** (2), 124–149, February 1990.

372. Don, R. C., L. J. Bastien, T. Jakobsen, and J. W. Gillespie Jr., "Fusion Bonding of Thermoplastic Composites by Resistance Heating," *SAMPE Journal*, **26** (1), 59-66, January/February 1990.

#### 1989

373. Becht, G. and J. W. Gillespie Jr., "Numerical and Experimental Evaluation of the Mode III Interlaminar Fracture Toughness of Composite Materials," <https://doi.org/10.1002/pc.750100505>, *Polymer Composites*, **10** (5), 293, 1989.

374. Jakobsen, T., R. C. Don, and J. W. Gillespie Jr., "Two-Dimensional Thermal Analysis of Resistance Welded Thermoplastic Composites," <https://doi.org/10.1002/pen.760292314> *Polymer Engineering and Science*, **29** (23), 1722–1729, December 1989.

375. Guenon, V., T-W. Chou, and J. W. Gillespie Jr., "Toughness Properties of a Three-Dimensional Carbon/Epoxy Composite," <https://doi.org/10.1007/BF01168991> *Journal of Materials Science*, **24** (11), 4168–4175, November 1989.

376. Eduljee, R. F., J. W. Gillespie Jr., and R. L. McCullough, "Prediction of Process-Induced Residual Stress in Injection Molded Composites," <https://doi.org/10.1177/089270578900200406> *Journal of Thermoplastic Composite Materials*, **2**, 319–333, October 1989.

377. Friedrich, K., R. Walter, L. A. Carlsson, A. J. Smiley, and J. W. Gillespie Jr., "Mechanisms for Rate Effects on Interlaminar Fracture Toughness of Carbon/Epoxy and Carbon/PEEK Composites," <https://doi.org/10.1007/BF01139070>, *Journal of Material Science*, **24** (9), 3387–3398, September 1989.

378. Maikuma, H., J. W. Gillespie Jr., and J. M. Whitney, "Analysis and Experimental Characterization of the Center Notch Flexural Test for Mode II Interlaminar Fracture," <https://doi.org/10.1177/002199838902300801>, *Journal of Composite Materials*, **23** (8), 756–786, August 1989.

379. Eduljee, R. F. and J. W. Gillespie Jr., "Weld Line Studies on Transfer Molded Thermosetting Composite Materials," <https://doi.org/10.1002/pc.750100306> *Polymer Composites*, **10** (3), 184–193, June 1989.

#### 1988

380. Eduljee, R. F., J. W. Gillespie Jr., and R. B. Pipes, "Design Methodology for the Molding of Short-Fiber Thermoset Composites," [https://doi.org/10.1016/0266-3538\(88\)90042-5](https://doi.org/10.1016/0266-3538(88)90042-5) *Composites Science and Technology*, **33** (2), 241–256, 1988.

381. Even, E. C. and J. W. Gillespie Jr., "Resistance Welding of Graphite Polyetheretherketone Composites: An Experimental Investigation," <https://doi.org/10.1177/089270578800100402>, *Journal of Thermoplastic Composite Materials*, **1**, 322–338, October 1988.

382. Becht, G. and J. W. Gillespie Jr., "Design and Analysis of the Crack Rail Shear Specimen for Mode III Interlaminar Fracture," [https://doi.org/10.1016/0266-3538\(88\)90088-7](https://doi.org/10.1016/0266-3538(88)90088-7), *Composites Science and Technology*, **31**, 143–157, 1988.

383. Bogetti, T. A., J. W. Gillespie Jr., and R. B. Pipes, "Evaluation of the ITRI Compression Test Method for Stiffness and Strength Determination," [https://doi.org/10.1016/0266-3538\(88\)90029-2](https://doi.org/10.1016/0266-3538(88)90029-2), *Composites Science and Technology*, **32** (1), 57–76, 1988.
384. Trethewey, B. R., J. W. Gillespie Jr., and L. A. Carlsson, "Mode II Cyclic Delamination Growth," <https://doi.org/10.1177/002199838802200506>, *Journal of Composite Materials*, **22** (5), 459, 1988.
385. Gillespie, J. W. Jr. and L. A. Carlsson, "Influence of Finite Width on Notched Strength Predictions," [https://doi.org/10.1016/0266-3538\(88\)90027-9](https://doi.org/10.1016/0266-3538(88)90027-9) *Composites Science and Technology*, Vol. **32** (1), 15–30, 1988.
386. Rothschilds, R. J., J. W. Gillespie Jr., and L. A. Carlsson, "Instability-Related Delamination Growth in Thermoset and Thermoplastic Composites," <https://doi.org/10.1520/STP26133S>, *ASTM STP 972*, 1988.
- 1987**
387. Gillespie, J. W. Jr., L. A. Carlsson, and A. J. Smiley, "Rate-Dependent Mode I Interlaminar Crack Growth Mechanisms in Graphite/Epoxy and Graphite/PEEK," [https://doi.org/10.1016/0266-3538\(87\)90058-3](https://doi.org/10.1016/0266-3538(87)90058-3), *Composites Science and Technology*, **28** (1), 1987.
388. Bozarth, M. J., J. W. Gillespie Jr., and R. L. McCullough, "Fiber Orientation and Its Effect Upon Thermoelastic Properties of Short Carbon Fiber Reinforced Poly(etheretherketone) (PEEK)," <https://doi.org/10.1002/pc.750080203>, *Polymer Composites*, **8** (2), April 1987.
389. Carlsson, L. A., J. W. Gillespie Jr., and B. R. Trethewey, "Mode II Interlaminar Fracture of Graphite/Epoxy and Graphite/PEEK," <https://doi.org/10.1177/073168448600500302>, *Journal of Reinforced Plastics and Composites*, **5** (3), 170–187, July 1986.
- 1986**
390. Gillespie, J. W. Jr., L. A. Carlsson, and R. B. Pipes, "Finite Element Analysis of the End Notched Flexure Specimen for Measuring Mode II Fracture Toughness," [https://doi.org/10.1016/0266-3538\(86\)90031-X](https://doi.org/10.1016/0266-3538(86)90031-X), *Composites Science and Technology*, **27** (3), 177–197, 1986.
391. Carlsson, L. A., J. W. Gillespie Jr., and R. B. Pipes, "On the Analysis and Design of the End Notched Flexure Specimen for Mode II Testing," <https://doi.org/10.1177/002199838602000606> *Journal of Composite Materials*, **20** (6), 594–604, November 1986.
- 1985**
392. Gillespie, J. W. Jr., J. V. Vanderschuren, and R. B. Pipes, "Process Induced Fiber Orientation: Numerical Simulation with Experimental Verification," <https://doi.org/10.1002/pc.750060204> *Polymer Composites*, **6** (2), 82–86, April 1985.
393. Gillespie, J. W. Jr. and R. B. Pipes, "Thermoelastic Response of the Cylindrically Orthotropic Disk," <https://doi.org/10.1520/STP34017S>, (D. Wilson, Ed.), *ASTM STP 873*, 1985.
- 1978-1984**
394. Gillespie, J. W. Jr. and R. B. Pipes, "Compressive Strength of Composite Laminates with Interlaminar Defects," [https://doi.org/10.1016/0263-8223\(84\)90042-4](https://doi.org/10.1016/0263-8223(84)90042-4), *Composite Structures*, **2** (1), 49–69, 1984.
395. Gillespie, J. W. Jr., R. C. Givler, and R. B. Pipes, "Environmental Exposure of Carbon/Epoxy

- Composites Material Systems,” <https://doi.org/10.1520/STP29357S> *ASTM STP 768*, 1980.
396. Gillespie, J. W. Jr., R. C. Wetherhold, and R. B. Pipes, “Macroscopic Fracture of Fibrous Composites,” [https://doi.org/10.1016/0025-5416\(80\)90153-6](https://doi.org/10.1016/0025-5416(80)90153-6), *Materials Science and Engineering*, **45**, 247–253, 1980.
397. Gillespie, J. W. Jr., R. C. Wetherhold, and R. B. Pipes, “Superposition of the Notched Strength of Composite Laminates,” <https://doi.org/10.1002/pen.760191604> *Polymer Engineering and Science*, **19** (16), 1979.
398. Pipes, R. B., J. W. Gillespie Jr., and R. C. Wetherhold, “Notched Strength of Composite Materials,” <https://doi.org/10.1177/002199837901300206>, *Journal of Composite Materials*, **13**, 148–160, April 1979.
399. Gillespie, J. W. Jr. and R. B. Pipes, “Behavior of Integral Composite Joints—Finite Element and Experimental Evaluation,” <https://doi.org/10.1177/002199837801200406>, *Journal of Composite Materials*, **12**, 408-421, 1978.

**Conference Publications** (Also presented at Conferences)**2026**

1. Dewapriya, Nuwan, Gillespie, Jr., John W., “Mixed-mode Traction–Separation Laws for Crystalline UHMWPE Fibril Interfaces from Molecular Dynamics”, [U.S. National Congress on Theoretical and Applied Mechanics](#), June 21-25, 2026

**2025**

2. Meyer, Christopher S., Gillespie, Jr., John W., “19708 Modeling the Microdroplet Test Method with Fiber-Matrix Interface Defects”, [Society for Experimental Mechanics](#), June 2-5, 2025
3. Dewapriya, Nuwan, Gillespie, Jr., John W., “Developing Mixed-Mode Traction laws from Crystalline UHMWPE Fibrils through Molecular Dynamics”, [MACH Conference](#), April 9-11, 2025

**2024**

4. Dewapriya, Nuwan, Chowdhury, S.C., Deitzel, J.M., Gillespie, Jr., John W., “Molecular Dynamics Prediction of Strain Rate-Induced Failure Mode Transitions in Crystalline Polyethylene”, [American Society for Composite 39<sup>th</sup> Annual Technical Conference](#), October 21-23, 2024
5. Advani, S.G., Mulye P.D., Lavaggi, Tania, Syerko, E., Binetruy, C., Gillespie, Jr., J.W., “Evaluation of the Permeability of Carbon/Carbon composites by the Image-Based Stokes and Stokes-Brinkman Solver PoroS”, [ECCM21](#), July 2-5, 2024
6. Meyer, Christopher S., Haque, B.Z., Gillespie, Jr., John W., “Mesoscale Modeling to Predict Dynamic Impact Response of Plain Weave Composites”, Volume 5. SEM 2023. Conference Proceedings of the Society for Experimental Mechanics Series. Springer, Cham. [https://doi.org/10.1007/978-3-031-50478-5\\_12](https://doi.org/10.1007/978-3-031-50478-5_12), 2024
7. Füssel, L., Legenstein, A., & Gillespie Jr., J. W. (2024). [Stretch Steering of Aligned Discontinuous Fiber Tapes using Laser Tape Placement: Minimizing Placement Defects](#). Manuscript submitted for publication. In *2024 ASC Technical Conference, US-Japan Joint Symposium, D30 Meeting*

**2023**

8. Tetteh, Obed, Kubota, M., Mensah, P., Gillespie, Jr., J.W., Li, G., “Evaluation of the Interfacial Shear Strength and Self-Healing of a New Im7 Single Fiber Reinforced Multifunctional Vitrimer Composite”, [IMECE2023](#), October 29 – November 2, 2023
9. Sauerbrunn, Steve, Deitzel, J.D., Doshi, S.M., “Influence of moisture on glass transition temperature and mechanical properties of epoxy resin using DMA with controlled relative humidity”, [2023 North American Thermal Analysis Society Conference](#), July 31-August 4, 2023
10. Abu Obaid, Ahmad, Doshi, S.M., Yeager, M., Bogetti, T.A., Deitzel, J.M., Gillespie, Jr, J.W., “Effects of Consolidation Process on the Strength of UHMWPE Filaments Extracted from Composite Panels”, <https://www.asc-composites.org/ascc2023>, Sept. 17-20, 2023

11. Fuessel, Lukas, Cender, T., Gillespie, Jr., J.W., "Influence of Deformation of Complaint Rollers on Tape Steering During Automated Tape Placement", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
12. Bisht, Ankita, Kubota, M., Bhesania, A., Gillespie, Jr., J.W., "Investigating the Structure of CVD Deposited Amino Silane on Silica Substrate via High Resolution Characterization and MD Simulation", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
13. Kubota, Munetaka, Gillespie, Jr., J.W., "Designing a Functionally Graded S-2 Glass/Epoxy Composite Through Materials by Design for Improved Energy Absorption", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
14. Parambil, Nithin K., Chen, B.R., Gillespie, Jr., J.W., "Fatigue Performance of Highly Aligned Short Fiber IM7/LM-PAEK Thermoplastic Composites", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
15. Doshi, Sagar M., Schneider, A., Deitzel, J.M., Gillespie, Jr., J.W., "Interfacial Characterization of S2 Glass – Epoxy Resin using Single Fiber Pullout Tests at Varying Temperature and Moisture Level", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
16. Chen, Brandon R., Parambil, N.K., Deitzel, J.M., Gillespie, Jr., J.W., "Micro-Mechanical Investigation of Process-Induced Fiber Waviness in Thermoplastic Composites" ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
17. Dewapriya, Nuwan, Gillespie, Jr., J.W., "Molecular Dynamics Investigation of the Effects of Defects and Transverse Pressure on the Axial Tensile Behaviors of Polyethylene Crystals and Fibrils", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
18. Bhesania, Abhishek S., Benvenuto, M., Sirk, T.W., Barnes, B.C., Kubota, M., Chowdhury, S.C., Gillespie, Jr., J.W., "Evaluating Rate Dependent Behavior of Silane Molecules with Molecular Dynamics Simulations and Machine Learning", ASC Conference, University of Massachusetts, <https://www.asc-composites.org/ascc2023> , Sept. 17-20, 2023
19. Cender, Thomas, Simacek, P., Gillespie, Jr., J.W., Advani, S.G., "Experimental Characterization of Extensional Viscosity of Aligned Discontinuous Fiber Composites", FPCM-15 (15th International Conference on Flow Processes in Composite Materials), <https://www.purdue.edu/cmssc/fpcm/>, June 27-29, 2023
20. Yarlagadda, Shridhar, Roseman, D., Cipriani, J., Shevchenko, N., Tierney, J., Gillespie, Jr., J.W., Parthasarathy, M., Rhodes, R., Kim, D., Jacobs, J., "Exploration Extra-Vehicular Mobility Unit (xEMU) Composite Hard Upper Torso (CHUT) Development", [ICES 2023](https://www.ices2023.org/), July 16-20, 2023
21. Lavaggi, T., Vanegas, D., Mehta, K., Doshi, S., Gillespie, Jr., J.W., Advani, S.G., "Vacuum Induced Preform Relaxation for the Manufacturing of Thermoset Composites with Perforated Flexible Impermeable Interlayers", SAMPE 2023, <https://www.sampeamerica.org/> , April 17-20, 2023
22. Legenstein, Alex, Fuessel, L., Cender, T., Heider, D., Tierney, J., Gillespie, Jr., J.W., "Stretch-Steering of Aligned Discontinuous Fiber Tapes on Highly Curved Paths Using Automated Fiber Placement", SAMPE 2023, <https://www.sampeamerica.org/> , April 17-20, 2023

23. Tierney, John T., Vanarelli, A., Brown, J., Bogetti, T., Yeager, M., Staniszewski, J., Gillespie, Jr., J.W., "Hydrostatic Processing of UHMWPE Composites Using Distributed Elastomer Networks", SAMPE 2023, <https://www.sampeamerica.org/>, April 17-20, 2023
24. Tierney, John T., Vanarelli, A., Brown, J., Heider, D., Gillespie, Jr., J.W., "Bladder Expandable Robotic System for Rapid Internal Pipeline Repair", SAMPE 2023, <https://www.sampeamerica.org/>, April 17-20, 2023
25. Das, Shagata, Gillespie, Jr., J.W., Shenton, III, H.W., Tatar, J., "Mechanical Behavior of UV-Cured Composite Stepped Lap Adhesive Joints", SAMPE 2023, <https://www.sampeamerica.org/>, April 17-20, 2023

**2022**

26. Christopher S. Meyer, Bradley D. Lawrence, Bazle Z. Haque, John W. Gillespie Jr, "Determining the Onset of Transverse Cracking in a Woven Composite Using Digital Image Correlation", [SEM](#), Pittsburgh, PA, June 13-16, 2022.
27. Chowdhury, Sanjib C., Longoria, T., Deitzel, J.M., Gillespie, Jr., J.W., "Effects of Transverse Compression on the Structure and Axial Properties of Polyethylene: A Molecular Simulation Study", ASC Conference, University of Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022
28. Meyer, Christopher S., O'Brien, D.J., Haque, B.Z. (Gama), Gillespie, Jr., J.W., "Microscale Depth of Penetration and Oblique Impact of Unidirectional Glass/Epoxy Composites", International Ballistic Symposium, Reno, NV, <https://www.dpi-proceedings.com/index.php/ballistics32/article/view/36144>, May 8-13, 2022
29. Haque (Gama), B.Z., Gillespie, Jr., J.W., "A New Theory of Depth of Penetration", 16<sup>th</sup> Hypervelocity Impact Symposium, Alexandria, Virginia, <https://hvis2022.jhuapl.edu/>, Sept. 18-22, 2022
30. Meyer, Christopher S., Gillespie, Jr., J.W., Haque (Gama), B.Z., "Mesoscale Modeling of High-Velocity Impact on Thick-Section Woven Composites", 16<sup>th</sup> Hypervelocity Impact Symposium, Alexandria, Virginia, <https://www.dpi-proceedings.com/index.php/ballistics32/article/view/36182>, Sept. 18-22, 2022
31. Samuel, Paul D., Haque (Gama), B.Z., O'Brien, D.J., Gillespie, Jr., J.W., "Mitigating Delamination Failure in Plain Weave S-2 Glass Composites Subjected to Low Velocity Impact Using Compliant Interlayers: A Modeling Approach", ASC 2022, Tuscon, Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022
32. Doshi, Sagar M., Samuel, P.D., Haque (Gama), B.Z., Deitzel, J.M., Gillespie, Jr., J.W., "Low-Velocity Impact Testing of Glass-Epoxy Composites Under Different Environmental Conditions", ASC 2022, Tuscon, Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022
33. Gillespie, Jr., J.W., Ali, M.A., Bogetti, E.D., O'Brien, D.J., Haque (Gama), B.Z., "Punch Crush of Unidirectional Composites at Sub-Millimeter Length Scale: Experiments and Simulations", ASC 2022, Tuscon, Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022
34. Stack, Andrew J., Bogetti, E.D., Ali, M.A., Quabili, A.M., Yarlagadda, S., Gillespie, Jr., J.W., NASA Author1, NASA Author2, Haque (Gama), B. Z., "Low Velocity Impact on Plain Weave S-2 Glass/DDER353 Composites with the Corner of a Cube and a Hemi-Cylinder: Experiments and Simulations", ASC 2022, Tuscon, Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022

35. Bogetti, Eli D., Stack, A. J., Fieger, A., Hao, T., Dietzel, J., Gillespie, Jr., J.W., Bogetti, T.A., ARL Author2, ARL Author3, Hossain, Md. Z., "Effect of Sub-Laminate Stacking Sequence on the Transverse Impact and Perforation Behavior of Multi-Layer Soft-Ballistic Armor Pack (SBAP)" ASC 2022, Tuscon, Arizona, <https://asc.arizona.edu/>, Sept. 19-21, 2022
36. Doshi, Sagar M., Schneider, A., Samuel, P.D., Deitzel, J.M., "[Effect of Environmental Factors on Mechanical Properties of Resin, Interface and Composite](https://speautomotive.com/acce-conference/)", SPE ACCE Conference, <https://speautomotive.com/acce-conference/>, September 7-9, 2022, (Nominated Best Paper)
37. Parambil, N.K., Chen, B.R., Deitzel, J.M., Gillespie, Jr., J.W., "Predicting Crystallization-Dependent Residual Stress Development in Thermoplastic Composites, SPE ACCE Conference, <https://speautomotive.com/acce-conference/>, September 7-9, 2022
38. Meyer, Christopher S., O'Brien, D.J., Haque, B.Z. (Gama), Gillespie, Jr., J.W., "Mesoscale Modeling of Ballistic Impact on Plain Weave Composite", International Ballistic Symposium, Reno, NV, <http://mms.ballistics.org/Calendar/moreinfo.php?eventid=66738>, May 8-13, 2022
39. Vanarelli, Alex M., Gillespie, Jr., J.W., "Optimization of Thin Composite Buckling Column with Floating Lateral Constraint", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
40. Cender, Thomas A., Fidlow, H., Yarlagadda, S., Heider, D., Simacek, P., Advani, S.G., Gillespie, Jr., J.W., "Forming Limits of TuFF Composites in Stretch Forming Processes", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
41. Samuel, Paul D., Haque (Gama), B.Z., Shevchenko, N., Yiournas, A., Sharma, S., Yarlagadda, S., O'Brien, D.J., Gillespie, Jr., J.W., "Improving Damage Tolerance of Plain Weave S-2 Glass Thick-Section Composites Subjected to high Energy Impact", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
42. Chen, Brannndon R., Prakash, K., Yarlagadda, S., Gillespie, Jr., J.W., "[Fatigue Performance of Thermoplastic TuFF Composites](https://www.nasampe.org/events/EventDetails.aspx?id=1244904)", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
43. Doshi, Sagar M., Sharma, S., Morris, K., Deitzel, J.M., Yarlagadda, S., Gillespie, Jr., J.W., "Peel Strength of Glass Fiber-Epoxy Composites With Thermoplastic Interlayers Under Different Environmental Conditions", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
44. Fuessel, Lukas, Cender, T.A., Austermann, V., Gillespie, Jr., J.W., Heider, D., "Tow Steering Of Stretchable TuFF Thermoplastic Tape With Laser Tape Placement", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
45. Kubota, Menutaka, Deitzel, J.M., Gillespie, Jr., J.W., Palmese, G.R., O'Brien, D.J., "Improving S-2 Glass-Epoxy Interfaces by a Vapor Deposited Amino-Silane", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
46. Chowdhury, Sanjib C., Gillespie, Jr., J.W., "Rate-Dependent Traction Law for Glass Fiber-Epoxy Interphase Developed Using Molecular Simulations", SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
47. Haque, Bazle Z. (Gama), Ayten, Ali I., Bogetti, Eli B., Stack, A., Ali, Molla A., Doshi, S.M., Kubota, M., O'Brien, D.J., Gillespie, Jr., J.W., "Quasi-Static Indentation Testing of S-2 Glass Composites:

- Effect of Fabric Architecture and Matrix Non-Linearity”, SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
48. Haque, Bazle Z. (Gama), Ali, Molla A., O’Brien, D.J., Gillespie, Jr., J.W., “Punch Crush and Punch Shear Damage Behavior of Imo-Directional S-2 Glass Composite Ribbons at Sub-Millimeter Length Scale”, SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
49. Abu-Obaid, Ahmad, Ganesh, R., Gillespie, Jr., J.W., “Investigation of Size and Spatial Distribution of Defects in S2 Glass Fibers Using Continuous Bending Test Method”, SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
50. Meyer, Christopher S., O’Brien, D.J., Haque (Gama), B.Z., Gillespie, Jr., J.W., “Experiments and Mesoscale Modeling of Ballistic Impact on Plain Weave Glass/Epoxy Composite”, SAMPE 2022, Charlotte, NC, <https://www.nasampe.org/events/EventDetails.aspx?id=1244904>, May 23 – 26, 2022
- 2021**
51. Haque, Bazle Z. (Gama), Nguyen, T., Catugas, I., O’Brien, D.J., Gillespie, Jr., J.W., “Micromechanical Finite Element Modeling of Unidirectional Composites in Three Dimensions: Prediction of Transverse Tensile & Compressive, Transverse Shear & In-Plane Progressive Damage Behavior”, ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021
52. Chowdhury, Sanjib C., Hemphill, M., Kubota, M., Gillespie, Jr., J.W., “Effects of Strain Rate, Transverse Pressure and Fiber Surface Roughness on Traction Laws of Glass Fiber Epoxy Interphases.” ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021
53. Yeon, Jejoon, Chowdhury, S.C., Daksha, C. M., Belmonte, D., van Duin, A., Gillespie, Jr., J.W., “Parameterization of ReaxFF Potential of Mg/Al/Si/O Interaction and Investigation of Mechanical Properties for S-Glass”, ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021
54. Doshi, Sagar M., Manoharan, N., Haque, B.Z., Deitzel, J.M., Gillespie, Jr., J.W., “Investigating the influence of Environmental Conditioning on Epoxy Resins at Quasistatic and High Strain rates for Material Operating Limit.” ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021
55. Meyer, Christopher S., Haque, B.Z., O’Brien, Daniel J., Gillespie, Jr., John W., “Micromechanical Finite Element Prediction of Interlaminar Traction-Separation Laws Using J-Integral Approach”, ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021.
56. Parambil, Nithin K., Chen, B.R., Deitzel, J.M., Gillespie, Jr., J.W., Vo, L.T., Sarosi, P., “Predicting Processing Induced Residual-Stresses in Carbon-Fiber-Thermoplastic Micro-Composites”, ASC Conference, Virtual Event, <https://na.eventscloud.com/website/17366/>, Sept. 19-22, 2021.
57. Jejoon Yeon, Sanjib C. Chowdhury, Michael Hemphill, John W. Gillespie, Jr., “Strain rate dependent mechanical properties of S-glass: A molecular dynamics study.” <https://sem.org/annual>, SEM Annual 2021

**2020**

58. Munetaka, Kubota, J. Deitzel, J.W. Gillespie, Jr., "Role of Surface Functionality and Polyamic Acid in Carbon Fiber/PEI Interface.", CAMX 2020, <https://www.thecamx.org/> September 21-24, 2020.
59. Tamrakar, Sandeep, Couvreur, R., Kiziltas, A., Mielewski, D., Gillespie, Jr., John W., "Water Absorption Behavior of Recycled PP and PA6 Composites Reinforced with Natural Fibers", <https://www.4spe.org/i4a/pages/index.cfm?pageid=6163>, SPE Automotive Composites Conference & Exhibition (ACCE), Virtual Event, Sept. 9 – 11, 2020
60. Chowdhury, Sanjib C., Riley Prosser, J.W. Gillespie, Jr., "Molecular Modeling of Glass-Epoxy Interphase: Influence of Chemistry and Molecular Weight of Silanes." ASC 2020, <https://asc2020nyc/> September 14-17, 2020
61. Munetaka, Kubota, S.C. Chowdhury, J. Deitzel, J.W. Gillespie, Jr., Giuseppe R. Palmese, "Tailoring the S-2 Glass/Epoxy Interface Properties through Chemical Vapor Deposition of Silane Adhesion Promoters," ASC 2020, <https://asc2020nyc/> September 14-17, 2020
62. Daksha, Chaitanya M., J. Yeon, S.C. Chowdhury, J.W. Gillespie, Jr., "Parametrization of Reactive Potential using Genetic Algorithm and Machine Learning Techniques," ASC 2020, <https://asc2020nyc/> September 14-17, 2020
63. Chen, Brandon R., N.K. Parambil, J. Deitzel, J.W. Gillespie, Jr., L.T. Vo, P. Sarosi, "Interfacial Shear Strength (IFSS) and Absorbed Energy versus Temperature in Carbon Fiber-Thermoplastic Composites via Single Fiber Pullout Testing," ASC 2020, <https://asc2020nyc/> September 14-17, 2020

**2019**

64. Kubota, M., J. Deitzel and J.W. Gillespie, Jr., "Role of Surface Functionality and Polyamic Acid of Carbon Fiber/PEI Interface," CAMX, Anaheim, CA, September 23-26, 2019.
65. Chowdhury, S. C., R. Prosser, T. W. Sirk, and J. W. Gillespie, Jr., "Molecular Modeling of Silica-Epoxy Interphase with Monolayer Silane," ASC 34<sup>th</sup> Technical Conference, Georgia Institute of Technology, Sept. 23-25, 2019.
66. Haque, G. Z. (Gama), M. A. Ali, D. J. O'Brien, and J. W. Gillespie, Jr., "Micromechanical Modeling of High-Rate Punch Shear Behavior of Unidirectional Composites," ASC 34<sup>th</sup> Technical Conference, Georgia Institute of Technology, Sept. 23-25, 2019.
67. Meyer, C. S., B. Z. Haque, D. J. O'Brien, and J. W. Gillespie, Jr., "Mesoscale and Continuum Models of Wave Propagation in a Woven Composite," ASC 34<sup>th</sup> Technical Conference, Georgia Institute of Technology, Sept. 23-25, 2019.
68. Heider, D., J. Tierney, J. Deitzel, M. Kubota, S. Yarlagadda, and J. W. Gillespie, Jr., "Closed Loop Recycling of CFRP into Highly Aligned High-Performance Short Fiber Composites using the TuFF Process," SAMPE 2019, Charlotte Convention Center, Charlotte, NC, May 20-23, 2019.
69. Gillespie, Jr., J. W., J. Deitzel, D. Heider, J. Tierney, and S. Yarlagadda, "Tailorable Universal Feedstock for Forming: Overview and Status," SAMPE 2019, Charlotte Convention Center, Charlotte, NC, May 20-23, 2019.
70. Deitzel, J. M., M. Kubota, J. W. Gillespie, Jr., N. Alvarez, G. Palmese, J. J. Fallon, M. Bortner, R. Zhang, R. M. Joseph, T. Schumaker, J. Riffle, and A. Ogale, "Surface Treatment of TuFF Pitch-

- Based Carbon Fiber for Adhesion Promotion in High Tg Thermoplastic Composites," SAMPE 2019, Charlotte Convention Center, Charlotte, NC, May 20-23, 2019.
71. Heider, D., J. Tierney, M. A. Henchir, S. Yarlagadda, J. W. Gillespie, Jr., J. Sun, J. M. Sietins, and D. Knorr, "Microstructural Evaluation of Aligned, Short Fiber TuFF Materials," SAMPE 2019, Charlotte Convention Center, Charlotte, NC, May 20-23, 2019.
  72. Meyer, C. S., B. Z. Haque, D. J. O'Brien, and J. W. Gillespie, Jr., "Mesoscale and Continuum Models of Wave Propagation in a Woven Composite," Annapolis, MD, April 3-5, 2019.
  73. Guy, J., Bonyi, E., Kioko, B., Adesina, O., Obafemi-Babatunde, T., Meyer, C. S., O'Brien, D., Haque, B., Gillespie, J. W., and Aslan, K. "Fluorescence-based contrast enhancement for macroscale damage characterization of S-2 glass/epoxy composite laminates", American Chemical Society, 257, Orlando, FL, March 31, 2019

**2018**

74. Tamrakar, S., R. Ganesh, S. Sockalingam, J. W. Gillespie, Jr., "Determination of Mode II Traction Separation Law for S-2 Glass/Epoxy Interface Under Different Loading Rates Using a Microdroplet Test Method," Proceedings of the Automotive Composites Conference & Exhibition, Society of Plastic Engineers, Detroit, MI, Sept. 5-7, 2018. (Best Paper Award).
75. Gravelle, N. P., C. Allen, A. Keyes (TPI Composites Inc.); D. Heider, J. Tierney, and J. W. Gillespie, Jr., (UD-CCM), "Ultra-Light Hybrid Composite Car Door Design & Rapid Manufacture," CAMX 2018, Kay Bailey Hutchison convention Center, Dallas, TX, Oct. 15-18, 2018
76. Meyer, C. S., E. Bonyi, B. Z. Haque, D. J. O'Brien J. O'Brien, K. Aslan, and J. W. Gillespie, Jr., "Ballistic Impact Experiments and Quantitative Assessments of Mesoscale Damage Modes in a Single-layer Woven Composite," Dynamic Behavior of Materials, Volume 1, Pages 9-17, Proceedings of the 2018 SEM Annual Conference on Experimental and Applied Mechanics, Eds. Jamie Kimberly, Leslie Laberson, Steven Mates, Springer, 2019, Greenville, SC, June 4-7, 2019.
77. Yeon, J., S. C. Chowdhury, D. C. Mrityunjay, and J. W. Gillespie, Jr., "Atomistic Scale Simulation for the Ainterdiffusion of Epon 828 and Jeffamine," Proceedings of the 2018 ASC Conference, Seattle, WA, September 24-26, 2018.
78. Chowdhury, S. C., E. A. Wise, R. M. Elder, T. W. Sirk, D. R. Hartman, and J. W. Gillespie, Jr., "Molecular Dynamics Simulations of Fiber-Sizing Interphase," Proceedings of the 2018 ASC Conference, Seattle, WA, September 24-26, 2018.
79. Haque, B. Z. (Gama), M. A. Ali, R. H. Ganesh, S. Tamrakar, C. F. Yen, D. J. O'Brien, and J. W. Gillespie, Jr., "Micromechanical Finite Element Modeling of Micro Punch Shear Experiments on Unidirectional Composites," Proceedings of the 2018 ASC Conference, Seattle, WA, September 24-26, 2018
80. Sockalingam, S.D., T. Casem, T. Weerasooriya, and J. W. Gillespie, Jr., "Tailored Glass Fiber Experimental Compression Response of Ballistic Single Fibers," Proceedings of the Society for Experimental Mechanics Series, Dynamic Behavior of Materials, 1 pp. 51-55, 2018.
81. Gillespie, J. W., Jr., M. Ali, D. O'Brien, C. Yen and B. Z. (Gama) Haque, "Micro Punch Shear Testing of Unidirectional Composites: A New Test Method," Proceedings of the 2018 ASC Conference, Seattle, WA, September 24-26, 2018.
82. Thomas, F. D., D. Casem, T. Weerasooriya, S. Sockalingam, and J. W. Gillespie, Jr., "Influence of High Strain Rate Transverse Compression on the Tensile Strength of Polyethylene Ballistic Single

Fibers,” Proceedings of the 2018 Annual Conference of the Society of Experimental Mechanics, June 4-7, 2018.

**2017**

83. Ganesh, R., R. Loesch, E. Henderson, and J. W. Gillespie, Jr., “Experimental Determination of Strength Distribution of S2-Glass Fibers Across a Wide Range of Gage Lengths,” ASC 32<sup>nd</sup> Technical Conference, Purdue University, West Lafayette, IN, October 22-25, 2017.
84. Keuthage, L. (BMW AG Germany), D. Heider, J. W. Gillespie, Jr., B. Z. (Gama) Haque, J. J. Tierney, and S. Yarlagadda (University of Delaware, USA), A. Campbell (BMW AG Germany), D. Rinehardt (BMW North America, USA), “Thermoplastic Carbon Fiber Reinforced Body-in-White Structures for Vehicle Crash Application,” ESV2017, 25<sup>th</sup> International Technical Conference on the Enhanced Safety of Vehicles (ESV), Detroit, Michigan, June 5-8, 2017.
85. Chowdhury, S. G. and J. W. Gillespie, Jr., “Modeling of Glass Fiber with Surface Cracks – A Molecular Dynamics Simulation Study,” ASC 32<sup>nd</sup> Technical Conference, Purdue University, West Lafayette, IN, October 22-25, 2017.
86. Heider, D., J. W. Gillespie, Jr., University of Delaware; L. Keuthage, A. Campbell, and D. Rinehardt, BMW; R. Myers, National Center for Manufacturing Sciences, “Demonstrating Computational Design Capabilities for Thermoplastic Carbon Fiber Reinforced Body-in-White Structures in Vehicle Crash Application,” 25<sup>th</sup> International Technical Conference on the Enhanced Safety of Vehicles (ESV), Detroit, MI, June 5-8, 2017.
87. Sockalingam, S., Preston McDaniel, and J. W. Gillespie, Jr., University of Delaware; D. Casem and T. Weerasooriya, US Army Research Lab., Aberdeen MD, “High Strain Rate Transverse Compression Response of Ballistic Fibers,” 2017 SEM Annual Conference & Exposition on Experimental & Applied Mechanics, Hyatt Regency Indianapolis, Indianapolis, Indiana, June 12-15, 2017.
88. Bonyi, E., C. Lansiquot, B. Kioko, O. Adesina, K. Aslan, Morgan State University; C. S. Meyer and D. J. O’Brien, US Army Research Lab; B. Z. (Gama) Haque and J. W. Gillespie, Jr., University of Delaware, “Quantitate Assessment of Ballistic Damage of a Plain-weave S-2 Glass Epoxy Composite,” 3<sup>rd</sup> International Conference and Expo on Ceramics and Composite Materials, Madrid, Spain, June 26-27, 2017.
89. Meyer, C. S., B. Z. (Gama) Haque, B. D. Lawrence, E. Bonyi, D. J. O’Brien, J. W. Gillespie, Jr., and K. Aslan, “Mesomechanical Modeling of Tensile Damage Modes in Single Layer Plain Weave S-2 Glass/SC15 Composites,” SAMPE 2017 Conference, Washington State Convention Center, Seattle, WA, May 22-25, 2017.
90. Meyer, C. S., C. T. Key, B. Z. (Gama) Haque, J. W. Gillespie, Jr., “Initial Experimental Validation of a Eulerian Method for Modeling Composites,” Conference Proceedings of the Society for Experimental Mechanics Series, Dynamic Behavior of Materials, [http://doi.org/10.1007/978-3-319-41132-3\\_14](http://doi.org/10.1007/978-3-319-41132-3_14), Vol 1, pp. 103-110, 2017.
91. Sockalingam, S, J. W. Gillespie, Jr., M. Keefe, D. Casem, and T. Weerasooriya, “Transverse Compression Response of Ultra-High Molecular Weight Polyethylene Single Fibers,” In: Casem, D., Lamberson, L., Kimberley, J. (eds), Dynamic Behavior of Materials, Volume 1. Conference Proceedings of the Society for Experimental Mechanics Series. Springer, Cham, [http://doi.org/10.1007/978-3-319-41132-3\\_2](http://doi.org/10.1007/978-3-319-41132-3_2), pp. 7-13, 2017.

92. Yarlagadda, S., D. Heider, J. J. Tierney, B. Gama, D. Roseman, N. Shevchenko, and J. W. Gillespie, Jr., University of Delaware; A. Campbell, L. Keuthage, and D. Rinehardt, BMW Group; D. Fulk and R. Meyers, National Center for Manufacturing Sciences, "Multi-Material Joining for Carbon Fiber Thermoplastic B-Pillar," 2017 SPE Antec Conference, Anaheim, CA, May 8-10, 2017, Accepted February 2017.
93. Heider, D. (University of Delaware, United States), L. Keuthage (BMW AG, Germany), J. W. Gillespie, Jr., S. Yarlagadda, J. Tierney, B. Haque, N. Shevchenko (University of Delaware, United States), A. Campbell (BMW AG, Germany), D. Rinehardt (BMW of North America, United States), and R. Myers (National Center for Manufacturing Sciences, United States), "Demonstrating Computational Design Capabilities for Thermoplastic Carbon Fiber Reinforced Body-in-White Structures in Vehicle Crash Application," 25<sup>th</sup> International Technical Conference on the ESV, Detroit, MI, June 5 – 8, 2017.

**2016**

94. McDaniel, P., J. Deitzel, and J. W. Gillespie, Jr., "Understanding the Evolution in Meso/Nanostructure in UHMWPE Fibers," Abstract # V42.008, APS March Meeting Abstracts, 2016.
95. Tamrakar, S., S. Sockalingam, E. T. Thostenson, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Monitoring Crack Growth Along the Interface in a Microdroplet Specimen Using Non-invasive Carbon Nanotube Sensors," American Society for Composites 31<sup>st</sup> Technical Conference, Williamsburg, VA, September 19-22, 2016.
96. Chowdhury, S. C., R. M. Elder, T. W. Sirk, B. Z. (Gama) Haque, J. W. Andzelm, and J. W. Gillespie, Jr., "Molecular Dynamics Study of the Mechanical Properties of Silica Glass Using ReaxFF," American Society for Composites 31<sup>st</sup> Technical Conference, Williamsburg, VA, September 19-22, 2016.
97. Ganesh, R., S. Sockalingam, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "A Finite Element Study of Dynamic Stress Concentrations Due to a Single Fiber Break in a Unidirectional Composite," American Society for Composites 31<sup>st</sup> Technical Conference, Williamsburg, VA, September 19-22, 2016.
98. McDaniel, P., J. M. Deitzel, and J. W. Gillespie, Jr., "A Single Fiber Peel Test to Measure Fibrillary Interactions in Ultra High Molecular Weight Polyethylene Fibers," American Society for Composites 31<sup>st</sup> Technical Conference, Williamsburg, VA, September 19-22, 2016.
99. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Role of Inelastic Transverse Compressive Behavior on Kevlar KM2 Single Fiber Transverse Impact," American Society for Composites 31<sup>st</sup> Technical Conference, Williamsburg, VA, September 19-22, 2016.
100. Sockalingam, S., M. Keefe, and J. W. Gillespie, Jr., "Transverse Compression Response of Ultra-High Molecular Weight Polyethylene Single Fibers," SEM XIII International Congress, Orlando, Florida, June 6-9, 2016.

**2015**

101. Haque, B. Z. (Gama) and J. W. Gillespie, Jr., "Progressive Composite Damage Modeling in LS-DYNA using MAT162: Part A – Properties and Parameters," American Society for Composites 30<sup>th</sup> Technical Conference, Michigan State University, September 28-30, 2015.

102. Haque, B. Z. (Gama) and J. W. Gillespie, Jr., "Progressive Composite Damage Modeling in LS-DYNA using MAT162: Part B – Model Validating Experiments," American Society for Composites 30<sup>th</sup> Technical Conference, Michigan State University, September 28-30, 2015.
103. Haque, B. Z. (Gama), M. A. Ali, and J. W. Gillespie, Jr., "Modeling Transverse Impact on Multi-Layer UHMWPE Soft Ballistic Armor Pack (SBAP)," American Society for Composites 30<sup>th</sup> Technical Conference, Michigan State University, September 28-30, 2015.
104. Chowdhury, S. C., J. Staniszewski, E. M. Martz, R. H. Ganesh, S. Sockalingam, B. Z. (Gama) Haque, T. A. Bogetti, and J. W. Gillespie, Jr., "A Computational Approach for Linking Molecular Dynamics to Finite Element Simulation of Polymer Chains in Polyethylene Fibers," American Society for Composites 30<sup>th</sup> Technical Conference, Michigan State University, September 28-30, 2015.
105. Chowdhury, S. C., R. M. Elder, T. W. Sirk, B. Z. (Gama) Haque, J. W. Andzelm, and J. W. Gillespie, Jr., "Effect Cross-Linker Length on Epon 828 Resin Properties using Molecular Dynamics Simulation," American Society for Composites 30<sup>th</sup> Technical Conference, Michigan State University, September 28-30, 2015.
106. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Transverse Compression Behavior of Kevlar KM2 Fiber – Experimental Testing and Finite Element Analysis," Semi-finalist in the SAMPE URSP (University Research Symposium Program Competition), April 30, 2015.
107. Sharifi, M., B. Z. Haque, J. W. Gillespie, Jr., and G. R. Palmese, "Rate Dependent Mechanical Behavior of Polymer Network Isomers with Controlled Topology," Proc. SAMPE 2015.
108. O'Brien, D. J., C. S. Meyer, N. Getinet, and J. H. Yu, U.S. Army Research Lab, Aberdeen Proving Ground, MD; Haque, B. Z. (Gama) and J. W. Gillespie, University of Delaware, "Ballistic Perforation Mechanics of Single Layer Plain-Weave S-2 Glass/SC15 Composites," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
109. Chowdhury, S. C., B. Z. (Gama) Haque, A. C. T. van Duin, T. A. Bogetti, and J. W. Gillespie, Jr., "Study of the Mechanical Properties of Kevlar Fibril using Molecular Dynamics Simulations," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
110. Chowdhury, S. C., S. Sockalingam, and J. W. Gillespie, Jr., "Molecular Dynamics Modeling of Compression Kinking in Kevlar," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
111. Misumi, J., R. Ganesh, S. Sockalingam, and J. W. Gillespie, Jr., "Evaluation of Size Effect on Epoxy Resin Tensile Properties using Micro-Scaled Specimens," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
112. Haque, B. Z. (Gama), M. A. Ali, and J. W. Gillespie, Jr., "Modeling Transverse Impact on UHMWPE Soft Ballistic Sub-Laminate," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
113. Tierney, J. J. and J. W. Gillespie, Jr., "Development of a XML Framework for Materials, Processing and Testing of Composites," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
114. Haque, B. Z. (Gama), M. A. Ali, and J. W. Gillespie, Jr., "Modeling Constant Velocity Transverse Impact on UHMWPE Soft Ballistic Sub-Laminate," Haque, B. Z. (Gama), M. A. Ali, and J. W. Gillespie, Jr., SAMPE 2015, Baltimore, MD, May 18-21, 2015.
115. Tierney, J. J., S. Sharma, M. Victor, R. Dill, and J. W. Gillespie, Jr., "Advanced Military Footwear System with Composite Orthotic," SAMPE 2015, Baltimore, MD, May 18-21, 2015.

116. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Role of Prepreg Interlayer Permeability on Void Reduction During Oven Vacuum Bag Processing of Thick Section Thermoplastic Composites," Outstanding Paper Award, 2<sup>nd</sup> Place, SAMPE 2015, Baltimore, MD, May 18-21, 2015.
117. Chowdhury, S. C., R. M. Elder, T. Sirk, B. Z. (Gama) Haque, J. W. Andzelm, and J. W. Gillespie, Jr., "Modeling Glass Fiber Sizing Interphase Layer using Molecular Dynamics Simulations," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
118. Park, J-H., P. Stegall, S. K. Agrawal, S. Yarlagadda, J. Tierney, S. Sharma, and J. W. Gillespie, Jr., "Wearable Upper Body Suit for Assisting Human Load Carriage," Proceedings of the ASME 2015 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, IDETC/CIE 2015, Boston, MA, August 2-5, 2015. ISBN: 978-0-7918-5713-7; Vol 5B, 39<sup>th</sup> Mechanisms & Robotic Conference.
119. Fish, F., C. Scott, J. Tierney, J. W. Gillespie, Jr., and S. Yarlagadda, "Flexible Tooling System for the Manufacturing of a Passive Dynamic Ankle Foot Orthosis," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
120. Sockalingam, S., R. Bremble, S. C. Chowdhury, J. W. Gillespie, Jr., and M. Keefe, "Modeling Kevlar KM2 Single Fiber Transverse Impact and the Effect of Compressive Kinking on Residual Tensile Strength," SAMPE 2015, Baltimore, MD, May 18-21, 2015.
121. Khattra, N. S., S. Sharma, S. Yarlagadda, and J. W. Gillespie, Jr., "Design and Analysis of a Passive Dynamic Ankle-Foot Orthotic Device," SAMPE 2015, Baltimore, MD, May 18-21, 2015.

**2014**

122. Ganesh, R., S. Sockalingam, J. Misumi, A. Abu-Obaid, J. W. Gillespie, Jr., "Three-Dimensional Modeling of Unidirectional Composites with Fiber Fracture: Role of Matrix Properties," American Society for Composites (ASC), San Diego, CA, September 8-10, 2014.
123. Ross, A., R. Rhodes, D. Graziosi, B. Jones, R. Lee, B. S. (Gama) Haque, and J. W. Gillespie, Jr., "Z-2 Prototype Space Suite Development," ICES-2014-091, 44<sup>th</sup> International Conference on Environmental Systems, Tucson, AZ, July 13-17, 2014.
124. Zhang, D., D. Heider, and J. W. Gillespie, Jr., "Volatile Removal During Out of Autoclave Processing of High-Performance Thermoplastic Composites," CAMX 2014, Orlando, FL, October 14-16, 2014.
125. Sas, H. S., A. Abu-Obaid, P. Simacek, J. W. Gillespie, Jr., and S. G. Advani, "Thermoset Pultrusion Process: Modeling and Experimental Characterization," CAMX 2014, Orlando, FL, October 14-16, 2014.
126. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Inelastic Transversely Isotropic Constitutive Model for High Performance Polymer Fibers," 13<sup>th</sup> International LS-DYNA Users Conference, Dearborn, MI, June 8 – 10, 2014.
127. Chowdhury, S. C., B. Z. (Gama) Haque, J. W. Gillespie, Jr., A. C. T. van Duin, and J. W. Andzelm, "Molecular Simulations of Silica-Water-Silane System Using Reactive Force Field Potential REAXFF," SAMPE 2014, Seattle, WA, June 2-5, 2014.
128. Tamrakar, S., S. Sockalingam, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "High Strain Rate Fiber Matrix Interface Characterization – Experimental Testing and Finite Element Analysis," SAMPE 2014, Seattle, WA, June 2-5, 2014.

129. Tamrakar, S., B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "High-Rate Test Method for Fiber-Matrix Interface Characterization, SAMPE 2014, Seattle, WA, June 2-5, 2014.
130. Chowdhury, S. C., G. R. Swenson, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Molecular Dynamics Simulations of Single-Walled Carbon Nanotube Bundle Under Mechanical Loading," SAMPE 2014, Seattle, WA, June 2-5, 2014.
131. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Fiber-Level Tow Modeling of Kevlar KM2 Subjected to High Velocity Impact," SAMPE 2014, Seattle, WA, June 2-5, 2014.
132. Haque, B. Z. (Gama), M. A. Ali, and J. W. Gillespie, Jr., "Modeling Transverse Impact on Soft Body Armor Pack," SAMPE 2014, Seattle, WA, June 2-5, 2014.
133. Haque, B. Z. (Gama), J. W. Gillespie, Jr., "Experiment and Analysis of Depth of Penetration Experiments on Thick-Section S-2 Glass/Sc15 Composites," SAMPE 2014, Seattle, WA, June 2-5, 2014.

**2013**

134. Chowdhury, S. C., G. R. Swenson, B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Molecular Modeling and Characterization of Carbon Nanospring," 10<sup>th</sup> International Conference on Mechanical Engineering, ICME 2013, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology (BUET), Bangladesh, Dec. 20-22, 2013.
135. Sietins, J. M., J. W. Gillespie, Jr., S. G. Advani, "Bonding Mechanisms during Ultrasonic Consolidation: New Insight Utilizing FIB Milling and TEM," 13<sup>th</sup> Japan International SAMPE Symposium and Exhibition, Nagoya, Japan, November 11-13, 2013.
136. Haque, (Gama), B. Z., and John W. Gillespie Jr. "Penetration and Perforation of Composite Structures." Proceedings of the International Conference on Mechanical Engineering and Renewable Energy 2013, ICMERE 2013, CUET, Chittagong-4349, Bangladesh, December 24-27, 2013.
137. Tierney, J.J., J. Faull, A. Kennedy, S. Yarlagadda, and J. W. Gillespie, Jr., "Development of a Topology Optimized Upper Body Composite Support Structure," ASC 28<sup>th</sup> Technical Conference, University Park, State College, PA, September 9-11, 2013.
138. Chowdhury, S. C., B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Molecular Simulations of Silica Surface in Presence of Water," ASC 28<sup>th</sup> Technical Conference, University Park, State College, PA, September 9-11, 2013.
139. Chowdhury, S. C., B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Molecular Simulations of the Dynamic Impact of Graphite," Proceedings of the American Society for Composites 28<sup>th</sup> Technical Conference, September 9-11, 2013, State College, Pennsylvania, USA.
140. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Modeling the Transverse Compression Response of Kevlar KM2," ASC 28<sup>th</sup> Technical Conference, University Park, College Park, PA, September 9-11, 2013.
141. Haque (Gama), B. Z., R. J. Stanton, and J. W. Gillespie, Jr., "Perforation Mechanics of Thin Composites," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
142. Chowdhury, S. C., (Gama) Haque, B. Z., and J. W. Gillespie, Jr., "Study of the Mechanical Properties of the Carbon Nanotubes Junction using Molecular Dynamics Simulation," SAMPE 2013, Long Beach, CA, May 6-9, 2013.

143. Mueller, J. E., J. W. Gillespie, Jr., and S. G. Advani, "Diffusion as a Bonding Mechanism for Ultrasonically Consolidated Metal Matrix Composites," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
144. Yarlagadda, S., C. Scott, M. J. Dempah, J. J. Tierney, J. W. Gillespie, Jr., E. Schrank, and S. J. Stanhope, "Rapid Prototyping of Composite Orthoses," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
145. Walter, M. S., S. E. Boyd, T. A. Bogetti, B. A. (Gama) Haque, S. Yarlagadda, S. Sharma, and J. W. Gillespie, Jr., "Modeling Four Quadrant Low Velocity Impact on Thick-Section Composites with and Without Interlayers," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
146. Chowdhury, S. C., B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Study of the Stress Wave Propagation in Carbon Nanotubes using Peridynamics Simulation," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
147. Sockalingam, S., J. W. Gillespie, Jr., and M. Keefe, "Detailed Modeling and Analysis of Single-Fiber Microdroplet Test using Cohesive Zone Approach," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
148. Zhang, D., D. Heider, S. G. Advani, and J. W. Gillespie, Jr., "Out of Autoclave Consolidation of Voids in Continuous Fiber Reinforced Thermoplastic Composites," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
149. Haque (Gama), B. Z., I. Biswas, and J. W. Gillespie, Jr., "Modeling the Depth of Penetration of Very Thick Composites," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
150. Abu Obaid, A., G. Pandey, J. W. Gillespie, Jr., D. Heider, E. T. Thostenson, M. J. Deluca, and C. J. Felker, "Characterization of the Mechanical and Electrical Properties of Carbon Nanotube Yarns," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
151. Khattra, N. S., J. J. Tierney, S. Yarlagadda, N. Shevchenko, J. W. Gillespie, Jr., E. S. Schrank, and S. J. Stanhope, "Carbon Fiber Based Custom Orthoses for Augmenting Net Ankle Moment in Gait," SAMPE 2013, Long Beach, CA, May 6-9, 2013.
152. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "Experimental Measurement of the Energy Dissipative Mechanisms of the Kevlar Micro-Fibrillar Network for Multi-Scale Application," Society of Experimental Mechanics 2013 Annual Conference & Exposition on Experimental and Applied Mechanics, Lombard, IL, June 3-5, 2013.

**2012**

153. Chowdhury, S. C., B. Z. (Gama) Haque, J. W. Gillespie, Jr., "Peridynamic Approximation of Graphene and Carbon Nanotube Response," American Society for Composites 27<sup>th</sup> Technical Conference, Arlington, Texas, October 1-3, 2012.
154. (Gama) Haque, B. Z., Q. P. McAllister, S. C. Chowdhury, A. C. Caulfield, J. W. Gillespie, Jr., T. A. Bogetti, and M. R. VanLandingham "Modeling the Nanoindentation Mechanics of Kevlar Fibers," American Society for Composites 27<sup>th</sup> Technical Conference, Arlington, Texas, October 1-3, 2012.
155. Tamrakar, S., B. Z. (Gama) Haque, and J. W. Gillespie, Jr., "Modeling and Simulation of the Miniature Tensile Hopkinson Bar for Characterizing the Dynamic Properties of Fibers," American Society for Composites 27<sup>th</sup> Technical Conference, Arlington, Texas, October 1-3, 2012.
156. (Gama) Haque, B. Z., A. T. Caulfield, I. Biswas, J. J. Tierney, J. W. Gillespie, Jr., R. Emerson, R. Adkinson, T. A. Bogetti, A. Yiournas, and J. Wagner, "Modeling Multiple High-Energy Low-

- Velocity Impact (HE-LVI) on Thick-Section Composite Plates,” CD Proceedings, SAMPE 2012, Baltimore, MD, May 21-24, 2012.
157. (Gama) Haque, B. Z., I. Biswas, S. C. Chowdhury, J. W. Gillespie, Jr. and D. R. Hartman, “Modeling the Depth of Penetration and Ballistic Impact on S-Glass/Phenolic Thick-Section Composites,” American Society for Composites 27<sup>th</sup> Technical Conference, Arlington, Texas, October 1-3, 2012.
  158. Haque, B. Z. (Gama) and J. W. Gillespie, Jr., “A New Penetration Equation Satisfying Momentum & Energy Conservation,” CD Proceedings, SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  159. Levy, A., D. Heider, J. Tierney, J. W. Gillespie, Jr., P. Lefebure, and D. Lang, “Simulation and Optimization of the thermoplastic Automated Tape Placement (ATP) Process,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  160. Levy, A., J. Tierney, D. Heider, J. W. Gillespie, Jr., P. Lefebure, and D. Lang, “Modeling of Inter-Layer Thermal Contact Resistance During Thermoplastic Tape Placement,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  161. Tierney, J. J., J. W. Gillespie, Jr., R. Stratton, M. Glenn, J. Tzeng, and M. Maher, “Design and Optimization of an Exospine Structure Utilizing Lightweight Composites,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  162. Dempah, M. J., R. Tirschmann, D. Heider, and J. W. Gillespie, Jr., “Permeability Characterization of Materials for Advanced Bagging Concepts,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  163. Haque (Gama), B. Z., S. C. Chowdhury, I. Biswas, P. M. Schweiger, J. W. Gillespie, Jr., and D. R. Hartman, “Modeling the Low Velocity Impact Damage Behavior of S-Glass/Phenolic Composites,” CD Proceedings, SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  164. Tierney, J. J., R. Weber, N. Shevchenko, D. Heider, S. Yarlagadda, and J. W. Gillespie, Jr., “Development of an Automated Materials Placement (AMP) System for Composite Processing,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  165. Zhang, D., A. Levy, and J. W. Gillespie, Jr., “On the Void Consolidation Mechanisms of Continuous Fiber Reinforced Thermoplastic Composites,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  166. Chowdhury, S. C., B. A. (Gama) Haque, J. W. Gillespie, Jr., and D. R. Hartman, “Molecular Dynamics Simulation of Defective Carbon Nanotubes under Combined Loading Conditions,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  167. Kelly, G. S., S. G. Advani, J. W. Gillespie, Jr., and T. A. Bogetti, “Thermo-Mechanical Modeling of Acoustic Softening During Ultrasonic Consolidation of Thin Metal Foils,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  168. Mueller, J. E., J. W. Gillespie, Jr., and S. G. Advani, “Interaction Volume Effects of Ultrasonically Consolidated Cu-Al Concentration Profiles,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  169. Gruber, M. B., I. Z. Lockwood, T. L. Dolan, S. B. Funck, J. Tierney, P. Simacek, J. W. Gillespie, Jr., S. G. Advani, B. J. Jensen, and R. J. Cano, “Thermoplastic in Situ Placement Requires Better Impregnated Tapes and Tows,” SAMPE 2012, Baltimore, MD, May 21-24, 2012.
  170. Schrank, E. S., A. R. Razzook, K. Takahashi, J. Tierney, J. W. Gillespie, Jr., K. Wallace, R. Moore, L. Hitch, J. S. Higginson, and S. J. Stanhope, “A Repeatable and Predictable Method to Rapidly Manufacture Function-Customized Passive-Dynamic Ankle Foot Orthoses,” Proceedings of the ASME 2012 Summer Bioengineering Conference SBC2012, Farjardo, Puerto Rico, USA, June 20-23, 2012. (ABSTRACT)

171. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "Probing the Surface Properties of High-Performance Fibers," Proceedings of the 35<sup>th</sup> Annual Meeting of the Adhesion Society, New Orleans, LA, February 26-29, 2012.
172. Lopatnikov, S., N. Shevchenko, and J. W. Gillespie, Jr., "Device and Method for Investigation of Mechanical Properties of Fibers under High-Strain Rate Tensile Load," (<http://arxiv.org/abs/1201.0916>), January 2012.

**2011**

173. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "The Elastic-Plastic Local Contact Response of Composite Constitutive Fibers," Proceedings of the American Society for Composites 26<sup>th</sup> Annual Technical Conference /The Second Joint US-Canada Conference on Composites, Montreal, Canada, September 26-28, 2011.
174. Chowdhury, S. C., B. Z. (Gama) Haque, D. R. Hartman, and J. W. Gillespie, Jr., "Molecular Dynamics Simulation of Carbon Nanotubes under Combined Loading," The 26<sup>th</sup> ASC Technical Conference (The Second Joint US-Canada Conference on Composites), Montreal, Quebec, Canada, September 26-28, 2011.
175. Gama, B. A., S. C Chowdhury, and J. W. Gillespie, Jr., "Finite Element Analysis of Low Velocity Impact & Compression after Impact of Sandwich Composite Structures," ICCM18, Jeju, Korea, August 22-26, 2011.
176. Gama, B. A., J. Zerhusen, J. W. Gillespie, Jr., B. Ozbus, and J. D. Bender, "Quasi-Static Penetration Resistance Behavior of S-2 Glass/VPS 2.2 Composites," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
177. Sawyer, A. J., B. A. Gama, S-G. Kang, and J. W. Gillespie, Jr., "Effect of Laminate Curvature on the Penetration Mechanics of Thick Section Composites." SAMPE 2011, Long Beach, CA, May 23-26, 2011.
178. Gama, B. A. and J. W. Gillespie, Jr., "Modeling Composite Damage using MAT162 in LS-DYNA," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
179. Ayotte, K. M., B. A. Gama, R. Adkinson, and J. W. Gillespie, Jr., "Ballistic Penetration Behavior of UHMWPE Soft Composite Laminates," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
180. Gama, B. A. and J. W. Gillespie, Jr., "Virtual Testing of Composites using Micro-Mechanical to Macro-Mechanical Unit Cell Approach," ASME 2011 IMECE, Denver, CO, November 11-17, 2011.
181. Sharma, S., S. Yarlagadda, J. W. Gillespie, Jr., R. Adkinson, and T. A. Bogetti, "Effect of Compliant Thermoplastic Interlayers on High Velocity Impact Performance of Composite Laminates," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
182. Ayotte, K. M., B. A. Gama, R. Adkinson, and J. W. Gillespie, Jr., "Quasi-Static Penetration Behavior of UHMWPE Soft Composite Laminates," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
183. Tierney, J. J., N. Shevchenko, B. A. Gama, S. L. Lopatnikov, J. W. Gillespie, Jr., T. A. Bogetti, R. P. Emerson, M. Maher, A. Yiournas, and J. A. Wagner, "Development and Modeling of a High Energy Impact Test Method for Composites," SAMPE 2011, Long Beach, CA, May 23-26, 2011.
184. Gama, B. A., J. Zerhusen, H. Deffor, J. W. Gillespie, Jr., B. Ozbus, and J. D. Bender, "High Strain Rate Behavior of VPS Polyurea Matrix Materials," SAMPE 2011, Long Beach, CA, May 23-26, 2011.

185. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "Mechanics Based Measurements of Polymer Fibers," Proceedings of the 34<sup>th</sup> Annual Meeting of the Adhesion Society, Savannah, GA, February 13-16, 2011.
186. Gama, B. A., D. Hanft, P. Schweiger, J. W. Gillespie, Jr., R. Emerson, and T. A. Bogetti, "Modeling the Low Velocity Impact and Compression after Impact Experiments on Composites using MAT162 in LS-Dyna," CD Proceedings, SAMPE 2011, Long Beach, CA, May 23-26, 2011.

**2010**

187. Gurnon, A. K., J. W. Gillespie, N. J. Wagner, "Rheo-Physics of Shear Thickening Fluids (STFs) during Large Amplitude Oscillatory Shear (LAOS)," Paper presented at 82<sup>nd</sup> Annual Society of Rheology Meeting, Santa Fe, New Mexico, October 24-28, 2010.
188. Emerson, R. P., T. A. Bogetti, B. A. Gama, P. K. Pasupuleti, and J. W. Gillespie, Jr., "A Multi-Hit Impact method for Assessing the Durability of Thick-Section Composites," SAMPE Fall Technical Conference, 2010.
189. Yim, J. H., D. D. Pappas, D. A. Kissounko, J. W. Gillespie, Jr., and G. R. Palmese, "Influence of Functional Groups on Interfacial Adhesion in PE-Epoxy Composites," abstract submitted to International Conference on Interfaces & Interphases in Multicomponent Materials (IIMM), University of Sheffield, Sheffield, UK, September 1-3, 2010.
190. VanLandingham, M. R., K. E. Strawhecker, I. Kalcioğlu, M. Qu, K. H. Van Vliet, Q. P. McAllister, and J. W. Gillespie, Jr., "Characterizing Rheological Response of Soft Matter at Small Length Scales," *The Society of Rheology*, 82<sup>nd</sup> Annual Meeting, Santa Fe, NM, October 25-28, 2010.
191. Kang, S.-G., B. A. Gama, and J. W. Gillespie, Jr., "Damage Modeling of Uni-Directional and 3D Composite Unit Cells," SAMPE 2010, Seattle, WA, May 17-20, 2010.
192. McAllister, Q. P., J. W. Gillespie, Jr., M. R. VanLandingham, and K. E. Strawhecker, "Exploring Particle-Fiber Contact Using Instrumented Indentation and Atomic Force Microscopy," SAMPE 2010, Seattle, WA, May 17-20, 2010.
193. Nilakantan, G., M. Keefe, E. D. Wetzel, T. A. Bogetti, R. Adkinson, and J. W. Gillespie, Jr., "Using LS-DYNA<sup>®</sup> to Computationally Assess the V<sub>0</sub>-V<sub>100</sub> Impact Response of Flexible Fabrics through Probabilistic Methods," 11<sup>th</sup> International LS-DYNA Users Conference, Detroit, MI, June 6-8, 2010.
194. Nilakantan, G., E. D. Wetzel, R. Merrill, T. A. Bogetti, R. Adkins, M. Keefe, and J. W. Gillespie, Jr., "Experimental and Numerical Testing of the V<sub>50</sub> Impact Response of Flexible Fabrics: Addressing the Effects of Fabric Boundary Slippage," 11<sup>th</sup> International LS-DYNA Users Conference, Detroit, MI, June 6-8, 2010.
195. Tierney, J. J., N. Shevchenko, J. W. Gillespie, Jr., T. A. Bogetti, R. P. Emerson, A. Yiournas, and J. A. Wagner, "Development of a High Energy Impact Test Capability for Thick-Section Composite Structures," SAMPE Fall Technical Conference, Salt Lake City, UT, October 11-14, 2010.
196. Gama, B. A., K. M. Ayotte, R. Adkinson, and J. W. Gillespie, Jr., "Penetration Mechanics of UHMWPE soft Composite Laminates: Quasi-Static and Ballistic Experimental Observations," SAMPE 2010, Seattle, WA, May 17-20, 2010.
197. Gama, B. A., T. A. Bogetti, and J. W. Gillespie, Jr., "Composite Damage Modeling under Quasi-Static, Low Velocity Impact, Ballistic and Blast Loading Conditions," SAMPE 2010, Seattle, WA, May 17-20, 2010.

198. Manzella, A. F., B. A. Gama, and J. W. Gillespie, Jr. "Effect of laminate Thickness on Ballistic Penetration of Thick-Section Composites," SAMPE 2010, Seattle, WA, May 17-20, 2010.

**2009**

199. Eksik, O., P. Schulze, J. W. Gillespie, Jr., and D. Heider, "An Experimental Method for Continuous Measurement of In-Plane Fabric Permeability as a Function of Fiber Volume Fraction using Air Flow," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
200. Gama, B. A., T. A. Bogetti, and J. W. Gillespie, Jr., "Impact, Damage and Penetration Modeling of Thick-Section Composites using LS-Dyna MAT 162," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
201. Gama, B. A., S. L. Lopatnikov, and J. W. Gillespie, Jr., "Effect of Interlayer Properties on Stress Wave Propagation in Discontinuous Ceramic-cored Sandwich (DCCS) Composites," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
202. Gawandi, A., L. A. Carlsson, T. A. Bogetti, and J. W. Gillespie, Jr., "Influence of Adhesive Properties on Stress States in a Discontinuous Ceramic Tile Core Sandwich Structure," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
203. Heider, D., S. Amoroux, and J. W. Gillespie, Jr., "Permeability Estimation of Nano-Porous Membranes," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
204. Kang, S-G., B. A. Gama, S. Yarlagadda, and J. W. Gillespie, Jr., "Finite Element Modeling of Delamination in Thick-Section Composites using LS-Dyna," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
205. Keenan, C. D., J. W. Gillespie, Jr., D. Heider, R. Jensen, T. A. Bogetti, R. Adkinson, and J. D. Bender, "Process Capabilities for the Infusion of High Viscosity Polyurea Resin Systems for Composite Applications," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
206. Lopatnikov, S. L., B. A. Gama, and J. W. Gillespie, Jr., "On the Continuum Theory of Conformable Robots," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
207. Manzella, A. F., B. A. Gama, and J. W. Gillespie, Jr., "Penetration Resistance of Thick-Section Composites: Effect of Projectile Diameter and Mass," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.

208. McAllister, Q. P., J. W. Gillespie, Jr., and M. R. VanLandingham, "Nanoindentation of High-Performance Fibers," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
209. Nilakantan, G., A. Abu-Obaid, M. Keefe, J. W. Gillespie, Jr., E. D. Wetzel, T. A. Bogetti, and R. Adkinson, "An Experimental and Numerical Study of the Impact Response (V50) of Flexible Plain Weave Fabrics: Accounting for Statistical Distributions of Yarn Strength," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
210. Peters, G. M., B. A. Gama, and J. W. Gillespie, "Role of Interlayer Between Ceramic Tiles and Thick Section Composites Subjected to Impact Loading," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
211. Weidner, K., J. Tierney, N. Shevchenko, and J. W. Gillespie, Jr., "Performance of Bolted Joints in Discontinuous Ceramic Cored Sandwich Structures," The 24<sup>th</sup> Annual Technical Conference presented by the American Society for Composites and the Canadian Association for Composite Structures and Materials, University of Delaware, Sept. 15-17, 2009.
212. Heider, D., P. Schulze, J. Tierney, and J. W. Gillespie, Jr., "Design and Fabrication of VARTM Fabricated Skin Panels with Integrated Hollow Stiffeners," SAMPE Fall Technical Conference, Wichita, Kansas, Oct. 19-21, 2009.
213. Sun, Z., J. Knopf, J. M. Deitzel, and J. W. Gillespie, Jr., "Drawing of Spatially Oriented Electrospun Fibers," Proceedings of the ASME 2009 International Mechanical Engineering Congress & Exposition, IMECE2009, Lake Buena Vista, FL, November 13-19, 2009.
214. Yim, J. H., D. Kissounko, A. Abu-Obaid, D. Pappas, J. W. Gillespie, Jr., A. Fridman, and G. R. Palmese, "Tunable Adhesion Properties of UHMW-PE Fiber/Matrix Interface Using Plasma Surface Treatments," 2009 AIChE Annual Conference, Nashville, TN, November 8-13, 2009, Submitted May 2009.
215. Heider, D., H. Deffor, J. W. Gillespie, Jr., M. Mohamed, A. Bogdanovich, and R. Crane, "Improved Large-Scale Joint Performance using 3-D Woven Non-Crimp Fabrics," 17<sup>th</sup> International Conference on Composite Materials, Edinburgh, UK, July 27-31, 2009.
216. Gama, B. A., T. A. Bogetti, J. W. Gillespie, Jr., "Progressive Damage Modeling of Plain-Weave Composites using LS-DYNA Composite Damage Model MAT 162," 7<sup>th</sup> European LS-DYNA Conference, Salzburg, Austria, May 14-15, 2009.
217. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., T. A. Bogetti, R. Adkinson, "A Study of Material and Architectural Effects on the Impact Response of 2D and 3D Dry Textile Composites using LS-DYNA<sup>®</sup>," 7<sup>th</sup> European LS-DYNA Conference, Salzburg, Austria, May 14-15, 2009.
218. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., T. A. Bogetti, and R. Adkinson, "A Numerical Investigation into the Effects of 3D Architecture on the Impact Response of Flexible Fabrics," TexEng Software Ltd., Second World Conference on 3D Fabrics and Their Applications, Greenville, SC, April 6-7, 2009.
219. Tierney, J. J., J. W. Gillespie, Jr., and T. A. Bogetti, "Composite Design and Simulation (CDS) Software: A Comprehensive Toolkit for Real-Time Design of Composite Processes and Structures," SAMPE 2009, Baltimore, MD, May 18-21, 2009.

220. Heider, D., H. Deffor, S. Andersen, and J. W. Gillespie, Jr., "Infusion Design of Preforms with Semi-Permeable Barrier Layers," SAMPE 2009, Baltimore, MD, May 18-21, 2009.
221. Abu Obaid, A., S. M. Andersen, J. W. Gillespie, Jr., B. Dickinson, N. Parker, J. Larsen, and R. A. Coffelt, "Effects of 3D Weaving on Tensile Strength Retention of Z-Tows," TexEng Software Ltd., Second World Conference on 3D Fabrics and Their Applications, Greenville, SC, April 6-7, 2009.
222. Koellhoffer, S., J. E. Mueller, J. W. Gillespie, Jr., S. G. Advani, and T. A. Bogetti, "Role of Friction in Ultrasonic Consolidation During Processing of Metal Matrix Composites," SAMPE 2009, Baltimore, MD, May 18-21, 2009.
223. Gama, B., S. Lopatnikov, and J. W. Gillespie, Jr., "Stress Wave Propagation in Discontinuous Tile Reinforced Sandwich Composite Structures," (Extended Abstract) 1<sup>0th</sup> US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.
224. Lopatnikov, S. and J. W. Gillespie, Jr., "On the Scaling of Structural Response during Ballistic Impact," (Extended Abstract) 10<sup>th</sup> US National Congress on Computational Mechanics, Columbus, OH, July 16-19, 2009.
225. Lamontia, M. A., M. B. Gruber, J. J. Tierney, J. W. Gillespie, Jr., B. J. Jensen, and R. J. Cano, "In Situ Thermoplastic ATP Needs Flat Tapes and Tows with Few Voids," 30<sup>th</sup> International SAMPE Europe Conference, Paris, France, March 23-25, 2009.
226. Lamontia, M. A., M. B. Gruber, J. J. Tierney, J. W. Gillespie, Jr., B. J. Jensen, and R. J. Cano, "Modeling the Accudyne Thermoplastic in Situ ATP Process," 30<sup>th</sup> International SAMPE Europe Conference, Paris, France, March 23-25, 2009.
227. Yim, J. H., G. R. Palmese, D. A. Kissounko, A. Abu Obaid, J. W. Gillespie, Jr., D. D. Pappas, and A. Fridman, "Effect of Interfacial Strength and Energy Absorption of Plasma-Modified UHMW-PE Fiber/Epoxy Interface," SAMPE 2009, Baltimore, MD, May 18-21, 2009.
228. Vanlandingham, M. R., K. E. Strawhecker, Q. P. McAllister, and J. W. Gillespie, Jr., "Contact Mechanics of Polymer Fibers, Adhesion Society, Proceedings of the 32<sup>nd</sup> Annual Meeting of the Adhesion Society, Savannah, GA, February 15-18, 2009.
229. Lopatnikov, S. and J. W. Gillespie, Jr., "General Equations of Motion and Shock Wave Propagation in Fluid-Filled Poroelastics," *The Fourth Biot Conference on Poromechanics*, Columbia University, New York, June 8-10, 2009.
230. Bogetti, T. A., J. Staniszewski, B. P. Burns, C. P. R. Hoppel, J. W. Gillespie, Jr., J. Tierney, "Predicting the Nonlinear Response and Progressive Failure of Composite Laminates Under Tri-Axial Loading," 17<sup>th</sup> International Conference on Composite Materials, ICCM-17, 2009.

**2008**

231. La Scala, J. J., S. E. Boyd, I. McAninch, S. M. Sands, D. Fudge, S. Andersen, J. W. Gillespie, Jr., F. Bruce, D. Morgan, K. Patterson, L. Coulter, M. Foley, R. Crane, M. Starks, J. Gomez, X. Geng, A. Grous, and G. R. Palmese, "Environmentally Friendly Bio-Based Vinyl Ester Resins for Military Composite Structures," 26<sup>th</sup> Army Science Conference, JW Marriott Grande Lakes, Orlando, FL, December 1-4, 2008.
232. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., and T. A. Bogetti, "Simulating the Impact of Multi-Layer Fabric Targets using a Multi-Scale Model and the Finite Element Method," 9<sup>th</sup> International Conference on Textile Composites (TEXCOMP9), Clayton Hall, University of Delaware, Newark, DE, October 13 – 15, 2008.

233. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., and T. A. Bogetti, "Modeling the Material and Failure Response of Continuous Filament Fabrics for use in Impact Applications," Proceedings of the 9<sup>th</sup> International Conference on Textile Composites (TEXCOMP9), *Recent Advances in Textile Composites*, Edited by S. G. Advani and J. W. Gillespie, Jr. Clayton Hall, University of Delaware, Newark, DE, October 13 – 15, 2008.
234. Abu Obaid, A., S. M. Andersen, J. W. Gillespie, Jr., B. Dickinson, A. Watson, G. Chapman, and R. A. Coffelt, "Effects of Weaving on S-2 Glass™ Tensile Strength Distribution," Proceedings of the 9<sup>th</sup> International Conference on Textile Composites (TEXCOMP9), *Recent Advances in Textile Composites*, Editors: S. G. Advani and J. W. Gillespie, Jr., pp. 78-87, Clayton Hall, University of Delaware, Newark, DE, October 13 – 15, 2008.
235. Gawandi, A., E. Thostenson, and J. W. Gillespie, Jr., "Experimental Investigation of Tow Pullout Behavior of Polymer-Coated Kevlar Fabric," 9<sup>th</sup> International Conference on Textile Composites (TEXCOMP9), Clayton Hall, University of Delaware, Newark, DE, October 13 – 15, 2008.
236. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., and T. A. Bogetti, "Novel Multi-Scale Modeling of the Impact of Plain Weave Fabrics using a Finite Element Analysis," SAMPE International Symposium, Long Beach, CA, May 18-22, 2008.
237. Lim, A. S., S. L. Lopatnikov, and J. W. Gillespie, Jr., "Implementing the Split-Hopkinson Pressure Bar Technique for Shear Thickening Fluid Evaluation," The XV<sup>th</sup> International Congress on Rheology, The Society of Rheology 80<sup>th</sup> Annual Meeting, August 3-8, 2008, Monterey, CA.
238. Nilakantan, G., M. Keefe, J. W. Gillespie, Jr., and T. A. Bogetti, "Novel Multi-Scale Modeling of Woven Fabric Composites for use in Impact Studies," 10<sup>th</sup> International LS-DYNA Users Conference, Dearborn, MI, June 8-10, 2008.
239. Tierney, J. J., D. Heider, and J. W. Gillespie, Jr., "Thermal Mismatch Issues Between Composite-Aluminum Interfaces in Aircraft Structural Design," SAMPE '08, Material and Process Innovations: Changing our World, Long Beach, CA, May 18-22, 2008.
240. Abu Obaid, A., J. W. Gillespie, Jr., T. L. Pike, G. E. Thomas, Q. Nguyen, and L. E. Hornberger, "Bond Strength and Durability of Titanium Joints using TP-8 Adhesive under Different Environmental Conditions," SAMPE '08, Long Beach, CA, May 18-22, 2008, February 2008.
241. Heider, D., H. Deffor, M. Reuter, J. W. Gillespie, Jr., M. Mohamed, A. Bogdanovich, and R. Crane, "Large-Scale Joint Fabrication using 3D Fabrics," SAMPE '08, Material and Process Innovations: Changing our World, Long Beach, CA, May 18-22, 2008.
- 2007**
242. Xiao, J-R., J. Staniszewski, and J. W. Gillespie, Jr., "Atomistic Molecular Structural Mechanics Model of Defective Graphene Sheets and Carbon Nanotubes," ICMEM2007 International Conference on Mechanical Engineering and Mechanical Engineering and Mechanics, Wuxi, China, November 5-7, 2007.
243. Jadhav, P, A. Quabili, D. Molligan, S. Andersen, and J. W. Gillespie, Jr., "Mechanical Characterization of Adhesively Bonded Metallic Insert Joints in Vinyl Ester-Balsa Core Sandwich Panels," American Society for Composites, 22<sup>nd</sup> Annual Technical Conference, Seattle, Washington September 17-19, 2007.

244. Jadhav, P., D. Molligan, S. Andersen, and J. W. Gillespie, Jr., "Effect of Surface Preparation on Environmental Durability of Adhesive-Bonded Metallic Surfaces," American Society for Composites, 22<sup>nd</sup> Annual Technical Conference, Seattle, Washington September 17-19, 2007.
245. D. F. Gilhooley, J-R. Xiao, R. C. Batra, J. W. Gillespie, Jr., and M. A. McCarthy, "Stress Analysis of Thick Composite Laminates Using a Higher-Order Shear and Normal Deformable Plate Theory (HOSNDPT) and a Meshless MLPG Method with Radial Basis Functions," American Society for Composites, 22<sup>nd</sup> Annual Technical Conference, Seattle, Washington September 17-19, 2007.
246. Lim, A. S., S. L. Lopatnikov, and J. W. Gillespie, Jr., "Evaluating the High-Rate Behavior of a Shear Thickening Fluid (STF)," American Society for Composites, 22<sup>nd</sup> Annual Technical Conference, Seattle, Washington September 17-19, 2007.
247. Xiao, J-R. and J. W. Gillespie, Jr., "A Three-Dimensional Damage Mechanics Model for Composite Laminates under Transverse Impact Loadings," American Society for Composites, 22<sup>nd</sup> Annual Technical Conference, Seattle, Washington September 17-19, 2007.
248. Gawandi, A. and J. W. Gillespie, Jr., "Experimental Investigation of Interface Failure in a Discontinuous Sandwich Structure," *American Society for Composites, 22<sup>nd</sup> Annual Technical Conference*, Seattle, Washington September 17-19, 2007.
249. La Scala, J. J., F. Levine, P. Myers, J. M. Sands, S. Andersen, J. W. Gillespie, Jr., K. Patterson, L. Coulter, R. Crane, M. Starks, J. Gomez, X. Geng, and G. R. Palmese, "Demonstration of Military Composites with Low Hazardous Air Pollutant Content," Army Science Conference.

**2006**

250. J. R. Xiao and J. W. Gillespie, Jr. (2006). A Phenomenological Failure Criterion for Composite Laminates under Interlaminar Shear and Compression. The 21st Technical Conference of the American Society for Composites, Dearborn, MI, USA. September 17-20, 2006
251. Andersen, S., J. W. Gillespie, Jr., N. Shevchenko, D. Heider, B. Pollock, D. Molligan, D. Grow, D. Steffen, M. Mazzara, J. Stepowski and L. Hinojosa, "Composite Ground Vehicle Body Parts Replacement Program," ABSTRACT accepted August 18, 2006, DMC Conference, Nashville, November 27-30, 2006.
252. Doherty, S. P., M. Takimori, J. M. Deitzel, D. Heider, J. W. Gillespie, Jr., A. Shah, and A. Giaya, "Thermal Degradation of Carbon Fiber/Cyanate Ester Resin Composites Filled with Clay Silicate Nanoparticles," Proceedings for the Thermoset Resin Formulators Association Annual Meeting, Montreal, QC Canada, 2006.
253. Amouroux, S. C., J. F. Henau, D. Heider, and J. W. Gillespie, Jr., "Membrane Based VARTM Processing: Modelling and Characterization," SAMPE '06 Fall Technical Conference, Dallas, TX, November 6-9, 2006.
254. Bogetti, T. A., C. P. R. Hopper, S. Hug, C. Krauthauser, J. W. Gillespie, Jr., and N. Shevchenko, "Structural Analysis, Design and Subscale Testing of Composite Laminated Armors," submitted 2007 ASC Conference.
255. Lim, A. S., S. L. Lopatnikov, B. A. Gama, and J. W. Gillespie, Jr., "Modeling the High Strain Rate Behavior of a Viscous Fluid Tested via Compression-Shear split Hopkinson Pressure Bar (CS-SHPB) Technique," Proceedings of IMECE 2006, 2006 ASME International Mechanical Engineering Congress & Exposition, Chicago, IL, November 5-10, 2006.

256. Gama, B. A. and J. W. Gillespie, Jr., "A New Experimental Technique to Characterize the Fiber Crush and Fiber Shear Behavior of Composites at Quasi-Static and High Rates of Strain," Proceedings of IMECE 2006, 2006 ASME International Mechanical Engineering Congress & Exposition, Chicago, IL, November 5-10, 2006.
257. Gama, B. A., Sergey L. Lopatnikov, and J. W. Gillespie, Jr., "Dynamic Progressive Collapse of Closed Cell Aluminum Foam," Proceedings of IMECE 2006, 2006 ASME International Mechanical Engineering Congress & Exposition, Chicago, IL, November 5-10, 2006.
258. Amouroux, S. C., D. Heider, and J. W. Gillespie, Jr., "Membrane-Based VARTM: Membrane and Resin Interactions," JEC Composites Magazine No. 24, April 2006.
259. Gama, B. A., J. W. Gillespie, Jr., "Punch Shear Behavior of 3-D E-Glass/Balsa Core/Vinylester Sandwich Composites," SAMPE 2006: Creating new Opportunities for the World Economy, Long Beach, CA, April 30-May 4, 2006.
260. Lim, A. S., B. A. Gama, J. W. Gillespie, Jr., "High Strain Rate Compression-Shear Behavior of a Shear-Thickening Fluid (STF)," SAMPE 2006: Creating new Opportunities for the World Economy, Long Beach, CA, April 30-May 4, 2006.
261. Yoon, M-K., D. Heider J. W. Gillespie, Jr., "Modeling VARTM processes with Equivalent Porosity and Permeability," SAMPE 2006: Creating new Opportunities for the World Economy, Long Beach, CA, April 30-May 4, 2006.

**2005**

262. Xiao, J. R., B. A. Gama, and J. W. Gillespie, Jr., "Progressive Damage and Delamination in Plain Weave S-2 Class/SC-15 Composites under Quasi-Static Punch Shear Loading," Proceedings of IMECE, 2005 ASME International Mechanical Engineering Congress, Orlando, FL, November 5-11, 2005.
263. Zhang, Y., S. Lopatnikov, D. Heider, and J. W. Gillespie, Jr., "Modeling of Distribution Media and Vacuum Bag Properties on Permeability Variations During Vacuum Assisted Resin Transfer Molding (VARTM)," *ASME International Mechanical Engineering Congress and Exposition*, Orlando, FL, November 5-11, 2005.
264. Xiao, J. R. and J. W. Gillespie, Jr., "Analytical Nanomechanics of Carbon Nanotubes and Their Composites," *Boeing Nano-Technology Key Sector Workshop 1: Computational Modeling of Nanomodified Materials*, Seattle, WA, November 4, 2005.
265. R. C. Batra, J. R. Xiao, D. F. Gilhooley, J. W. Gillespie Jr., M.A. McCarthy (2005). Static Analysis of Thick Functionally Graded Plates by using a Higher-Order Shear and Normal Deformable Plate Theory and MLPG method with Radial Basis Functions. European Conference on Computational mechanics, June 2006, Lisbon, Portugal.
266. Amouroux, S. C., D. Heider, S. Lopatnikov, and J. W. Gillespie, Jr., "Membrane-Based VARTM: Membrane and Resin Interactions," submitted to SAMPE Fall 2005, Materials and Processing Technologies for Revolutionary Applications, Seattle, WA, October 31 to November 3, 2005.
267. Xiao, J. R., and J. W. Gillespie Jr., "Nanomechanics of Single-Walled Carbon Nanotubes as Composite Reinforcement," Symposium of Polymer Nanocomposites." September 2005, Montreal, Quebec, Canada.

268. Gama, B. A. and J. W. Gillespie, Jr., "A Quasi-Static Penetration Model of Ballistic Penetration of Thick-Section Composites," *Proceedings of the 20<sup>th</sup> Annual Technical Conference American Society for Composites*, Philadelphia, PA, September 7-9, 2005.
269. Tierney, J, J. W. Gillespie, Jr., D. Byron, C. Smith, H. McElroy, and S. Cytron, Jr., "Design of a Lightweight Ceramic Gun Barrel with a High-Tension Thermoplastic Composite Overwrap," ASC 20<sup>th</sup> Annual Technical Conference, Philadelphia, PA, September 7-9, 2005.
270. Zhang, Y, D. Heider, and J. W. Gillespie, Jr., "Effects of Distribution Media and Vacuum Bag Properties on Permeability Changes during Vacuum Infusion Processing," ASC 20<sup>th</sup> Annual Technical Conference, Philadelphia, PA, September 7-9, 2005.
271. Amouroux, S. C., D. Heider, S. Lopatnikov, and J. W. Gillespie, Jr., "On the Role of Membrane to Improve Quality of VARTM Processed Composites," ASC 20<sup>th</sup> Annual Technical Conference, Philadelphia, PA, September 7-9, 2005.
272. J. R. Xiao, S. L. Lopatnikov, B. A. Gama and J. W. Gillespie, Jr. (2005). Nanomechanics of the radial deformation of single- and multi-walled carbon nanotubes under radial pressure. The 20<sup>th</sup> Technical Conference of the American Society for Composites, Philadelphia, USA. September 7-9, 2005
273. Tierney, J., and J. W. Gillespie, Jr., "Modeling of In-situ Strength Development for the Thermoplastic Composite Tow Placement Process," ASC 20<sup>th</sup> Annual Technical Conference, Philadelphia, PA, September 7-9, 2005.
274. Huang, X., M. E. Foley, T. A. Bogetti, and J. W. Gillespie, Jr., "Mechanics of the Fiber-Matrix Interphase Push-Out Test," ASC 20<sup>th</sup> Annual Technical Conference, Philadelphia, PA, September 7-9, 2005.
275. Vaidyanathan, R., J. Campbell, C. Bisch, B. Williams, K. Bossert, S. Yarlagadda, and J. W. Gillespie, Jr., "Mechanical Properties of Water-Soluble Tooling Materials for Polymer Composite Materials," ICCE-12, Twelve International Conference on Composites/Nano Engineering, Tenerife, Spain, August 1-6, 2005.
276. Mulligan, A. C., R. Vaidyanathan, C. Bisch, J. Campbell, M. Patterson, S. Yarlagadda, S. Andersen, and J. W. Gillespie, Jr., "Multi-functional Composites – Fabrication and Properties," ICCE-12, Twelve International Conference on Composites/Nano Engineering, Tenerife, Spain, August 1-6, 2005.
277. Lopatnikov, S. L., J. W. Gillespie, Jr., "On the Mechanical Equilibrium of the Fluid-Filled Poro-Elastic Body," 3<sup>rd</sup> Biot Conference on Poromechanics, The University of Oklahoma, Norman, Oklahoma, May 24-27, 2005.
278. Gao, S., R. E. Jensen, J. W. Gillespie, Jr., "A Study of the Mechanical Interlocking Effect on Polymer Composite Properties," Proceedings of the 28<sup>th</sup> Annual Meeting of Adhesion Society, February 13-16, 2005.
279. Pike, T., G. Thomas, A. Lee, D. Ostberg, D. Templeton, J. W. Gillespie, Jr., "Enhanced Survivability with a Mission Tailorable Spaceframe Design," submitted to U. S. Army Sixteenth Annual Ground Vehicle Survivability Symposium, April 11-15, 2005.
280. Gama, B. A., S. L. Lopatnikov, J. W. Gillespie, Jr., "Compliance Calibration and Small Strain Measurement for the Compression Split Hopkinson Pressure Bar," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.

281. Gama, B. A., A. D. Bogdanovich, R. A. Coffelt, M. J. Haque, M. Rahman, J. W. Gillespie, Jr., "Ballistic Impact Damage Modeling and Experimental Validation on a 3-D Orthogonal Weave Fabric Composite," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
282. Gama, B. A., S. M. W. Islam, M. Rahman, J. W. Gillespie, Jr., T. A. Bogetti, B. A. Cheeseman, C-F. Yen, C. P. R. Hoppel, "Punch Shear Behavior of Thick-Section Composites under Quasi-Static, Low Velocity, and Ballistic Impact Loading," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005. (Best Paper Award 1<sup>st</sup> Place)
283. Gama, B. A., S. Mahdi, S. Yarlagadda, J. W. Gillespie, Jr., "Structural Repair of Composite Structural Armor," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
284. Suwanwatana, W., S. Yarlagadda and J. W. Gillespie, Jr., "Hysteresis Heating Based Induction Bonding of Thermoplastic Composites", Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
285. Chatterjee, A., S. Yarlagadda and J. W. Gillespie, Jr., "Dielectric Property-Based Thermal Degradation Analysis of Bismaleimide Resin", Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
286. Tierney, J, S. Andersen, S. Yarlagadda, J. W. Gillespie, Jr, E. Hyland, D. Crayon, A. Littlefield, J. Tzeng and L. Burton, "Optimal Design of Cylindrical Steel/Composite Hybrid Structures for Gun Barrel Applications", SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
287. McBride, D., T. Harmon, J. Kiel, D. Dierdorf, S. Yarlagadda, C. H. Newton, and J. W. Gillespie, Jr, "Responding to Composite Fires: First Responder Training Module," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
288. Gao, X., R. E. Jensen, J. W. Gillespie, Jr., "The Role of Fiber Sizing Incorporating Mechanical Interlocking on Polymer Composite Properties," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
289. Abu Obaid, A., S. Andersen, J. W. Gillespie, Jr., R. Vaidyanathan, A. Studley, "Investigation of Thermal and Acoustic Performance of Aerogel-Based Glass Fiber Composites," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
290. Bogetti, T. A., S. Wolf, A. Yiournas, J. W. Gillespie, Jr., C. Krauthauser, "Structural Evaluation of Laminated Armors Under Thermal and Mechanical Loading," U. S. Army Sixteenth Annual Ground Vehicle Survivability Symposium, April 11-15, 2005.
291. Gama, B. A., S. L. Lopatnikov, J. W. Gillespie, Jr., "Recent Advancements in Split Hopkinson Pressure Bar (SHPB) Technique for Small Strain Measurements," 29<sup>th</sup> International Conference on Advance Ceramics and Composites, Cocoa Beach, FL, January 23-28, 2005.
292. Vaidyanathan, R., J. Campbell, L. Studley, B. Hecht, S. Yarlagadda, S. Andersen, J.W. Gillespie Jr, D. Dunaj, B. Guest, R. Saenz, "Water Soluble Tooling Materials for Filament Winding and VARTM," Proceedings of SAMPE 2005 Symposium & Exhibition (50<sup>th</sup> ISSE), Long Beach, CA, May 1-5, 2005.
293. Zhang, Y., B. Pollock, S. Amouroux, J. W. Gillespie, Jr., D. Heider, "Measurement of Transverse, Permeability using Gaseous and Liquid Flow," ASC 20<sup>th</sup> Annual Technical Conference, Drexel University, Philadelphia, PA, September 7-9, 2005.

**2004**

294. Gama, B. A., M. Rahman, C. P. R. Hoppel, J. W. Gillespie, Jr., "Ballistic Damage Evaluation of Thick-Section S-2 Glass/SC15 Composites with and Without Predefined Delaminations," CD Proceedings, ASME 2004 IMECE, Anaheim, CA, November 13-19, 2004.
295. Xiao, J. R., B. A. Gama, J. W. Gillespie, Jr., "Shape Parameters of Multiquadrics in the Heaviside Weighted MLPG Method," Proceedings of the International Conference on Computational Methods, December 15-17, 2004, Singapore.
296. Chicanowski, C. E., J. R. Xiao, B. A. Gama, J. W. Gillespie, Jr., "A New Test Method in Determining the Mohr-Coulomb Friction Factor and Transverse Shear Strength of Thick-Section Composites," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Atlanta, GA, October 17-20, 2004.
297. Yen, C. F., B. A. Cheeseman, C. P. R. Hoppel, B. A. Gama, J. W. Gillespie, Jr., "Modeling the Compressive Failure of Plain Weave Composites," Proceedings of the American Society for Composites 19<sup>th</sup> Technical Conference, Atlanta, GA, October 17-20, 2004.
298. Patwardhan, S., K. L. Kiick, S. Yarlagadda, A. A. Leal, J. W. Gillespie, Jr., "Healing of Fiber Damage in Composite Materials," SEM X International Congress and Exposition, June 7-10, 2004.
299. Gama, B. A., M. Rahman, J. W. Gillespie, Jr., "Energy Absorbing Damage Mechanisms in Quasi-Static Punch Shear of Thick-Section Composites," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004
300. Abu Obaid, A., M. E. Foley, A. Chatterjee, J. M. Deitzel, J. W. Gillespie, Jr., "Tailored Interphase Properties of Glass/Epoxy Composites," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
301. Gama, B. A., M. J. Haque, J. W. Gillespie, Jr., A. E. Bogdanovich, "Impact, Damage and Energy Absorption of a 3D Orthogonal Weave Composite Unit Cell Model," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
302. Abu Obaid, A., J. G. Sloan, M. A. Lamontia, A. Paesano, S. Khan, J. W. Gillespie, Jr., "Test Method Development to Quantify the In-Situ Elastic and Plastic Behavior of 62% Sn-36%Pb-2%Ag Solder Ball Arrays in Commercial Area Array Packages at -40C, 23C and 125C," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
303. Abu Obaid, A., J. G. Sloan, M. A. Lamontia, A. Paesano, S. Khan, J. W. Gillespie, Jr., "Experimental In-Situ Characterization and Creep Modeling of Tin-Base Solder Joints on Commercial Area Array Packages at -40C, 23C and 125C," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
304. Deitzel, J., D. Heider, A. Abu Obaid, A. Paesano, A. Chatterjee, J. W. Gillespie, Jr., G. Robblee, V. Brachos, S. Walsh, "Effect of Reactive and Non-Reactive Binders on Preform and Composite Materials," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
305. Chatterjee, A., J. W. Gillespie, Jr., "The Effect of Moisture on DGEBA Epoxy Resin Systems," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
306. Yoon, M. K., C. Krauthauser, D. Heider, J. W. Gillespie, Jr., C. P. Ratcliff, R. M. Crane, "Damage Detection in Large-Scale Composite Structures via Vibration Technique Using MEMS Accelerometers," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.

307. Chatterjee, A., J. Deitzel, J. W. Gillespie, Jr., "Synthesis of Crosslinked Siloxane Networks for Glass Fiber Sizing Applications," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
308. Yarlagadda, S., A. Chatterjee, J. W. Gillespie, Jr., J. Kiel, D. McGraw, D. Dierdorf, "Post-Fire Damage Assessment of a Composite Wingbox," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
309. Vaidyanathan R., J. Campbell, L. Studley, B. Hecht, S. Yarlagadda, J. W. Gillespie, Jr., D. Dunaj, B. Guest, R. Saenz, "Water Soluble Tooling Materials for Complex Polymer Composite Components – An Update," Proceedings of the SAMPE 2004 Symposium, Long Beach, CA, May 16-20, 2004.
310. Bogetti, T. A., C. P. R. Hoppel, S. Wolf, A. Yiournas, S. Hodges, D. Ostberg, D. Templeton, J. W. Gillespie, Jr., C. Krauthauser, N. Shevchenko, "Structural Analysis, Design and Subscale Testing of Laminated Armors," Proceedings of the 15<sup>th</sup> Annual GVSS, Monterey, CA, March 29, 2004 – April 1, 2004.

**2003**

311. Andersen, S. M., J. W. Gillespie, Jr., D. Heider, N. Shevchenko, J. Sands, R. Siers, J. Florence, "An Overview of the Composite Replacement Parts Program for Military Tactical Wheeled Vehicles," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 19-22, 2003.
312. Gama, B. A., S. L. Lopatnikov, J. W. Gillespie, Jr., "On the Validity of Assumptions of One-Dimensional Hopkinson Bar Analysis," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 19-22, 2003.
313. Gama, B. A., J. R. Xiao, M. J. Haque, C. F. Yen, J. W. Gillespie, Jr., "Experimental and Numerical Investigations on Damage and Delamination in Thick Plain Weave S-2f Glass Composites Under Quasi-Static Punch Shear Loading," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 20-22, 2003.
314. Gama, B. A., J. W. Gillespie, Jr., "Numerical Hopkinson Bar Analysis: Uni-Axial Stress and Planar Bar-Specimen Interface Conditions by Design," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 20-22, 2003.
315. Ren, L., B. A. Gama, C. F. Yen, J. W. Gillespie, Jr., "Dynamic Punch Shear Behavior of Uni-Directional and Plain-Weave S-2 Glass/SC15 Composites," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 20-22, 2003.
316. Xi, Z., T. A. Bogetti, A. Yiournas, I. W. Hall, C. P. R. Hoppel, W. Drysdale, R. Dooley, J. W. Gillespie, Jr., "Analysis Design and Testing of Metal Matrix Composite Cylinders Under Uni-Axial Compression," Proceedings of the American Society for Composites 18<sup>th</sup> Technical Conference, Gainesville, FL, October 20-22, 2003.
317. Crane, R. M., J. W. Gillespie, Jr., D. Heider, S. Yarlagadda, S. G. Advani, "Intelligent Processing and Inspection of Naval Composites," Proceedings of the AMPTIAC Quarterly, Volume 7, Number 3 pp. 41-48, 2003.
318. Cheng, Alexander H. D., S. L. Lopatnikov, J. W. Gillespie, Jr., "Lagrangian Formula of Poroelasticity with Porosity Dynamics," 16<sup>th</sup> ASCE Engineering Mechanics Conference, University of Washington (Seattle), July 16-18, 2003.

319. Yarlagadda, S., H. J. Kim, J. W. Gillespie, Jr., R. Vaidyanathan, G. J. Artz, J. Campbell, "A Low-Cost Recyclable Water-Soluble Mandrel Material for Fabricating Complex Polymer Composite Components," Proceedings of the 24<sup>th</sup> International SAMPE Europe Conference, Port de Versailles, Paris, France, April 1-3, 2003.
320. Leal, A., J. M. Deitzel, A. Chatterjee, A. Abu-Obiad, J. W. Gillespie, Jr., C. Hoppel, P. Cunniff, "Mechanical Properties and Surface Characteristics of Novel High-Performance Organic Fibers," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
321. Heider, D., W. Li, K. Engel, J. W. Gillespie, Jr., "Improvement of Surface Quality during VARTM Processing," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
322. Mahdi, S., B. A. Gama, S. Yarlagadda, J. W. Gillespie, Jr., "The Structural Behavior of Composite Armor: Effects of the Manufacturing Process," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
323. Lopatnikov, S., B. A. Gama, Md. J. Haque, C. Krauthauser, J. W. Gillespie, Jr., "Impact Shock Loading of Porous Materials: Analyses, Experiments, and Simulations," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
324. Heider, D., J. W. Gillespie Jr., T. L. Pike, G. E. Thomas, T. Steele, J. Florence, "Intelligent Process Control for Affordable VARTM Processing of DoD Structures," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
325. Gama, B. A., Haque, M. J., Paesano, A., and Gillespie Jr., J. W., Bogetti, T. A., and Cheeseman, B. A., "Punch Shear Behavior of Thick-Section Hybrid Composite Plates," Proceedings of the 48<sup>th</sup> International SAMPE Symposium and Exhibition. Eds. Leslie J. Cohen, C-L. Ong, C. Arendt, Vol. 48, Book 1, 2003, pp. 804-813.
326. Gama, B. A., Cichanowski, C., J. W. Gillespie, Jr., "Static and Dynamic Axial Compression of Scarf Repaired Thick Section Composite Laminates," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
327. Vaidyanathan, R., J. Campbell, G. Artz, S. Yarlagadda, J. W. Gillespie, Jr., D. Dunaj, B. Guest, and K. L. Nesmith, "A Water-Soluble Tooling Material for Complex Polymer Composite Components and Honeycombs," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
328. Dominauskas, A., J. W. Gillespie, Jr., and D. Heider, "TDR-Line Sensor for Multifunctional and Distributed Sensing in LCM," *SAMPE 2003 Symposium and Exhibition*, May 11-15, 2003.
329. Gama, B. A., M. J. Haque, A. E. Bogdanovich, and J. W. Gillespie, Jr., "Modeling the Dynamic Deformation and Damage of 3-D Woven Fabric Composites," *16th U. S. Army Symposium on Solid Mechanics*, Charleston, SC, May 4-7, 2003
330. Gama, B. A., Md. Jahirul Haque, J. W. Gillespie, Jr. and A. E. Bogdanovich, "Energy Absorption and Damage Mechanisms of 3-D Woven Fabric Composites under Punch-Shear Loading," 44<sup>th</sup> AAIAA/ASME/ASCE/AHS/ASC Structures, *Structural Dynamics, and Materials Conference*, Norfolk, VA, April 7-10, 2003.

**2002**

331. Juzenas, K, A. Dominauskas, D. Heider, J.W. Gillespie Jr., "Non-Destructive Evaluation of Armor Inserts," Proceedings of the American Society for Composites, 17<sup>th</sup> Technical Conference, West Lafayette, IN, October 21-23, 2002.

332. Mohamed, H., Y. Qiu, M. A. Zikry, and J.W. Gillespie, Jr., "Light Weight Composites for Automotive Applications," *2003 SAMPE Symposium* (submitted September 2002).
333. Gillespie, Jr., J. W., N. B. Shevchencko, C. Krauthauser, D. Heider, H. J. Kim, A. Malikopoulos, and J. Florence "Manufacturing Technology to Sustain the Army's Wheeled Vehicle Fleet: Reengineering of a Composite HMMWV Hood," *34<sup>th</sup> International SAMPE Technical Conference*, Baltimore, MD, November 4-7, 2002, (submitted August 2002).
334. Chatterjee, A., P. J. Mallon, M. A. Dweib, S. Ziaee, J. W. Gillespie, Jr. and D. Heider, "Development of an Elevated Temperature Vacuum Assisted Resin Transfer Molding System for Thermoplastic Composites," *34<sup>th</sup> International SAMPE Technical Conference*, Baltimore, MD, November 4-7, 2002, (submitted July 2002).
335. Vaidyanathan, R., C. Green, T. Phillips, S. Yarlagadda, J. W. Gillespie, Jr. and M. Effinger, "Automated Tow Placement of Continuous Fiber Reinforced Ceramic Composites," *SAMPE 2003, Advancing Materials in the Global Economy: Applications, Emerging Markets and Evolving Technologies*, Long Beach Convention Center, Long Beach, CA, May 11-15, 2003 (submitted July 2002).
336. Markicevic, B., D. Heider, S. T. Holmes, P. Handel, P. Minguet, J. W. Gillespie, Jr. and S. G. Advani, "Numerical Investigation of Mold Filling of a Composite Part with Impermeable Core," *Proceedings of the American Society for Composites*, 17<sup>th</sup> Technical Conference, West Lafayette, IN, October 21-23, 2002 (submitted July 2002).
337. Ma, G., B. A. Gama, and J. W. Gillespie, Jr. Modeling the Boundary Effects on the Dynamic Failure of Deep Ceramic Beam," *Proceedings of the American Society for Composites*, 17<sup>th</sup> Technical Conference, West Lafayette, IN, October 21-23, 2002 (submitted July 2002).
338. Gama, B. A., G. Ma, J. W. Gillespie, Jr., and B. Cheeseman, 'A Modified JH-2 Model with Tension Cut-off Criteria in Simulating Sherman's Experiment on Confined Ceramics," *Advanced Computing and Simulation*, *23rd Army Science Conference*, Orlando, FL, December 2-5, 2002.
339. Jensen, R., P. Madison, X. Gao, A. Chatterjee and J. Deitzel, "Glass Fiber Sizings Based Upon Inorganic-Organic Hybrid Silane Chemistry," *Society for Adhesion and Adhesives, Eurdah 2002*, 6<sup>th</sup> European Adhesion Conference (Adhesion 2002, 8<sup>th</sup> International Conference on the Science & Technology of Adhesion and Adhesives), University of Strathclyde, Glasgow, Scotland, September 9-13, 2002.
340. Hillman, J., J. W. Gillespie, Jr. "Genesis of a Hybrid-Composite Beam," *Proceedings of the 2002 International Bridge Conference: Vital Links in Securing our Mobility*, Pittsburgh, PA, June 10-12, 2002.
341. Gama, B., Md. J. Haque, J. W. Gillespie, Jr., T. Bogetti, "Initiation and Growth of Delamination in Composite Integral Armor," *SAE Technical Paper 2002-01-0365, SAE World Congress & Exhibition 2002*, Detroit, MI, March 4-7.
342. Vaidyanathan, R., C. Green, L. Brack, R. Cipriani, S. Yarlagadda, J. Gillespie, Jr., M. Effinger, K. Cooper, "Solid Freeform Fabrication of Continuous Fiber Reinforced C/ZrC and C/SiC Ceramic Matrix Composites," *26<sup>th</sup> Annual International Conference on Advanced Ceramics & Composites*, Cocoa Beach, FL, January 2002.
343. Foley, M. E., S. G. Advani, S. H. McKnight, J. W. Gillespie, Jr., "The Effect of Bundle Size on Tow Impregnation during Liquid Molding Processes," *7<sup>th</sup> Japan International SAMPE Symposium & Exhibition (JISSE-7)*, Tokyo, Japan November 13-16, 2001.

344. Cassity, P., D. Richards, and J. W. Gillespie Jr., "A 'Compositely Acting' FRP Deck and Girder System," High Performance Materials in Bridges and Buildings Conference, Kona, Hawaii, July 29-August 3, 2001 (also published in *Structural Engineering International*, May 2002).

**2001**

345. Thomas, G. E., J. Florence, T. L. Pike, J. W. Gillespie, Jr., S. Walsh, V. Brachos, T. L. Riley II, K. Peterson, "Manufacturing Technology Objective (MTO) Composite Advances for Ground Weapon Systems," presented at the *Defense Manufacturing Conference*, November 2001.
346. Mathur, R., D. Heider, S. G. Advani, S. Walsh, E. J. Rigas, K. Tackitt, M. Allende, B. K. Fink, J. W. Gillespie, Jr. "Experimentation and Modeling for the Investigation of Fast Remotely Actuated Channeling in the VARTM Process," *Proceedings of the 2001 International Mechanical Engineering Conference and Exposition*, New York, NY, November 11-16, 2001.
347. Gama, B. A., H. Li, W. Li, A. Paesano, D. Heider, J. W. Gillespie, Jr., "Improvement of Dimensional Tolerances During VARTM Processing," *Proceedings of the 33<sup>rd</sup> International SAMPE Technical Conference*, Seattle, WA, November 5-8, 2001.
348. Kim, H. J., S. Yarlagadda, J. W. Gillespie, Jr., N. B. Shevchenko, B. K. Fink, "Induction-Based Processing of Thermoplastic Carbon Fiber Laminates – A Numerical Study of Heat Generation of AS4/PEI Prepreg Stacks," *International Conference for Manufacturing of Advanced Composites*, Belfast, Northern Ireland, September 27-28, 2001.
349. Yoon, M. K., D. Heider, J. W. Gillespie, Jr., C. P. Ratcliffe, R. M. Crane, "Damage Localization in Composite Structures Using a Global Fitting Method on FRF Shapes," American Society for Composites, *16<sup>th</sup> Annual Technical Conference, of the American Society for Composites*, Virginia Tech, Blacksburg, VA, September 9-12, 2001.
350. Yoon, M-K., D. Heider, J. W. Gillespie, Jr., C. P. Ratcliffe, R. M. Crane, "Spatial Damage Detection in Composites Structures Using a Global Fitting Method on Curvature Operating Shapes," *16<sup>th</sup> Annual Technical Conference of the American Society for Composites*, Blacksburg, VA, September 9-12, 2001.
351. Heider, D. and J. W. Gillespie Jr., "Compaction Development during Vacuum-Assisted Resin Transfer Molding (VARTM)," *Proceedings of the 22<sup>nd</sup> International SAMPE Conference*, Paris, France, March 27-29, 2001.
352. Gama, B. A., S. Yarlagadda, T. A. Bogetti, B. K. Fink, and J. W. Gillespie Jr., "Repair of Composite Integral Armor," *Proceedings of the 46<sup>th</sup> International SAMPE Symposium*, Vol. 46, pp. 1174-1184, SAMPE, Long Beach Convention Center, Long Beach, CA, May 6-10, 2001.
353. Lombardi, J. L., G. Artz, R. Vaidyanathan, S. Yarlagadda, J. W. Gillespie, Jr., "A Water-Soluble Mandrel Material for Fabricating Complex Polymer Composite Components," *Proceedings of the 46<sup>th</sup> International SAMPE Symposium*, Vol. 46, pp. 1316-1319, SAMPE, Long Beach, CA. May 6-10, 2001.
354. Foley, M. E., A. Abu-Obaid, X. Huang, M. Tanoglu, T. A. Bogetti, S. H. McKnight, and J. W. Gillespie Jr., "Fiber/Matrix Interphase Characterization Using the Dynamic Interphase Loading Apparatus," presented at the *Seventh International Conference on Interfacial Phenomena in Composite Materials*, Arachon, France, September 2001.
355. Vaidyanathan, R., J. Walish, M. Fox, M. Rigali, R. Cipriani, S. Yarlagadda, J. W. Gillespie, Jr., and M. Effinger, "Solid Freeform Fabrication of Continuous Fiber Reinforced Composites for

- Propulsion Applications," presented at the *25th Annual Conference on Composites, Materials and Structures Restricted Sessions*, Cape Canaveral/Cocoa Beach, FL, January 22-25, 2001.
356. Gama, B. A., J. W. Gillespie Jr., T. A. Bogetti, and B. K. Fink, "Innovative Design and Ballistic Performance of Lightweight Composite Integral Armor," *Technology for the Army's Transformation*, SAE World Congress and Exposition 2001, SAE Technical Paper 2001-01-0888, Detroit, MI, March 5–8, 2001.
357. Ziaee, S., J. Brody, M. Tanoglu, and J. W. Gillespie Jr., "Effects of a Polyester Preforming Binder on Properties of E-Glass Fabric Reinforced Vinyl-Ester Composites," presented to American Society for Composites 16<sup>th</sup> Technical Conference, Blacksburg, VA, September 10-12, 2001.
358. Singletary, J., B. Gama, A. Bogdanovich, R. Coffelt, J. W. Gillespie Jr., "Ballistic Performance of 3-D Woven FRP in Integral Armor," American Society for Composites 16<sup>th</sup> Technical Conference, Blacksburg, VA, September 10-12, 2001.
359. Heider, D., S. Epple, and J.W. Gillespie, Jr., "Flow Rate Control During Vacuum-Assisted Resin Transfer Molding (VARTM) Processing," *Proceedings of the 46th International SAMPE Symposium*, Vol. 46, pp. 1061-1071, SAMPE, Long Beach Convention Center, Long Beach, CA, May 6-10, 2001.
360. Heider, D., A. Karamitsos, and J. W. Gillespie Jr., "Experimental Validation and Optimization of the FASTRAC Process," *Proceedings of the 22nd International SAMPE Conference*; Paris, France, March 27-29, 2001.
361. Lombardi, J. L., G. J. Artz, R. Vaidyanathan S. Yarlagadda, and J. W. Gillespie Jr., "A Water-Soluble Mandrel Material for Fabricating Complex Polymer Composite Components," 45<sup>th</sup> International SAMPE Exhibition and Symposium, Long Beach, CA, May 6-9, 2001.
362. Yarlagadda, S., D. Heider, J. Tierney, J. W. Gillespie Jr, N. B. Shevchenko, and B. K. Fink, "Rapid Automated Induction Lamination (RAIL) of Carbon/Thermoplastics: Process Optimization and Prove-Out," *Proceedings of the 22<sup>nd</sup> International SAMPE Europe Conference*, La Defense, Paris, France, March 27–29, 2001, pp. 193-206.
363. Yarlagadda, S., D. Heider, J. Tierney, J. W. Gillespie Jr, N. Shevchenko, B. K. Fink, J. Gerhard, E. Lynam, K. Beck, and H. Laudern, "Rapid Automated Induction Lamination (RAIL) of Carbon/Thermoplastics: Factory Implementation and Prove-Out," *Proceedings of 46<sup>th</sup> International SAMPE Symposium*, Vol. 46, pp. 886 – 897, SAMPE, Long Beach, CA, May 6–9, 2001.
364. Yoon, M-K., D. Heider, J. W. Gillespie Jr., C. P. Ratcliffe, and R. M. Crane, "Damage Localization Using the Two-Dimensional Gapped Smoothing Method," *Proceedings of 46<sup>th</sup> International SAMPE Symposium*, Vol. 46, pp. 752-764, SAMPE, Long Beach, CA, May 6–10, 2001.
365. Yoon, M-K., D. Heider, J. W. Gillespie Jr., C. P. Ratcliffe, and R. M. Crane, "Local Damage Detection Using a Global Fitting Method on Mode Shape Data," *Proceedings of the International Modal Analysis Conference*, Vol. 1, pp.231-237, IMAC XIX Kissimmee, FL, February 5–8, 2001.
- 2000**
366. Foley, M. E., A. Abu-Obaid, X. Huang, T. A. Bogetti, and J. W. Gillespie Jr., "Fiber/Matrix Interphase Characterization Using the Dynamic Interphase Loading Apparatus," presented at the International Symposium of Interfaces in Polymer Composites, Newark, NJ, December 1, 2000.

367. Sands, J. M., T. A. Bogetti, B. K. Fink, S. Yarlagadda, B. Gama, and J. W. Gillespie, Jr., "Induction-Assisted Repair of Multi-Functional Composite Armor," 5<sup>th</sup> DoD Composites Repair Workshop, Coeur d'Alene, ID, November 13-16, 2000.
368. Vaidyanathan, R., J. Walish, M. Fox, M. Rigali, R. Cipriani, S. Yarlagadda, J. W. Gillespie, Jr., and M. Effinger, "Solid Freeform Fabrication of Continuous Fiber Reinforced Composites for Propulsion Applications," presented at the 4th Conference on Aerospace Materials, Processes, and Environmental Technology (AMPET, Huntsville, AL), September 18-20, 2000.
369. Tanoglu, M., S. Ziaee, S. H. McKnight, J. W. Gillespie Jr., and G. R. Palmese, "Properties of Fiber-Matrix Interphases Formed Due to Glass Fiber Sizings," *Proceedings of International Conference on Composite Interfaces*, ICCI-VIII, Cleveland, OH, October 11-14, 2000.
370. Fecko, D. L., C. Carter, D. Heider, and J. W. Gillespie Jr., "Ultrasonic Inspection of Central Strength Member for Fiber-Optic Cable Applications," 49<sup>th</sup> International Wire and Cable Symposium, Atlantic City, NJ, November 13-16, 2000.
371. Pike, T. L., G. E. Thomas, J. W. Gillespie, Jr., and J. Florence, "MANTECH CAV Demonstration of Advanced Manufacturing Technologies for Ground Combat Vehicles," Defense Manufacturing Conference 2000, November 2000.
372. Yarlagadda, S., D. Heider, J. J. Tierney, J. W. Gillespie Jr., N. Shevchenko, and B. K. Fink, "Rapid Automated Induction Lamination (RAIL) for High-Volume Production of Carbon/Thermoplastic Laminates," submitted to Midwest Advanced Materials and Processing Conference/SAMPE-DOE-SPE Advanced Composites Conference & Exposition, Dearborn, MI, September 12-14, 2000.
373. Walsh, S. M., E. J. Rigas, W. A. Spurgeon, W. N. Roy, D. Heider, and J. W. Gillespie Jr., "A Non-Contact Distribution Scheme for Promoting and Controlling Resin Flow for VARTM Processes," *Proceedings of the 32<sup>nd</sup> International SAMPE Technical Conference*, SAMPE, Boston, MA, November 5-9, 2000.
374. Gama, B. A., T. A. Bogetti, B. K. Fink, and J. W. Gillespie Jr., "Processing, Ballistic Testing, and Repair of Composite Integral Armor," *Proceedings of the 32<sup>nd</sup> International SAMPE Technical Conference*, SAMPE, Boston, MA, November 5-9, 2000.
375. Chajes, M. J., Gillespie J. W. Jr., D. R. Mertz, H. W. Shenton III, and D.A. Eckel II, "Delaware's First All-Composite Bridge," ASCE Conference, Philadelphia, PA, 2000.
376. Cassity, P., D. Richards, and J. W. Gillespie Jr., "A 'Compositely Acting' FRP Deck and Girder System," to be published in the *Proceedings of the 17th Annual International Bridge Conference*, Bridges to The Future, Pittsburgh, PA, June 12-14, 2000.
377. Yu, Chin-Jye, T. D. Claar, H. H. Eifert, B. A. Gama, J. W. Gillespie Jr., T. A. Bogetti, and B. K. Fink, "Application of Porous Metal Foams in Hybrid Armor Systems," Explomet 2000, Albuquerque, New Mexico, June 19-23, 2000.
378. Gama, B. A., T. A. Bogetti, B. K. Fink, C-J Yu, H. H. Eifert, and J. W. Gillespie Jr., "Aluminum Foam Integral Armor: A New Dimension in Armor Design," presented at Symposium on Design and Manufacturing of Composite Structures," ASME International Mechanical Engineering Congress & Exhibition, November 5-10, 2000, Orlando, FL.
379. Ratcliffe, C. P., J. W. Gillespie Jr., D. Heider, D. A. Eckel II, and R. M. Crane, "Experimental Investigation into the Use of Vibration Data for Long-Term Monitoring of an All-Composite

- Bridge," Proceedings of SPIE 5th Annual International Symposium on Nondestructive Evaluation and Health Monitoring of Aging Infrastructure March 7-9, 2000, Newport Beach, CA.
380. Gama, B. A., T. A. Bogetti, B. K. Fink, H. Mahfuz, and J. W. Gillespie Jr., "Effect of Non-Linear Material Behavior on the Through-Thickness Stress Wave Propagation in Multi-Layer Hybrid Lightweight Integral Armor," *Proceedings of Advances in Computational Engineering and Sciences*, Los Angeles, CA, August 21-25, 2000.
381. Yarlagadda, S., H-J. Kim, J. W. Gillespie Jr., N. Shevchenko, and B. K. Fink, "Heating Mechanisms in Induction Processing of Carbon Fiber Reinforced Thermoplastic Prepreg," *Proceedings of SAMPE 2000, 45th International SAMPE Symposium and Exhibition*, Long Beach, CA, May 2000, pp. 79-89.
382. Kim, H-J., S. Yarlagadda, J. W. Gillespie Jr., D. Heider, N. Shevchenko, and B. K. Fink, "A Numerical Study on the In-plane Heating Patterns of Carbon Fiber Reinforced Composites," to be published in *Proceedings of the Ninth US-Japan Conference on Composite Materials*, Mishima, Shizuoka, Japan, July 3-4, 2000, pp. 117-124.
383. Heider, D. and J. W. Gillespie Jr., "Automation and Control of Large-Scale Composite Parts by VARTM Processing," *Proceedings of SAMPE 2000*, May 21-25, 2000, Long Beach, CA.
384. Yarlagadda, S., H-J. Kim, N. Shevchenko, B. K. Fink, and J. W. Gillespie Jr., "Heating Mechanisms in Induction Processing of Carbon Thermoplastic Prepreg," *Proceedings of SAMPE 2000*, May 21-25, 2000, Long Beach, CA.
385. Coppens, D. D., R. M. Crane, J. W. Gillespie Jr., and D. R. Rabeno, "Fire-Hardened Composites for Shipboard Structures," *Proceedings of SAMPE 2000*, May 21-25, 2000, Long Beach, CA.1999
386. Shenton III, H. W., M. J. Chajes, D. R. Mertz, and J. W. Gillespie, Jr., "Continuous, Long-Term Monitoring of Two Advanced Polymer Composite Bridges," *Proceedings of the ASCE Structures Congress*, Philadelphia, PA, May 2000.
- 1999**
387. Thomas, G. E., T. Pike, J. Florence, and J. W. Gillespie Jr., "Manufacturing Affordable Composite Structures for Ground Combat Vehicles," presented at Defense Manufacturing Conference, Miami Beach, FL, December 1-3, 1999.
388. Harik, V. M., J. R. Klinger, B. K. Fink, T. A. Bogetti, A. Paesano, and J. W. Gillespie Jr., "Low-Cycle Fatigue of Unidirectional Glass/Epoxy Composites," *Proceedings of Durability and Damage of Composite Materials and Structures*, ASME, Nashville, TN, November 14-19, 1999.
389. Tanoglu, M., S. H. McKnight, G. R. Palmese, and J. W. Gillespie Jr., "Characterization of the Fiber/Matrix Interphase Under High-Strain-Rates," *Interfacial Phenomena in Composite Materials 99*, Berlin, September 8-10, 1999.
390. Bogetti, T. A., B. K. Fink, H. Mahfuz, B. Gama, and J. W. Gillespie Jr., "Modeling and Simulation of the Dynamic Behavior of EPDM Rubber Under Stress Wave Loading," *Proceedings of the WSES/MIUE/HNA International Conference: Mathematics and Computers in Mechanical Engineering*, Miami, FL, July 25-29, 1999.
391. Jadhav, N. C., U. K. Vaidya, U. K., M. V. Hosur, J. W. Gillespie, Jr., and B. K. Fink, "Assessment of Flow and Cure Monitoring Using Direct Current and Alternating Current Sensing in Vacuum-Assisted Resin Transfer Molding," *MED-Vol.10*, ASME Manufacturing Science and Engineering,

- Sensors and Controls for Manufacturing, pp. 725-732, Ed. J. W. Sutherland, 1999 (presented at the 1999 ASME International Mechanical Engineering Congress and Exposition).
392. Vaidya, U. K., N. C. Jadhav, and J. W. Gillespie, Jr., "Influence of Through-the-Thickness Stitching on the High Strain Rate Impact Response of Resin-Infused S2-Glass/Epoxy Composites," *Proceedings of the American Society for Composites 14<sup>th</sup> Technical Conference*, edited by J. M. Whitney, pp.141-150, 1999 (September 27-29, 1999, Fairborn, Ohio).
393. Hosur, M. V., U. K. Vaidya, S. K. Jones, R. F. Eduljee, J. W. Gillespie, Jr., and S. Jeelani, "Activity-Based Cost Modeling of Liquid Molding Process Techniques for Thick-Section Composites," *Proceedings of the American Society for Composites 14<sup>th</sup> Technical Conference*, October 1999.
394. Soneji, J., C. Hu, M. Chaudhri, A. Faqiri, J. W. Gillespie Jr., D. A. Eckel II, D. R. Mertz, and M. J. Chajes, "Use of Glass-Fiber-Reinforced Composite Panels to Replace the Superstructure for Bridge 351 on N387A Over Muddy Run," 16th Annual International Bridge Conference, Pittsburgh, PA, June 14-16, 1999.
395. Jadhav, N. C., U. K. Vaidya, M. V. Hosur, J. W. Gillespie Jr., and B. K. Fink, "Flow and Cure Monitoring Using SMARTweave Sensing in Affordable Vacuum Assisted Resin Infusion Molding Process," *Proceedings of ASME Symposium on Sensors and Controllers for Manufacturing*, 1999 International Mechanical Engineering Congress and Exposition (IMECE), Nashville, TN, November 14-19, 1999.
396. Heider, D., A. Graf, B. K. Fink, and J. W. Gillespie Jr., "Feedback Control of the Vacuum-Assisted Resin Transfer Molding (VARTM) process," *Proceedings of the SPIE International Symposium on NDE Techniques for Aging Infrastructure and Manufacturing: Process Control and Sensors for Manufacturing*, Newport Beach, CA, March 3-5, 1999.
397. Tanoglu, M., S. H. McKnight, G. R. Palmese, and J. W. Gillespie Jr., "Glass/Epoxy Interphase Response Under High Loading Rates," ANTEC 99, New York, NY, May 3-7, 1999.
398. McKnight, S. H., S. Yarlagadda, B. K. Fink, and J. W. Gillespie Jr., "Magnetic Particle-Based Adhesive Systems for Composite Repair," ANTEC 99, New York, NY, May 2-6, 1999.
- 1998**
399. Heider, D., D. A. Eckel II, R. C. Don, B. K. Fink, and J. W. Gillespie Jr., "Process Monitoring During Manufacturing of Large-Scale Composite Parts," *Proceedings of the International Symposium on Intelligent Systems and Advanced Manufacturing*, SPIE, Boston, MA, November 1-6, 1998.
400. Fink, B. K., S. H. McKnight, and J. W. Gillespie Jr., "Co-Injection Resin Transfer Molding for Optimization of Integral Armor," *Proceedings of the 21st Army Science Conference: Science and Technology for Army After Next*, Norfolk, VA, June 15-17, 1998, winner of Paul A. Siple Memorial Award.
401. Fink, B. K., S. H. McKnight, J. W. Gillespie Jr., and S. Yarlagadda, "Ferromagnetic Nano-Particulate and Conductive Mesh Susceptors for Induction-Based Repair of Composites," *Proceedings of the 21st Army Science Conference: Science and Technology for Army After Next*, Norfolk, VA, June 15-17, 1998.
402. Naik, R. A., J. W. Gillespie Jr., and R. F. Eduljee, "Development of a Modified Tsai-Wu Criterion for Interlaminar Failure in Composite Laminates," *Proceedings of the Eighth Japan-US Conference on Composite Materials*, Technomic Publishing Company, Inc., Lancaster, PA, pp. 639-648, 1998.

403. Newton, C. H., J. W. Gillespie Jr., B. K. Fink, and G. L. Hagnauer, "Composite Database Prototype for MIL-HDBK-17 and General Army Applications," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 83-92, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
404. Wang, T., T. A. Bogetti, and J. W. Gillespie Jr., "Effects of Property Gradients on Non-Uniform Moisture Absorption in the Fiber/Matrix Interphase," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 371-389, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
405. Firko, J., S. Yarlagadda, B. K. Fink, and J. W. Gillespie Jr., "Optimization of Heat Generation in Induction Bonding Using Metal Mesh Susceptors," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 468-480, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
406. Heider, D. and J. W. Gillespie Jr., "The Automated Tow-Placement Process: Optimization and Quality Control," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 585-594, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
407. Tay, T. E., S. Yarlagadda, B. K. Fink, and S. H. McKnight, J. W. Gillespie Jr., S. Wells, "Application of Induction Heating to Accelerate Curing of Adhesives in Bonded Joints," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 605-618, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
408. Flores, F., T. A. Bogetti, B. K. Fink, D. Heider, and J. W. Gillespie Jr., "Experimental Investigation for Validation of the Thermo-Mechanical Response of Vinyl-Ester Resin," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 802-814, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
409. Huang, X., J. W. Gillespie Jr., T. A. Bogetti, B. K. Fink, D. Heider, and D. A. Eckel II, "Three-Dimensional and Multi-Domain Cure Simulation of VARTM Composite Structures," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 815-826, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
410. Tierney, J. J., S. Quirico, R.F. Eduljee, and J. W. Gillespie Jr., "Development of Material Quality During the Automated Tow-Placement Process," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 1467-1479, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
411. McKnight, G. P., K. R. Bernetich, J. W. Gillespie Jr., and R. M. Crane, "Manufacture and Testing of Multi-Layer Polyurethane and Epoxy Composites," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 1480-1490, A. J. Vizzini, ed., published by

- American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
412. Bernetich, K. R., J. W. Gillespie Jr., and B. K. Fink, "Improved Damage Tolerant Integral Armor Via Stitching and Co-Injection Resin Transfer Molding," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 1491-1497, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
413. Bogetti, T. A., M. A. Stone, B. K. Fink, and J. W. Gillespie Jr., "Thermo-Chemical and Thermo-Mechanical Characterization of Vinyl-Ester Resin," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 1657-1677, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
414. McKnight, G. P., K. R. Bernetich, J. W. Gillespie Jr., and R. M. Crane, "Flammability Performance of Multi-layer Phenolic/Vinyl Ester Composites Manufactured Using Co-Injection Resin Transfer Molding (CIRTM)," *Proceedings of the American Society for Composites Thirteenth Technical Conference (CD-ROM)*, pp. 1678-1687, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
415. Bernetich, K. R., B. K. Fink, and J. W. Gillespie Jr., "Ballistic Testing of Affordable Composite Armor," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 1821-1833, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
416. Gama, B., T. A. Bogetti, B. K. Fink, H. Mahfuz, and J. W. Gillespie Jr., "Study of Through-Thickness Wave Propagation in Multi-Layer Hybrid Lightweight Armor," *Proceedings of the American Society for Composites 13<sup>th</sup> Technical Conference (CD-ROM)*, pp. 1834-1848, A. J. Vizzini, ed., published by American Society for Composites, Los Angeles, CA, and distributed by Composites Research Laboratory, University of Maryland, College Park, MD, 1998.
417. Bernetich, K. R., G. P. McKnight, R. M. Crane, and B. K. Fink, and J. W. Gillespie Jr., "Co-injection Resin Transfer Molding of Vinyl Ester and Phenolic Composites," *Proceedings of the 43rd International SAMPE Symposium/Exhibition: Materials and Process Affordability—Keys to the Future*, SAMPE, Covina, CA, 1998.
418. Bradley, J. E., J. Diaz-Perez, B. K. Fink, and J. W. Gillespie Jr., "On-Line Process Monitoring and Analysis of Large Thick-Section Composite Parts Utilizing SMARTweave In-Situ Sensing Technology," *Proceedings of the 43rd International SAMPE Symposium/Exhibition: Materials and Process Affordability—Keys to the Future*, SAMPE, Covina, CA, 1998.
419. Heider, D., R. M. Foulk, and J. W. Gillespie Jr., "Adaptive Temperature Control for the Thermoplastic Tow-Placement System," *Proceedings of the 43rd International SAMPE Symposium/Exhibition: Materials and Process Affordability—Keys to the Future*, SAMPE, Covina, CA, 1998.
420. Tierney, J. J., R. F. Eduljee, and J. W. Gillespie Jr., "Control of Warpage and Residual Stresses during the Automated Thermoplastic Tow Placement Process," *Proceedings of the 43rd International SAMPE Symposium/Exhibition: Materials and Process Affordability—Keys to the Future*, SAMPE, Covina, CA, 1998.

421. Don, R. C., K. R. Bernetich, B. K. Fink, M. Louderback, and J. W. Gillespie Jr., "Large-Scale Implementation of Flow and Cure Sensing in a Thermoset Resin Infused Composite Structure," *Proceedings of the 43rd International SAMPE Symposium/Exhibition: Materials and Process Affordability—Keys to the Future*, SAMPE, Covina, CA, 1998.
422. Hansen, U. and J. W. Gillespie Jr., "Anisotropic Intralaminar Fracture Properties of Unidirectional Composites," *Proceedings of the 11th International Conference on Experimental Mechanics*, Oxford, UK, August 24-24, 1998.
423. Tanoglu, M., G. R. Palmese, S. H. McKnight, and J. W. Gillespie Jr., "Effects of a Low Modulus Interphase on the Single-Fragmentation of Carbon/Epoxy Composites," *Proceedings of ANTEC 98*, pp. 2346-2350, Society of Plastics Engineers, Brookfield, CT, 1998.
424. Bailey, K. J., N. L. McDowell, T. A. Bogetti, X. G. Huang, H. Mahfuz, and J. W. Gillespie Jr., "Cure Behavior of Thick-Section Thermoset Composite Laminates," *Proceedings of ANTEC 98*, Society of Plastics Engineers, Brookfield, CT, 1998.
425. Tierney, J. J., and J. W. Gillespie Jr., "Control of Warpage and Residual Stresses During the Automated Tow Placement Process," *Proceedings of ANTEC 98*, pp. 2356-60, Society of Plastics Engineers, Brookfield, CT, 1998.
426. Heider, D., M. J. Piovoso, and J. W. Gillespie Jr., "A Predictive Neural Network Controller for Thermoplastic Tow Placement," *Proceedings of ANTEC 98*, pp. 2366–2370, Society of Plastics Engineers, Brookfield, CT, 1998 (winner of Best Paper Award, Joining of Plastics & Composites Special Interest Group).
427. McKnight, S. H., B. K. Fink, S. Wells, S. Yarlagadda, and J. W. Gillespie Jr., "Accelerated Curing of Epoxy Paste Adhesives for Repair of Composites Using Induction Heating," *Proceedings of ANTEC 98*, Society of Plastics Engineers, Brookfield, CT, 1998.
428. Monib, A. M. and J. W. Gillespie Jr., "Damage Tolerance of Composite Laminates Subjected to Ballistic Impact," *Proceedings of ANTEC 98*, pp. 1463-67, Society of Plastics Engineers, Brookfield, CT, 1998.
429. Huang, X. G., T. A. Bogetti, and J. W. Gillespie Jr., "Cure-Dependent Micromechanics Model for Woven Fabric Thermoset Composites," *Proceedings of SECTAM XIX: Nineteenth Southeastern Conference on Theoretical and Applied Mechanics*, Deerfield Beach, FL, May 3-5, 1998.
430. Monib, A. M., X. Huang, B. K. Fink, G. E. Thomas, and J. W. Gillespie Jr., "Methods for Improving the Damage Tolerance of Thick-Section Composites," *Proceedings of SECTAM XIX: Nineteenth Southeastern Conference on Theoretical and Applied Mechanics*, Deerfield Beach, FL, May 3-5, 1998.
431. Hansen, U., and J. W. Gillespie Jr., "Dependence of Interlaminar Fracture Toughness on the Direction of Crack Propagation in Unidirectional Composites," *Proceedings of the 11th International Conference on Experimental Mechanics*, Oxford, UK, August 24-28, 1998.
432. Chajes, M. J., D. R. Mertz, H. Shenton, and J. W. Gillespie Jr., "Advanced Composite Bridges in Delaware," *Proceedings of ICCI '98*, Tucson, AZ, January 5-7, 1998.

**1997**

433. Bogetti, T. A., C. P. R. Hoppel, J. A. Newill, J. A. Elwood, and J. W. Gillespie Jr., "Moisture Diffusion in a Graphite/Epoxy Composite," *Proceedings of the American Society for Composites Twelfth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, 1997.

434. Yarlagadda, S., J. W. Gillespie Jr., and B. K. Fink, "Electromagnetic Fusion Bonding of Thermoplastic Composites Using Optimized Mesh Susceptors," *Proceedings of the Materials Research Society Meeting*, Boston, December 1997.
435. Heider, D., R. C. Don, and J. W. Gillespie Jr., "Model-Based Predictive Control for the Tow-Placement Technique," *Proceedings of QNDE*, San Diego, CA, August 27 - September 2, 1997.
436. Chajes, M. J., H. Shenton, D. R. Mertz, and J. W. Gillespie Jr., "Load Testing and Long-Term Monitoring of Advanced Composite Bridges," *Proceedings of Structural Faults + Repair-97: 7th International Conference and Exhibition*, Edinburgh, Scotland, July 8-10, 1997.
437. Chajes, M. J., H. Shenton, D. R. Mertz, and J. W. Gillespie Jr., "Structural Monitoring of an Advanced Composite Bridge," *Proceedings of U.S.-Canada-Europe Workshop on Bridge Engineering*, Zurich, Switzerland, July 14-15, 1997.
438. Gillio, E. F., R. F. Eduljee, B. K. Fink, S. G. Advani, and J. W. Gillespie Jr., "Manufacturing of Composites with the Co-Injection Process," *Proceedings of the 38th AIAA Structural Dynamics, and Materials Conference*, 1997.
439. Tierney, J. J., D. Heider, and J. W. Gillespie Jr., "Welding of Thermoplastic Composites Using the Automated Tow-Placement Process: Modeling and Control," *Proceedings of ANTEC 97*, pp. 1165-1170, Society of Plastics Engineers, Brookfield, CT, 1997.
440. Mertz, D. R., W. M. Edberg, N. Ammar, and J. W. Gillespie Jr., "Steel Girder Rehabilitation Through Adhesive Bonding of Composite Materials," *Proceedings of ANTEC 97*, pp. 1170-1175, Society of Plastics Engineers, Brookfield, CT, 1997.
441. Van Landingham, M. R., S. H. McKnight, G. R. Palmese, R. F. Eduljee, R. L. McCullough, and J. W. Gillespie Jr., "Characterization of Interphase Regions Using Atomic Force Microscopy," *Interfacial Engineering for Optimized Properties*, Materials Research Society, Pittsburgh, PA, Vol. 440, 1997, Vol. 458, pp. 313-318, 1997.
442. Van Landingham, M. R., S. H. McKnight, G. R. Palmese, T. A. Bogetti, R. F. Eduljee, and J. W. Gillespie Jr., "Relating Polymer Indentation Behavior to Elastic Modulus Using Atomic Force Microscopy," *Structure and Evolution of Surfaces*, Materials Research Society, Pittsburgh, PA, Vol. 440, 1997.
443. Monnard, V., P. E. Bourban, J.-A.E. Manson, D. A. Eckel II, S. H. McKnight, B. K. Fink, and J. W. Gillespie Jr., "Processing and Characterization of Welded Bonds Between Thermoset and Thermoplastic Composites," *Proceedings of the 18th SAMPE Europe/JEC International Conference and Exhibition: Technology and Material Needs for the Year 2000*, SAMPE, Covina, CA, 1997.

**1996**

444. England, K. M., B. K. Fink, and J. W. Gillespie Jr., "In-Situ Sensing of Viscosity by Direct Current Measurements," *Processing and Manufacturing of Advanced Materials and Structures*, T. J. Moon, et al., ASME International Mechanical Engineering Congress and Exposition, 1996.
445. Edberg, W. M., D. R. Mertz, and J. W. Gillespie Jr., "Rehabilitation of Steel Beams Using Composite Materials," *Proceedings of the ASCE Fourth Materials Engineering Conference*, 1996.
446. Heider, D., R. C. Don, and J. W. Gillespie Jr., "A Neural-Network-Based Control Method for the Fiber Tow Placement System," *Proceedings of the Society of Photo-Optical Instrumentation*

*Engineers Photonics East: International Symposium on Intelligent Systems and Advanced Manufacturing*, Boston, November 18-22, 1996.

447. Steiner, K. V., R. C. Don, and J. W. Gillespie Jr., "On-Line Process Control Issues for Automated Tow Placement of Thermoplastic Composites," *Processing and Manufacturing of Advanced Materials and Structures*, T. J. Moon, et al., eds., ASME International Mechanical Engineering Congress and Exposition, 1996.
448. Obst, A., R. F. Eduljee, and J. W. Gillespie Jr., "Effect of Complex Geometries on Fabric Distortion and Composite Performance," *Proceedings of the 11th DoD/NASA/FAA Conference on Fibrous Composites in Structural Design*, Fort Worth, TX, August 26-29, 1996.
449. Thomas, G. E., R. F. Eduljee, and J. W. Gillespie Jr., "An Affordable Weapon Station Through the Application of Six Sigma," *Proceedings of the 11th DoD/NASA/FAA Conference on Fibrous Composites in Structural Design*, Fort Worth, TX, August 26-29, 1996.
450. Carlsson, L. A. and J. W. Gillespie Jr., "Mode I, Mode II, and Mixed Mode Interlaminar Fracture of Woven Fabric Carbon/Epoxy," *Proceedings of the 13th Symposium on Composite Materials*, Orlando, FL, 1996.
451. Obst, A., M. R. VanLandingham, R. F. Eduljee, G. E. Griesheim, K. F. Tosi, and J. W. Gillespie Jr., "The Effect of Hygrothermal Cycling on the Microcracking Behavior of Fabric Laminates," *Proceedings of the 28th International SAMPE Technical Conference*, Vol. 28, pp. 994-1002, SAMPE, Covina, CA, 1996.
452. Edberg, W. M., D. R. Mertz, and J. W. Gillespie Jr., "Rehabilitation of Steel Bridge Girders Using Composite Materials," *Proceedings of the 28th International SAMPE Technical Conference*, SAMPE, Covina, CA, 1996.
453. Heider, D., J. E. Bradley, R. C. Don, and J. W. Gillespie Jr., "An Advanced Control Method for Thermoplastic Tow Placement," *Proceedings of the Second Conference on Nondestructive Evaluation Applied to Process Control of Composite Fabrication*, St. Louis, MO, October 1-2, 1996.
454. Tackitt, K. D., J. N. Caron, J. W. Gillespie Jr., and J. B. Mehl, "High Temperature Measurements of Ultrasonic Wave Speed Using a Laser Ultrasonic Technique," *Proceedings of ANTEC 96*, Society of Plastics Engineers, Brookfield, CT, 1996.
455. Immordino, K. M., S. H. McKnight, and J. W. Gillespie Jr., "In Situ Evaluation of the Diffusion of Epoxy and Amine in Thermoplastic Polymers," *Proceedings of ANTEC 96*, Society of Plastics Engineers, Brookfield, CT, 1996.
456. Rajagopalan, G., S. H. McKnight, and J. W. Gillespie Jr., "Interdiffusion in a Poly-aryl-ether-ether-ketone (PEEK)/Epoxy System," *Proceedings of ANTEC 96*, Society of Plastics Engineers, Brookfield, CT, 1996.
457. Rajagopalan, G., K. M. Immordino, and J. W. Gillespie Jr., "Adhesive Selection Methodology for Bridge Infrastructure Rehabilitation Schemes," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
458. Mertz, D. R., K. Kasai, W. M. Edberg, J. R. Demitz, I. C. Hodgson, and J. W. Gillespie Jr., "Rehabilitation of Steel Bridge Girders: Large-Scale Testing," *Proceedings of the American*

- Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
459. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr., "Devices for Transmitting High Shear Loads in Composite Structures," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
460. Stone, M. A., B. K. Fink, T. A. Bogetti, and J. W. Gillespie Jr., "Thermo-Chemical Characterization of S2 Glass/Vinyl Ester Composites," *Proceedings of the American Society for Composites Eleventh Technical Conference*, 1996, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
461. Rajagopalan, G., K. M. Immordino, S. H. McKnight, and J. W. Gillespie Jr., "Characterization and Fracture Toughness of Diffuse Adhesive Interphases," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
462. Van Landingham, M. R., S. H. McKnight, G. R. Palmese, R. F. Eduljee, R. L. McCullough, and J. W. Gillespie Jr., "Relating Elastic Modulus to Indentation Response Using Atomic Force Microscopy," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, pp. 635-645, 1996.
463. Heider, D., R. C. Don, and J. W. Gillespie Jr., "A Neural Network Approach to Robotic Thermoplastic Tow Placement Process Control," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
464. Tierney, J. J., R. F. Eduljee, and J. W. Gillespie Jr., "Residual Stress and Warpage Development During the Automated Fiber Placement Process," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Omni Hotel, Atlanta, GA, October 7-9, 1996, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
465. Tackitt, K. D. and J. W. Gillespie Jr., "Through-Transmission Ultrasonics for Process Monitoring of Thermoplastic Fusion Bonding," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
466. Huang, X. G., T. A. Bogetti, and J. W. Gillespie Jr., "Assessing Thermal Residual Stress in Integral Hybrid Composite Armor," *Proceedings of the American Society for Composites Eleventh Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1996.
467. Immordino, K. M., S. H. McKnight, and J. W. Gillespie Jr., "Characterization of Polysulfone-Epoxy/Amine Interphase for Bonding Thermoplastic Composites," *Proceedings of the 19th Annual Meeting of the Adhesion Society*, 1996.
468. Gillespie, J. W. Jr., D. R. Mertz, W. M. Edberg, K. Kasai, and I. Hodgson, "Rehabilitation of Steel Bridges with Composite Materials," *Recent Advances in Bridge Engineering, Proceedings of the US-Europe Workshop on Bridge Engineering*, pp. 556-569, 1996.

**1995**

469. Fink, B. K., S. M. Walsh, D. C. DeSchepper, R. L. McCullough, R. C. Don, B. J. Waibel, and J. W. Gillespie Jr., "Advances in Resin Transfer Molding Flow Monitoring Using SMARTweave Sensors," *Proceedings of the ASME Materials Division*, Vol. 69-2, pp. 999-1015, 1995.
470. Van Landingham, M. R., R. F. Eduljee, and J. W. Gillespie Jr., "Hygrothermal Effects on the Material Properties and Behavior of Thermoplastic Polyimide Composites," *Proceedings of the*

- American Society for Composites Tenth Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, pp. 523-533, 1995.
471. Tierney, J. J., R. F. Eduljee, and J. W. Gillespie Jr., "Material Response During Robotic Tow Placement of Thermoplastic Composites," *Proceedings of the 11th Annual Advanced Composites Conference*, November 1995, pp. 315-329.
472. Fecko, D. L., K. V. Steiner, R. C. Don, R. Pitchumani, and J. W. Gillespie Jr., "Porosity Modeling for the Thermoplastic Matrix Pultrusion Process," *Proceedings of the 11th Annual Advanced Composites Conference*, pp. 189-201, 1995.
473. Kedward, K. T., O. Ochoa, S. Tsai, and J. W. Gillespie Jr., "Technology Developments in Support of the ACP Program," *Proceedings of the Sixth NASA/DOD/ARPA Advanced Composites Technology Conference*, 1995.
474. Fecko, D. L., D. Heider, K. V. Steiner, and J. W. Gillespie Jr., "In-Process Non-destructive Evaluation of the Pultrusion Process," *Proceedings of the 1995 NDE of Aging Infrastructure Conference of the International Society for Optical Engineering*, 1995.
475. Steiner, K. V., B. M. Bauer, R. Pitchumani, and J. W. Gillespie Jr., "Experimental Verification of Modeling and Control for Thermoplastic Composite Tape Placement," *Proceedings of the 40th International SAMPE Conference*, 1550-1559, 1995.
476. McKnight, S. H., R. C. Don, M. Scott, A. Braem, and J. W. Gillespie Jr., "Experimental Investigation of Diffusion Enhanced Adhesive Bonding for Thermoplastic Composites," *Proceedings of ANTEC 95*, Society of Plastics Engineers, Brookfield, CT, 1995.
477. Tackitt, K. D., C. A. Butler, R. C. Don, J. W. Gillespie Jr., and R. L. McCullough, "Assessment of Through Transmission Ultrasonics for the Detection of Intimate Contact During Bonding," *Proceedings of ANTEC 95*, Society of Plastics Engineers, Brookfield, CT, 1995.
478. Karamuk, E., E. D. Wetzel, and J. W. Gillespie Jr., "Modeling and Design of Induction Bonding Process for Infrastructure Rehabilitation with Composite Materials," *Proceedings of ANTEC 95*, Society of Plastics Engineers, Brookfield, CT, 1995.
479. McKnight, S. H. and J. W. Gillespie Jr., "Silane Coupling Agents as Adhesion Promoters for Bonding Thermoplastic Polymers to Aluminum," *Proceedings of the 18th Annual Meeting of the Adhesion Society*, 1995.
480. Hansen, U. and J. W. Gillespie Jr., "Prediction of Transverse Cracking in Cross-Ply Laminates with Resin-Rich Interlaminar Layers: A Variational Approach," *Proceedings of ENERCOMP 95: International Conference on Composite Materials and Energy*, pp. 103-110, 1995.
481. Morin, S. F., R. F. Eduljee, X. Huang, R. J. Rothschilds, S. Stanek, and J. W. Gillespie Jr., "Microcracking Behavior of Carbon Fiber/Bismaleimide Resin Composite Laminates Under Fatigue Loading," *Proceedings of ENERCOMP 95: International Conference on Composite Materials and Energy*, pp. 243-251, 1995.
482. McKnight, S. H. and J. W. Gillespie Jr., "Non-Chromate Surface Treatments of Aluminum for Adhesive Bonding to Composite Materials," *Proceedings of ENERCOMP 95: International Conference on Composite Materials and Energy*, pp. 364-372, 1995.
483. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr., "Use of Ultrasonic Lamb Waves for In-Process Porosity Inspection of the Pultrusion Process: Theoretical Velocity Calculations," *Review of Progress in Quantitative Nondestructive Evaluation*, 1995.

**1994**

484. Wetzel, E. D., R. C. Don, and J. W. Gillespie, Jr., "Modeling Thermal Degradation During Thermoplastic Fusion Bonding of Thermoset Composites," *Proceedings of the 52<sup>nd</sup> Annual Technical Conference (ANTEC '94) (1)*, pp. 1263-1268, 1994.
485. Shulley, S. B., X. G. Huang, V. M. Karbhari, and J. W. Gillespie Jr., "Fundamental Considerations of Design and Durability in Composite Rehabilitation Schemes for Steel Girders with Web Distress," *Proceedings of the 1994 ASCE Conference*, San Diego, CA, 1994.
486. McKnight, S. H., P-E. Bourban, V. M. Karbhari, and J. W. Gillespie Jr., "Surface Preparation of Steel for Adhesive Bonding in Rehabilitation Applications," *Proceedings of the 1994 ASCE Conference*, San Diego, CA, 1994.
487. Tackitt, K. D., R. C. Don, and J. W. Gillespie, Jr., "Modeling Through-Transmission Ultrasonics for Controlling the Fusion Bonding of Composites," *Proceedings of the 21st Annual Review of Progress in Quantitative NDE*, Snowmass, CO, July 31 - August 5, 1994.
488. Don, R. C., S. H. McKnight, and J. W. Gillespie Jr., "A Study of Improved Bonding Techniques for High Performance Thermoplastic Composites," *Proceedings of the 10th Annual ASM/ESD Advanced Composites Conference*, November 7-10, 1994.
489. McKnight, S. H., P. E. Bourban, and J. W. Gillespie Jr., "The Role of Surface Preparation on the Performance of Metal to Polymer Adhesive Joints," *Proceedings of the 10th Annual ASM/ESD Advanced Composites Conference* (selected as Best Paper in the Body/Fuselage session), November 7-10, 1994.
490. Tackitt, K. D., R. C. Don, and J. W. Gillespie Jr., "A Model for the Transmission of Ultrasound During the Fusion Bonding of Composites," *Proceedings of the 10th Annual ASM/ESD Advanced Composites Conference*, November 7-10, 1994.
491. Butler, C. A., R. Pitchumani, J. W. Gillespie Jr., R. L. McCullough, and A. R. Wedgewood, "Coupled Effects of Healing and Intimate Contact During Thermoplastic Fusion Bonding," *Proceedings of the 10th Annual ASM/ESD Advanced Composites Conference*, 595-604, 1994.
492. McKnight, S. H., T. P. Skourlis, J. W. Gillespie Jr., and R. L. McCullough, "FTIR-ATR Characterization of Polymer/Polymer Interphases in the Vicinity of a Solid Interface," *Proceedings of the American Society for Composites Ninth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, 1994.
493. Hoppel, C. P. R., T. A. Bogetti, V. M. Karbhari, and J. W. Gillespie Jr., "Analysis of a Concrete Cylinder with a Composite Hoop Wrap," *Proceedings of the 1994 ASCE Conference—Infrastructure: New Materials and Methods for Repair*, San Diego, CA, 1994.
494. Bourban, P. E., S. H. McKnight, S. B. Shulley, V. M. Karbhari, and J. W. Gillespie Jr., "Durability of Steel-Composite Joints for Steel Rehabilitation," *Proceedings of the 1994 ASCE Conference—Infrastructure: New Materials and Methods for Repair*, San Diego, CA, 1994.
495. Bourban, P. E., E. Karamuk and R. C. Don, and J. W. Gillespie Jr., "Induction Heating for Rehabilitation of Steel Structures Using Composites," *Proceedings of the 1994 ASCE Conference—Infrastructure: New Materials and Methods for Repair*, San Diego, CA, 1994.
496. Pitchumani, R., R. C. Don, S. Ranganathan, and J. W. Gillespie Jr., "Effects of Processing Conditions on Void Growth During Thermoplastic Fiber Placement," *Proceedings of the*

- Mechanics of Materials Processing and Manufacturing*, T. J. Moon and M. G. Nejhad eds., ASME-AMD-194, pp. 71-87, 1994.
497. Butler, C. A., R. L. McCullough, A. R. Wedgewood, and J. W. Gillespie Jr., "Interaction Between Healing and Intimate Contact During Fusion Bonding of Thermoplastic Composite Materials," *Proceedings of the American Institute of Chemical Engineers, AIChE*, 1994.
498. Pitchumani, R., R. C. Don, S. Ranganathan, and J. W. Gillespie Jr., "Analysis of On-line Consolidation During the Thermoplastic Tow Placement Process," *Proceedings of the Heat and Mass Transfer in Composites Processing*, ASME-HTD-289, pp. 223-234, 1994.
499. Steiner, K. V., R. F. Eduljee, X. Huang, and J. W. Gillespie Jr., "Ultrasonic NDE Techniques to Evaluate Matrix Cracking in BMI Composite Laminates," *Proceedings of the Mesostructures & Mesomechanics in Fibre Composites*, Toronto, Ontario, May 16-17, 1994.
500. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr., "A Novel Approach to Visualization of Acousto-Ultrasound Data," *Proceedings ANTEC 94*, Society of Plastics Engineers, Brookfield, CT, 1994.
501. Holmes, S. T. and J. W. Gillespie Jr., "Application of an Integrated Process Model for Resistance Welding of Thermoplastic Composites," *Proceedings of ANTEC 94*, San Francisco, CA, May 1-5, 1994.
502. Wetzel, E. D., R. C. Don, J. W. Gillespie Jr., C. E. Schmidt, and A. McIntire, "Application of Thermoplastic Resistance Welding Techniques to Thermoset Composites," *Proceedings ANTEC 94*, Society of Plastics Engineers, Brookfield, CT, 1994 (selected for reprint in SPE book *The Best of Thermosets II*).
503. Wetzel, E. D., R. C. Don, J. W. Gillespie Jr., C. E. Schmidt, and A. McIntire, "Thermal Degradation During the Welding of Thermoset Composites Using Thermoplastic Adhesives," *Proceedings of ANTEC 94*, San Francisco, CA, May 1-5, 1994.
504. McBride, M. G., S. H. McKnight, and J. W. Gillespie Jr., "Joining of Short Fiber Glass Reinforced Polypropylene Using Resistance Heated Fusion Bonding," *Proceedings of ANTEC 94*, Society of Plastics Engineers, Brookfield, CT, 1994.
505. Faude, E. C., K. V. Steiner, R. C. Don, and J. W. Gillespie Jr., "Cut and Refeed Mechanisms and Control for a Robotic Thermoplastic Tape Placement Head," *Proceedings of the 39th International SAMPE Symposium*, SAMPE, Covina, CA, 1994.
506. Holmes, S. T., R. C. Don, and J. W. Gillespie Jr., "Development of an Integrated Process Model for Resistance Welding of Thermoplastic Composites," *Proceedings of the 39th International SAMPE Symposium*, SAMPE, Covina, CA, 1994.
507. Don, R. C., S. T. Holmes, and J. W. Gillespie Jr., "Simulation of the Transients in Thermoplastic Fiber Placement," *Moving Forward with 50 Years of Leadership in Advanced Materials*, International SAMPE Series, Vol. 39, No. 1, pp. 1521-1535, 1994.
508. McKnight, S. H., J. W. Gillespie Jr., and C. L. T. Lambing, "Durability Evaluation of Non-Chromate Based Aluminum Surface Treatments for Bonding with Polypropylene," *Proceedings of the 39th International SAMPE Symposium*, SAMPE, Covina, CA, 1994.
509. Chao, M. and J. W. Gillespie Jr., "The Influence of Healing and Bondline Thickness on the Mechanical Performance of Fusion-Bonded Thermoplastic Composite Joints," *Proceedings of the 39th International SAMPE Symposium*, SAMPE, Covina, CA, 1994.

510. Pillai, V., A. N. Beris, P. S. Dhurjati, and J. W. Gillespie Jr., "Integrated Simulation, Optimization and Control of Autoclave Curing of Thick Laminated Composites," *Proceedings of CADCOMP 94, Computer-Aided Design in Composite Material Technology*, Southampton, U. K., W. R. Blain and W. P. de Wilde (eds.), pp. 295-302, 1994.
511. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr., "Attenuation of Ultrasonic Energy in Composite Materials Due to Scattering," *Review of Progress in Quantitative Nondestructive Evaluation*, Vol. 12B, edited by D. O. Thompson and D. E. Chimenti, Plenum Press, New York, NY, 1994.

**1993**

512. Huang, X. G., S. Morin, R. F. Eduljee, and J. W. Gillespie Jr., "Experimental Tests of Matrix Cracking by Acoustic Emission, Ultrasonic C-Scan and Replica Tape Techniques," *Proceedings of the 25th International SAMPE Technical Conference*, October 1993.
513. Shanker, R., S. I. Güçeri, and J. W. Gillespie Jr., "Computer Simulation of Hydrodynamic Interactions in Fiber Suspensions," *Proceedings of the Symposium on Developments in Non-Newtonian Flows*, ASME Winter Annual Meeting, New Orleans, November 28–December 3, 1993.
514. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr., "Acousto-Ultrasonic Inspection of Pultruded Composites," *Proceedings of the 25th International SAMPE Technical Conference*, pp. 1189-1195, October 1993.
515. Sasdelli, M. A., V. M. Karbhari, and J. W. Gillespie Jr., "Experimental Characterization of RTM Composites with Molded-In Inserts," *Proceedings of the 25th International SAMPE Technical Conference*, October 1993.
516. Burcham, L. J., R. F. Eduljee, J. W. Gillespie Jr., C. L. Loechelt, S. Stanek, and R. J. Rothschilds, "Thermal Aging Effects on Microcracking Behavior in Bismaleimide Composites," *Proceedings of the 25th International SAMPE Technical Conference*, SAMPE, Covina, CA, 1993.
517. McKnight, S. H., M. G. McBride, and J. W. Gillespie Jr., "Joining of Polypropylene and Aluminum: Evaluation of Environmental Durability," *Proceedings of the 25th International SAMPE Technical Conference*, SAMPE, Covina, CA, 1993.
518. Don, R. C., S. T. Holmes, and J. W. Gillespie Jr., "Integrated Process Models for Control of On-line Consolidation on a Thermoplastic Tow Placement Robotic Workstation," *Proceedings of the 25th International SAMPE Technical Conference*, SAMPE, Covina, CA, 1993.
519. Holmes, S. T. and J. W. Gillespie Jr., "Thermal Analysis and Experimental Investigation of Large-Scale Resistance Welded Thermoplastic Composite Joints," *Proceedings of the 25th International SAMPE Technical Conference*, SAMPE, Covina, CA, 1993.
520. Sasdelli, M. A., V. M. Karbhari, and J. W. Gillespie Jr., "Finite Element Analysis of RTM Components Incorporating Inserts," *Proceedings of the Eighth Technical Conference for Composite Materials, American Society for Composites*, SAMPE, Covina, CA, 1993.
521. McKnight, S. H., P. Franco, and J. W. Gillespie Jr., "Strength and Durability of Polypropylene and Aluminum Single-Lap Joints," *Proceedings of the American Society for Composites Eighth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, 1993.
522. Andersen, S. M., D. D. Coppens, R. M. Crane, D. Loup, and J. W. Gillespie Jr., "Design of an Energy Absorbing Composite Cylinder Joint for Pressure-Hull Applications," *Proceedings of the*

- American Society for Composites Eighth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, pp. 624-639, 1993.
523. Huang, X. G. and J. W. Gillespie Jr., "Fracture Test and Prediction of High-Speed Civil Transport Composite Materials at Service Temperatures," *Proceedings of the American Society for Composites Eighth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, 1993.
524. Bogetti, T. A., M. A. Lamontia, and J. W. Gillespie Jr., "The Influence of Ply Waviness with Nonlinear Shear on the Stiffness and Strength Reduction of Composite Laminates," *Proceedings of the 1st Joint SES/ASME/ASCE Symposium: Mechanics of Composite Materials—Nonlinear Effects*, AMD-Vol. 159, pp. 163-172, Charlottesville, VA, 1993.
525. McKnight, S. H., P. Franco, and J. W. Gillespie Jr., "Welding of Composites for Automotive Applications," *Proceedings of the 1993 SEM 50th Spring Conference on Experimental Mechanics*, pp. 171-180, Dearborn, MI, 1993.
526. Howie, I. and J. W. Gillespie Jr., "Resistance Welding of PAS/PS Thermoplastic Composite Structural Components," *Proceedings of ANTEC 93*, Society of Plastics Engineers, Brookfield, CT, 1993.
527. Andersen, S. M. and J. W. Gillespie Jr., "Design, Testing and Failure Analysis of a Composite-Aluminum Cylinder Joint for Pressure Hull Applications," *Proceedings of ANTEC 93*, Society of Plastics Engineers, Brookfield, CT, 1993.
528. Holmes, S. T., S. H. McKnight, and J. W. Gillespie Jr., "Large-Scale Bonding of PAS/PS Thermoplastic Composite Structural Components Using Resistance Welding," *Proceedings of ANTEC 93*, Society of Plastics Engineers, Brookfield, CT, 1993.
529. Tackitt, K. D., R. C. Don, S. T. Holmes, and J. W. Gillespie Jr., "Through-Transmission Ultrasonic Sensing for Process Control of the Fusion Bonding of Thermoplastic Composites," *Proceedings of ANTEC 93*, Society of Plastics Engineers, Brookfield, CT, 1993.
530. McKnight, S. H., S. T. Holmes, C. L. T. Lambing, J. M. Marinelli, and J. W. Gillespie Jr., "Resistance Heated Fusion Bonding of Carbon Fiber/PEEK Composites and 7075-T6 Aluminum," *Proceedings of ANTEC 93*, Society of Plastics Engineers, Brookfield, CT, 1993
- 1992**
531. Nejhad, G. M. N., J. W. Gillespie Jr., and R. D. Cope, "Prediction of Process-Induced Residual Stresses for In-situ Thermoplastic Filament Winding of Cylinders," *Proceedings of the Third International Conference on Computer-Aided Design in Composite Material Technology: CADCOMP 92*, pp. 225-253, 1992.
532. Sasdelli, M. A., V. M. Karbhari, and J. W. Gillespie Jr., "The Design and Use of Molded-in Inserts and Attachments in Resin Transfer Molding," *Proceedings of the 8th Annual ASM/ESD Advanced Composites Conference*, Chicago, IL, November 1992.
533. Nejhad, M. N., R. D. Cope, and J. W. Gillespie Jr., "Processing Stresses for In-situ Thermoplastic Filament Winding Using the Divergence Method," *Proceedings of the 1992 ASME Winter Annual Meeting*, Heat Transfer Effects in Materials Processing, HTD-Vol. 223, pp. 33-43, 1992.
534. Andersen, S. M. and J. W. Gillespie Jr., "Design, Analysis and Hydrotesting of a Composite Cylinder Joint for Pressure-Hull Applications," *Proceedings of the Seventh American Society for Composites Technical Conference for Composite Materials*, Technomic Publishing, Co., Inc., Lancaster, PA, 1992.

535. Holmes, S. T. and J. W. Gillespie Jr., "Thermal Analysis for Resistance Welding of Large-Scale Components," *Proceedings of the Seventh Technical Conference for Composite Materials*, Technomic Publishing, Co., Inc., Lancaster, PA, 1992.
536. Lamontia, M. A., M. B. Gruber, M. A. Smoot, J. G. Sloan, and J. W. Gillespie Jr., "Design, Manufacture and Testing of an AS-4 Graphite/PEEK Thermoplastic Composite 24-inch Ring-Stiffened Cylinder Model," *Proceedings of the Submarine Technology Symposium*, The Johns Hopkins University Applied Physics Laboratory, 1992.
537. Fink, B. K., J. W. Gillespie Jr., and R. L. McCullough, "Induction Heating of Cross-Ply Carbon Fiber Thermoplastic Composites," *Proceedings of ANTEC 92*, Society of Plastics Engineers, Brookfield, CT, 1992.
538. Karbhari, V. M., J. W. Gillespie Jr., and D. S. Kukich, "Composites for Offshore Applications: A Multidisciplinary Education Program for the Marine Industry," *Proceedings of Civil Engineering in the Oceans V*, 1992.
539. Ortona, A., L. D'Antonio, C. Sabatino, and J. W. Gillespie Jr., "Monitoring the Resistance Welding of Thermoplastic Composites Through Acoustic Emission," *Proceedings of the Fourth International Symposium on Acoustic Emission from Composite Materials*, 1992.
540. Chapman, T. J. and J. W. Gillespie Jr., "The Influence of Material, Geometric and Processing Variables on Residual Stresses and Performance of Thermoplastic Composites," *Proceedings of the Society of Experimental Mechanics*, 1992.
541. Ghasemi Nejjhad, M. N. and J. W. Gillespie Jr., "Prediction of Process-Induced Stresses for In-situ Thermoplastic Composite Filament Wound Cylinders," *Proceedings of CADCOMP 92: Third International Conference on Computer Aided Design in Composite Material Technology*, 1992.
542. Roychowdhury, S. and S. G. Advani, "Modeling of Void Formation in Thermoplastic Composite Processing," *Proceedings of CADCOMP 92: Third International Conference on Computer Aided Design in Composite Material Technology*, 1992.
543. Shanker, R., J. W. Gillespie Jr., and S. I. Güçeri, "Computer Simulation of Hydrodynamic Interactions in Fiber Suspension," *Proceedings of CADCOMP 92: Third International Conference on Computer Aided Design in Composite Material Technology*, 1992.

**1991**

544. Holmes, S. T., J. W. Gillespie Jr., and C. L. T. Lambing, "Development of an Automated Resistance Welding Process for Joining Thermoplastic Composites," *Proceedings of the 36th International SAMPE Symposium and Exhibitions*, SAMPE, Covina, CA, 1991.
545. Gillespie, J. W. Jr., "Influence of Layer Waviness on Stiffness and Strength of Fiber Reinforced Composite Laminates," *Proceedings of the Fiber Producers Conference*, 1991.
546. Ortona, A., S. T. Holmes, J. W. Gillespie Jr., and K. V. Steiner, "On-line Sensing of the Resistance Welding Process for Thermoplastic Composites Using Acoustic Emission," *Proceedings of the American Society for Composites Sixth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, 1991.
547. Fink, B. K., J. W. Gillespie Jr., and R. L. McCullough, "Heating of Continuous Carbon Fiber Thermoplastic Composites by Magnetic Induction," *Proceedings of the Third DOD/NASA Repair Technology Workshop*, 1991.

548. Lambing, C. L. T., S. T. Holmes, R. C. Don, S. M. Andersen, B. S. Leach, and J. W. Gillespie Jr. "Design and Manufacture of an Automated Resistance Welder," *Proceedings of ANTEC 91*, Society of Plastics Engineers, Brookfield, CT, 1991.
549. T. A. Bogetti, J. W. Gillespie Jr., and M. A. Lamontia, "Influence of Ply Waviness and Residual Stress on Hydrostatic Collapse Pressure of Filament Wound Composite Cylinders," *Proceedings of the 45th Meeting of the Mechanical Failures Prevention Group*, Office of Naval Research, David Taylor Research Center, Naval Civil Engineering Laboratory and The Vibration Institute, Annapolis, MD, 1991.

**1990**

550. L. J. Bastien, I. Howie, R. C. Don, S. T. Holmes, J. W. Gillespie Jr., and C. L. T. Lambing, "Manufacture and Performance of Resistance Welded Graphite Reinforced Thermoplastic Composite Structural Elements," *Proceedings of Fabricating Composites '90 SME Conference*, 1990.
551. Crane, R. M. and J. W. Gillespie Jr., "Effect of Vibration Amplitude and Frequency on the Vibration Damping Loss Factor of Glass/Epoxy Composites," *Proceedings of the Sixth Annual ASM/ESD Advanced Composites Conference, Composites for Noise and Vibration Control*, 1990.
552. Shanker, R., J. W. Gillespie Jr., and S. I. Güçeri, "The Simulation of Non-Affine Motion of Fibers in Suspensions," *Proceedings of the 1990 ASME Winter Annual Meeting*, 1990.
553. W. E. Lawrence, J-A. E. Manson, R. B. Pipes, J. W. Gillespie Jr., and J. C. Seferis, "Prediction of Residual Stress in Continuous Fiber Thermoplastic Composites: A Kinetic Viscoelastic Approach," *Proceedings of the American Society for Composites Fifth Technical Conference*, pp. 401-414, Technomic Publishing Co., Inc., Lancaster, PA, 1990.
554. Trethewey, B. R. J. W. Gillespie Jr., and D. J. Wilkins, "Interlaminar Performance of Tapered Laminates," *Proceedings of the American Society for Composites Fifth Technical Conference*, pp. 361-372, Technomic Publishing Co., Inc., Lancaster, PA, 1990.
555. Bastien, L. J., J. W. Gillespie Jr., and C. L. T. Lambing, "Strength Prediction of Semicrystalline Thermoplastic Composite Joints Using Dual Film Technology," *Proceedings of the American Society for Composites Fifth Technical Conference*, Technomic Publishing Co., Inc., Lancaster, PA, pp. 59-70, 1990.
556. Martin, L. P., T. A. Bogetti, and J. W. Gillespie Jr., "Influence of Cure Shrinkage on Processing-Induced Stress and Deformation in Thick Thermosetting Composites," *Proceedings of the American Society for Composites Fifth Technical Conference*, pp. 415-436, Technomic Publishing Co., Inc., Lancaster, PA, 1990.
557. Bastien, L. J., J. W. Gillespie Jr., and R. C. Don, "Processing and Performance of Resistance Welded Thermoplastic Composites," *Proceedings of the 45th Annual Conference Composites Institute (SPI)*, February 1990 (selected as the Best Advanced Composites Paper).
558. Bogetti, T. A. and J. W. Gillespie Jr., "Residual Stress and Deformation in Thick Laminated Composites Undergoing Chemical Hardening and Shrinkage," *Proceedings of the 45th Annual Conference of the Composites Institute (SPI)*, Washington, DC, February 1990.

**1989**

559. Shanker, R., J. W. Gillespie Jr., and S. I. Güçeri, "Flow Induced Fiber Orientation in Nonhomogeneous Flow Fields," *Proceedings of the ASME Winter Annual Meeting*, San Francisco, CA, December 1989.
560. Bogetti, T. A. and J. W. Gillespie Jr., "Process-Induced Stress and Deformation in Thick-Section Thermosetting Composites," *Proceedings of the 21st International SAMPE Technical Conference*, pp. 947-995, SAMPE, Covina, CA, 1989.
561. Don, R. C., L. J. Bastien, J. W. Gillespie Jr., and T. Jakobsen, "Fusion Bonding of Thermoplastic Composites by Resistance Heating," *Proceedings of the 21st International SAMPE Technical Conference*, SAMPE, Covina, CA, 1989.
562. Eveno, E. C. and J. W. Gillespie Jr., "Experimental Investigation of Ultrasonic Welding of Graphite Reinforced Polyetheretherketone Composites," *Proceedings of the 21st International SAMPE Technical Conference*, SAMPE, Covina, CA, 1989.
563. Byun, J. H., T. W. Chou, and J. W. Gillespie Jr., "Mode II Delamination of Three-Dimensional Textile Structural Composites," *Proceedings of the American Society for Composites Fourth Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1989.
564. Gillespie, J. W. Jr., "Experimental Investigation of Resistance Welded Graphite Reinforced Polyetheretherketone," *Proceedings of ANTEC 89*, Society of Plastics Engineers, Brookfield, CT, 1989.
565. Bogetti, T. A. and J. W. Gillespie Jr., "Residual Stresses in Thick Thermoset Composites," *Proceedings of the Third Annual Thick Composites in Compression Workshop*, SAMPE International, 1989.
566. Gillespie, J. W. Jr., "Impact of Interactive Videodisc Courseware on Composites Education," *Proceedings of the 1989 ASEE Annual Conference*, University of Nebraska, Lincoln, NE, June 1989.
567. Eveno, E. C., J. W. Gillespie Jr., and J. R. Vinson, "Experimental Investigation of Resistance Welded Graphite Polyetheretherketone Composites," *Proceedings of ANTEC 89*, Society of Plastics Engineers, Brookfield, CT, 1989.

**1988**

568. Chapman, T. J., R. B. Pipes, J.-A. E. Manson, J. W. Gillespie Jr., and J. C. Seferis, "Thermal Skin/Core Residual Stresses Induced During Cooling of Thermoplastic Matrix Composites," *Proceedings of the American Society for Composites Third Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1988.

**1987**

569. Guenon, V. A., J. W. Gillespie Jr., and T-W. Chou, "A Modified Double Cantilever Beam Specimen for Testing the Interlaminar Fracture Toughness of Three-Dimensional Composites," *Proceedings of the Fabricating Composites '87 Conference*, Society of Manufacturing Engineers, Philadelphia, PA, 1987.
570. Eduljee, R. F., J. W. Gillespie Jr., and R. B. Pipes, "Design Methodology for the Molding of Short Fiber Thermoset Composites," *Proceedings of the American Society for Composites Second Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1987.

571. Whitney, J. M., J. W. Gillespie Jr., and L. A. Carlsson, "Singularity Approach to the Analysis of the End Notched Flexure Specimen," *Proceedings of the American Society for Composites Second Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1987.
572. Carlsson, L. A., J. W. Gillespie Jr., and B. R. Trethewey, "Finite Element and Plate Theory Based Design and Data Reduction of the ENF Fracture Specimen," *Proceedings of the American Society for Composites Second Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1987.
573. Becht, G. A. and J. W. Gillespie Jr., "Design and Analysis of a Mode III Interlaminar Fracture Specimen," *Proceedings of the American Society for Composites Second Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1987.
574. Carlsson, L. A., J. M. Whitney, and J. W. Gillespie Jr., "Numerical and Analytical Evaluation of the ENF Fracture Specimen," *Proceedings of the 1985 ASME Winter Annual Meeting*, 1987.

**1978–1986**

575. Carlsson, L. A. J. M. Whitney, and J. W. Gillespie Jr., "Fracture Mechanics Analysis of the End Notched Flexure Specimen," *Proceedings of the American Society for Composites First Technical Conference*, Technomic Publishing Company, Inc., Lancaster, PA, 1986.
576. Gillespie, J. W. Jr., "Process-Induced Fiber Orientation: Numerical Simulation with Experimental Verification," *Proceedings of ANTEC 84: Plastic in a World Economy*, Society of Plastics Engineers, Brookfield, CT, 1984.
577. Pipes, R. B., and J. W. Gillespie Jr., "Evaluation of the Embedded Spar Composite Design Concept," *Proceedings of the 1978 International Conference on Composites Materials*, Toronto, Canada, pp. 385-398, 1978.

**Technical Reports (Final Reports and ARL Technical Reports)**

1. Gillespie, Jr., J. W., "High-Performance Computing Studies Final Report – Task 0001," NCMS Project No. 124015 and U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA), DTNH22-14-D-00321, November 2016.
2. Bujanda, A., C. Copeland, J. Dibelka, A. Forster, L. Holmes, R. Jensen, W. Kosik, S. McKnight, S. Koellhoffer, and J. W. Gillespie, Jr., "Analysis of Adhesively Bonded Ceramics Using an Asymmetric Wedge Test," ARL-TR-4665, December 2008.
3. Krauthauser, C., A. Yiournas, T. Bogetti, M. Cushing, S. Wolf, N. Shevchenko, C. Hoppel, and J. Gillespie, Jr., "A Methodological Verification Approach to Designing Structure Laminate Ceramic Armor," ARL-TR-3945, September 2006.
4. Gama, B. A., and J. W. Gillespie, Jr., "Numerical Hopkinson Bar Analysis: Uni-Axial Stress and Planar Bar-Specimen Interface Conditions by Design," Army Research Lab Technical Report, ARL-CR-553, September 2004.
5. Gama, B. A., S. Mahdi, C. Cichanowski, S. Yarlagadda, J. W. Gillespie, Jr., "Static and Dynamic Strength of Scarf-Repaired Thick-Section Composite Plates," Army Research Lab Technical Report, ARL-CR-549, September 2004.
6. Ren L., M. Larson, B. A. Gama, J. W. Gillespie, Jr., "Wave Dispersion in Cylindrical Tubes: Applications to Hopkinson Pressure Bar Experimental Techniques," Army Research Lab Technical Report, ARL-CR-551, September 2004.
7. Brody, J. C., J. W. Gillespie, Jr., "Reactive and Nonreactive Binders in Glass/Vinyl Ester Composites," Army Research Lab Technical Report, ARL-CR-552, September 2004.
8. Bogetti, T. A., S. C. Wolf, C. P. R. Hoppel, S. Hodges, D. Ostberg, D. Templeton, J. W. Gillespie, Jr., C. Krauthauser, N. Shevchenko, "Structural Analysis, Design, and Subscale Testing of Laminated Armors," Army Research Lab Technical Report, ARL-RP-77, June 2004.
9. Ren, L., B. A. Gama, J. W. Gillespie, Jr., and C-F. Yen, "Dynamic Punch Shear Behavior of Unidirectional and Plain Weave S-2 Glass/SC15 Composites," Army Research Lab Technical Report, ARL-CR-535, March 2004.
10. Gama, B. A., J-R. Xiao, Md. J. Haque, C-F. Yen, and J. W. Gillespie, Jr., "Experimental and Numerical Investigations on Damage and Delamination in Thick Plain Weave S-2 Glass Composites Under Quasi-Static Punch Shear Loading", Army Research Lab Technical Report, ARL-CR-534, February 2004.
11. Mertz, D. R., M. J. Chajes, J. W. Gillespie, Jr., D. S. Kukich, S. A. Sabol, N. M. Hawkins, W. Aquino, T. B. Deen, "Application of Fiber Reinforced Polymer Composites to the Highway Infrastructure," National Cooperative Highway Research Program (NCHRP Report 503), Washington, D.C., 2003.
12. Vaidyanathan, R., C. Green, T. Phillips, S. Yarlagadda, J. W. Gillespie, Jr., R. Evans, J. Erickson, "Low-Cost Ceramic Lined Rocket Motor Case Designs," SBIR Phase I Final Report, Air Force Research Laboratory, AFRL-PR-ED-TR-2002-0018, October 2002.
13. Yoon, M-K, C. H. Newton, Dirk Heider, J. W. Gillespie, Jr. "Nondestructive Inspection Techniques for Fiber-Reinforced Polymer Bridges," Delaware Transportation Institute (DTI) Report 134, June 2002.

14. Fink, B.K., T.A. Bogetti, M. A. Stone, J.W. Gillespie, Jr., "Thermochemical Response of Vinyl-Ester Resin," Army Research Lab Technical Report, ARL-TR-2653, January 2002.
15. Fink, B. K., T. A. Bogetti, M. A. Stone, and J. W. Gillespie Jr., "Thermo-Chemical Characterization of Vinyl-Ester Resin," Army Research Laboratory Technical Report, January 2002.
16. Vaidyanathan, R., C. Green, J. Stevenson, B. Nave, G. Artz, S. Yarlagadda, J. W. Gillespie, Jr., "Design and Fabrication of Low-Cost Composite Tooling Materials," Technical Report November 2001.
17. Ratcliffe, C. P., R.M. Crane, D. Heider, M.K. Yoon, J.W. Gillespie Jr., "Structural Integrity and Damage Evaluation Routine (SIDER) for Quality Control and Health Monitoring of Structures," Survivability, Structures and Materials Directorate Technical Report, NSWCCD-65-TR-2001/23, October 2001.
18. Sands, J. M., B. K. Fink, S. H. McKnight, C. H. Newton, J. W. Gillespie, Jr., G. R. Palmese, "Environmental Issues for Polymer Matrix Composites and Structural Adhesives," Clean Products and Processes, Vol. 2, pp. 228-235, ARL-RP-27, June 2001.
19. Fink, B. K., R. Mathur, D. Heider, C. Hoffman, J. W. Gillespie, Jr., S. G. Advani, "Experimental Validation of a Closed-Form Fluid Flow Model for Vacuum-Assisted Resin Transfer Molding," Army Research Lab Technical Report, ARL-TR-2495, May 2001.
20. McKnight, S. H., B. K. Fink, V. Monnard, P.-E. Bourban, J-A. E. Manson, D. A. Eckel, II, J. W. Gillespie, Jr., "Processing and Characterization of Welded Bonds between Thermoset and Thermoplastic Composites," Army Research Lab Technical Report, ARL-TR-2484, May 2001.
21. Shevchenko, N., B. K. Fink, S. Yarlagadda, J. J. Tierney, D. Heider, J. W. Gillespie, Jr., "Rapid Automated Induction Lamination (RAIL) for High-Volume Production of Carbon/Thermoplastic Laminates," Army Research Lab Technical Report, ARL-TR-2478, May 2001.
22. Fink, B. K., A. M. Monib, J. W. Gillespie, Jr., "Damage Tolerance of Thick-Section Composites Subjected to Ballistic Impact," Army Research Laboratory Technical Report ARL-TR-2477, May 2001.
23. Fink, B. K., T. A. Bogetti, B. A. Gama, J. W. Gillespie, Jr., C.J. Yu, T. D. Claar, H. H. Eifert, "Application of Aluminum Foam for Stress-Wave Management in Lightweight Composite Integral Armor," Army Research Laboratory Technical Report ARL-TR-2471, May 2001.
24. Fink, B. K., M. B. Dorairaj, and J. W. Gillespie Jr., "Vinyl-Ester Cure Characterization via Direct Current Sensors," Army Research Laboratory Technical Report ARL-TR-2441, March 2001.
25. Fink, B. K., S. Yarlagadda, J. Q. Xiao, G. H. Laverty, and J. W. Gillespie, Jr., "Functional Nanostructures for Induction Heating: A Review of Literature and Recommendations for Research," Army Research Laboratory Technical Report, ARL-TR-2365, November 2000.
26. Fink, B. K. and J. W. Gillespie Jr., "Cost-Effective Manufacturing of Damage-Tolerant Integral Armor," Army Research Laboratory Technical Report, September 2000.
27. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "Induction Heating of Carbon-Fiber Composites: Experimental Verification of Models," Army Research Laboratory Technical Report, ARL-TR-2247, June 2000.
28. Harik, V. M., B. K. Fink, T. A. Bogetti, J. R. Klinger, and J. W. Gillespie Jr., "Low-Cycle Fatigue of Composite Structures in Army Applications: A Review of Literature and Recommendations for Research," Army Research Laboratory Technical Report, ARL-TR-2242, June 2000.

29. Fink, B. K., J. W. Gillespie Jr., and K. M. England, "Ionic Doping of Low-Conductivity Structural Resins for Improved Direct Current Sensing," Army Research Laboratory Technical Report, ARL-TR-2239, June 2000.
30. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "On the Influence of Moisture on Dielectric Properties of Polyetheretherketone (PEEK) Carbon-Fiber Composites," Army Research Laboratory Technical Report ARL-TR-2236, June 2000.
31. Fink, B. K., K. M. England, and J. W. Gillespie Jr., "Measurement of Viscosity of Reacting Vinyl-Ester Resins Using Direct Current Sensing," Army Research Laboratory Technical Report, ARL-TR-2149, January 2000.
32. Moon, F. L., D. A. Eckel II, J. W. Gillespie, Jr., "Static and Fatigue Response of Longitudinal Connection Between Steel Girders and FRP Composite Decks," CCM Technical Report 99-09, 1999.
33. Moon, F. L., D. A. Eckel II, J. W. Gillespie, Jr., "Static and Fatigue Response of Transverse Connection Between Steel Girders and FRP Composite Decks," CCM Technical Report 99-10, 1999.
34. Eckel II, D. A., F. L. Moon II, J. W. Gillespie, Jr., "Response and Damage Tolerance of FRP Composite Decks," CCM Technical Report 99-11, 1999.
35. Eckel II, D. A., F. L. Moon II, J. W. Gillespie, Jr., "Static and Fatigue Response of Composite Decks Subjected to Wheel Loads, CCM Technical Report 99-12, 1999,
36. Fink, B. K., E. F. Gillio, G. P. McKnight, J. W. Gillespie Jr., S. G. Advani, R. F. Eduljee, and K. R. Bernetich, "Co-Injection Resin Transfer Molding of Vinyl-Ester and Phenolic Resins," Army Research Laboratory Technical Report, ARL Technical Report, ARL-TR-2150, December 1999.
37. Fink, B. K., S. H. McKnight, C. H. Newton, J. W. Gillespie Jr., and G. R. Palmese, "Non-Polluting Composites Repair and Remanufacturing: An Environmental and Cost-Savings Analysis," Army Research Laboratory Technical Report ARL-TR-2139, December 1999.
38. Fink, B. K., E. F. Gillio, S. G. Advani, and J. W. Gillespie Jr., "The Role of Transverse Flow in Co-Injection Resin Transfer Molding," Army Research Laboratory Technical Report, ARL-TR-2135, December 1999.
39. Fink, B. K., R. C. Don, and J. W. Gillespie Jr., "Development of a Distributed Direct Current Sensor System for Intelligent Resin Transfer Molding," Army Research Laboratory Technical Report, ARL-TR-2107, November 1999.
40. Fink, B. K., S. H. McKnight, S. Yarlagadda, and J. W. Gillespie Jr., "Non-Polluting Composites Repair and Remanufacturing for Military Applications: Induction-Based Repair of Integral Armor," Army Research Laboratory Technical Report, ARL-TR-2121, November 1999.
41. Fink, B. K., and J. W. Gillespie Jr., "Non-Polluting Composites Repair and Remanufacturing for Military Applications: Co-Injection Resin Transfer Molding," Army Research Laboratory Technical Report ARL-TR-2125, November 1999.
42. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "Induction Heating of Carbon-Fiber Composites: Electrical Potential Distribution Model," Army Research Laboratory Technical Report, ARL-TR-2130, November 1999.

43. Tay, T. E., S. Yarlagadda, J. W. Gillespie Jr., B. K. Fink, and S. H. McKnight, "Accelerated Curing of Adhesives in Bonded Joints by Induction Heating, Army Research Laboratory Technical Report, ARL-TR-2103, October 1999.
44. Sorathia, U., J. Ness, B. Scholl, R. Crane, D. Loup, M. Bergen, J. Cavallaro, T. Deegan, J. W. Gillespie Jr., R. Scala, P. VanDyne, and B. Spencer, "Fire-Resistant Phthalonitrile-Based Composites for Submarine Applications," NSWCCD-64-TR-1999/05, November 1999.
45. Volk, J., D. Hoppenjans, M. J. Chajes, H. W. Shenton, J. W. Gillespie Jr., D. R. Mertz, and L. H. Klepner, "Evaluation of the Magazine Ditch Bridge," Final Report to DelDOT, Delaware Transportation Institute, University of Delaware, Newark, DE, 1999.
46. Fink, B. K., S. H. McKnight, C. H. Newton, J. W. Gillespie Jr., and G. R. Palmese, "Non-Polluting Composites Repair and Remanufacturing: An Environmental and Cost-Savings Analysis," Army Research Laboratory Technical Report, December 1999.
47. Fink, B. K., K-T. Hsiao, R. Mathur, J. W. Gillespie Jr., and S. G. Advani, "An Analytical Vacuum-Assisted Resin Transfer Molding Flow Model," Army Research Laboratory Technical Report, submitted January 1999.
48. Bogetti, T. A., B. K. Fink, M. A. Stone, and J. W. Gillespie Jr., "Thermo-Mechanical Characterization of Vinyl-Ester Resin," Army Research Laboratory Technical Report, submitted January 1999.
49. Fink, B. K., R. L. McCullough, and J. W. Gillespie Jr., "Induction Heating of Carbon-Fiber Composites: Thermal Generation Model," Army Research Laboratory Technical Report, submitted January 1999.
50. Fink, B. K., J. W. Gillespie Jr., and N. B. Ersoy, "Thermal Degradation Effects on Consolidation and Bonding in the Thermoplastic Fiber Placement Process," Army Research Laboratory Technical Report, submitted January 1999.
51. Don, R. C., K. R. Bernetich, and M. Louderback, "Implementation of SMARTweave Flow and Cure Sensing in the Advanced Technology Transit Bus at Northrop Grumman," final report to Northrop Grumman, 1996.
52. Hoppel, C. P. R., J. W. Gillespie Jr., and T. A. Bogetti, "Groove Strength in Composite Structures," U.S. Army Research Laboratory, Technical Report, ARL-TR-1149, July 1996.
53. Coppens, D. D., J. W. Gillespie Jr., J. Murphy, and R. M. Crane, "Mating of an Energy Absorbing Composite Cylinder Joint to a Specific Energy Absorbing Cylinder Design," Center Structures Survivability and Materials paper (NSWCCD SSM), 1996.
54. Gillespie, J. W. Jr., K. V. Steiner, D. S. Kukich and M. A. Lamontia, "Rapid Placement Technology for Affordable Composites Manufacturing, ARO/ARPA 1995 Annual Report, January 1996.
55. Bogetti, T. A., J. W. Gillespie Jr., and X. G. Huang, "Stiffness Performance and Material Selection for the AICPS Structure," U. S. Army Research Laboratory Technical Report, 1996.
56. Larock, J., C. Devitt, J. Weber, B. Treat, and J. W. Gillespie Jr., "Assessment of FCC Performance from Isogrid Flat Panel Subelement Test Results," August 1995.
57. Miller T. S. and J. W. Gillespie Jr., "Characterization and Constitutive Modeling of Flexible Polyurethane Matrix Continuous Fiber Composites," CCM Technical Report 95-38, 1995.

58. Huang, X. G., J. W. Gillespie Jr., R. F. Eduljee, and M. A. Lamontia, "Prediction of Matrix Cracking in Laminated Composite Cylinders," CCM Technical Report 95-30, 1995.
59. Huang, X. G., J. W. Gillespie Jr., V. Kumar and L. Gavin, "Mechanics of Integral Armor: Discontinuous-Ceramic-Cored Sandwich Structure Under Tension and Shear Loading," CCM Technical Report 95-29, 1995.
60. Holmes, S. T. and J. W. Gillespie Jr., "A Study of the Processing and Performance of Large-Scale Resistance-Welded Thermoplastic Composite Joints," CCM Technical Report 95-23.
61. Flemming, T., J. W. Gillespie Jr., and K. V. Steiner, "Experimental Investigation of the Thermoplastic Fiber Placement Process," CCM Technical Report 95-18, 1995.
62. Monnard, V., J. W. Gillespie Jr., and P-E. Bourban, "The Influence of Processing Conditions on Carbon-Fiber/PEEK and Carbon-Fiber/PEKK Mechanical and Chemical Properties," CCM Technical Report 95-17, 1995.
63. Wetzel, E. D. and J. W. Gillespie Jr., "Assessment of Heating Techniques for Metal to Composite Bonding in Infrastructure Rehabilitation," CCM Technical Report 95-13, 1995.
64. Callé, G. and J. W. Gillespie Jr., "Effect of Thermal Aging on the Mechanical Behavior of Avimid N/G30-50 Fiber Composites," CCM Technical Report 95-11, 1995.
65. Huang, X. G., M. Tolin, R. F. Eduljee, J. W. Gillespie Jr., R. C. White, E. Vanetti, and T. Isomura, "Effect of Laminate Stacking Sequence and Ply-Group Thickness on the Microcracking Behavior of Bismaleimide Composites," submitted to *Journal of Composite Materials*, CCM Technical Report 95-28, 1995.
66. Fink, B. K., J. W. Gillespie Jr., H. S. Yen, and R. L. McCullough, "Identification of SMARTweave Compatible RTM-Grade Resins," status report for Chief, Composites Development Branch, Polymers and Mechanics Division, ARL, 1995.
67. Ersoy, N. B., O. Vardar, B. K. Fink, and J. W. Gillespie Jr., "Effect of Processing Variables on Consolidation and Bonding in the Thermoplastic Fiber Placement Process," CCM Technical Report 95-35, 1995.
68. Huang, X. G., J. W. Gillespie Jr., and R. F. Eduljee, "Effect of Temperature-Dependent CTE on the Microcracking Behavior of X5260/G40-800 and KIIB/IM7 Cross-Ply Laminates," CCM Technical Report 95-31, 1995.
69. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr., "Effect of Hydrostatic Pressure on the Mechanical Behavior of Composite Materials," ARL-TR-727, April 1995.
70. Luthi, B. and J. W. Gillespie Jr., "Neural Network Approach to Simulation of the Thermoplastic Tow Placement Process," CCM Technical Report 95-19, 1995.
71. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr., "Devices for Transmitting High Shear Loading in Composite Structures," ARL Technical Report, 1995.
72. Gillespie, J. W. Jr., B. D. Olson, M. A. Lamontia, T. W. Harding, and J. B. Jones, "Nondestructive Evaluation: Assessment of ARPA NDE Requirements Document," ARPA, Maritime Systems Technology Office, Anti-Submarine Warfare Program, ARPA Order No. 7805/19/42, MDA972-93-C-0023, 1994.
73. Gillespie, J. W. Jr., B. D. Olson, M. A. Lamontia, and T. A. Bogetti, "Effects of Defects on Compression and Interlaminar Shear Performance of Thermoplastic Composites," Maritime

- Systems Technology Office, Anti-Submarine Warfare Program, ARPA Order No. 7805/19/42, MDA972-93-C-0023, 1994.
74. Gillespie, J. W. Jr., M. A. Lamontia, M. B. Gruber, J. G. Sloan, B. D. Olson, and M. A. Smoot, "The Design, Analysis, and Fabrication of a 24-inch I.D. Ring-Stiffened AS-4 Graphite/ Thermoplastic Composite Cylinder," Final Report, ARPA Advanced Submarine Technology Thermoplastic Composite Cylinder Program, 1994.
  75. Gillespie, J. W. Jr., D. D. Coppens, B. Powers, and R. F. Eduljee, "FEA Techniques for the Calculation of Residual Stress during the Insitu Filament Winding of Complex Geometries (using ABAQUS)," Interim Report for Program Year 1992.
  76. Gillespie, J. W. Jr., S. H. McKnight, S. T. Holmes, I. Howie, K. D. Tackitt, and A. J. Smiley, "Resistance Heated Dual Resin Bonding," Lockheed Final Report for Program Year 1991-92.
  77. Gillespie, J. W. Jr., "Effect of Thermal History on the Long-Term Behavior of High-Performance Composites," Boeing/BASF Final Report for Program Year 1991-92.
  78. Gillespie, J. W. Jr., X. G. Huang, and U. Hansen, "Modeling Approach for the Effects of High Temperature on the Long-Term Performance of Composites," CCM Technical Report 92-03 and Boeing/BASF Interim Report for 1991-92.
  79. Gillespie, J. W. Jr., "Residual Stress Analysis of Insitu and Post-Consolidation of Filament Wound Structures," DuPont Final Report 1991-92.
  80. Gillespie, J. W. Jr., "Three-Dimensional Design, Analysis and Failure of Filament Wound Structures," DuPont Final Report 1991-92.
  81. Holmes, S. T., S. M. Andersen, and J. W. Gillespie Jr., "The Influence of Graphite Stitching on the Interlaminar Performance of Composite Structural Elements," CCM Technical Report 91-30.
  82. Huang, X. G. and J. W. Gillespie Jr., "Analysis of Matrix Cracking in Composite Cylinders," Report to the DuPont Company, 1992.
  83. Gillespie, J. W. Jr., and T. A. Bogetti, "Three-Dimensional Formulation for Predicting the Influence of Ply Waviness on Stiffness and Strength Reduction of Composite Laminates," DuPont Final Report, Subcontract on DARPA Submarine Initiative), September 1990.
  84. Gillespie, J. W. Jr., S. T. Holmes, S. M. Andersen, and S. H. Munson-McGee, "Structural Performance of a Graphite Stitched/Graphite PEEK T-Section," Boeing Military Airplane Final Report, August 1990.
  85. Gillespie, J. W. Jr., and T. A. Bogetti, "Influence of Ply Waviness on Hydrostatic Failure Pressure on 24 Inch Rib-Stiffened Cylinders," DuPont Final Report, Subcontract on DARPA Submarine Initiative), April 1990.
  86. Gillespie, J. W. Jr., and T. A. Bogetti, "Influence of Ply Waviness and Residual Stress on Hydrostatic Failure Pressure on 7-Inch Monocoque Cylinders," DuPont Final Report, Subcontract on DARPA Submarine Initiative), February 1990.
  87. Trethewey, B. R., E. T. Tu, and J. W. Gillespie Jr., "Interlaminar Fracture Mechanics Analysis of Tapered Laminate: Software User's Guide," CCM Technical Report 90-10.
  88. Gillespie, J. W. Jr., and T. A. Bogetti, "Influence of Ply Waviness on Stiffness and Strength Reduction," DuPont Interim Report (subcontract on DARPA Submarine Initiative), January 1990.

89. Gillespie, J. W. Jr., and N. Patton, "The Effects of Delamination in Composite Material Cylinders: A Finite Element Approach," DuPont Interim Report (subcontract on DARPA Submarine Initiative), January 1990.
90. Holmes, S. T. J. Stevens, A. Thiravong, D. J. Wilkins, and J. W. Gillespie Jr., "Influence of Graphite Stitching on Interlaminar Performance of Commingled Graphite PEEK Composites," Boeing Military Airplane Final Report, February 1990 (also available as CCM Technical Report 90-09).
91. Trethewey, B. R., D. J. Wilkins, and J. W. Gillespie Jr., "Three-Dimensional Elastic Properties of Laminated Composites," CCM Technical Report 89-04, 1989.
92. Carlsson, L. A. and J. W. Gillespie Jr., "A Literature Review on Mode II Interlaminar Fracture," CCM Technical Report 88-37, 1988.
93. Gillespie, J. W. Jr., V. A. Guenon, T-W. Chou, and J. H. Byun, "Interlaminar Fracture Toughness of a Three-Dimensional Composite," NASA Final Report (NAG-1-378/ASR), 1988.
94. Gillespie, J. W. Jr., A. M. Sastry, and D. W. Wilson, "Resin Impregnation and Mechanical Characterization of Orthogonal Interlocked Fabric Composites," NAG-1-378/ASR, 1988.
95. Crane, R. M., J. W. Gillespie Jr., and R. B. Pipes, "Literature Survey of the Vibration Damping Characteristics of Organic Matrix Continuous Fiber Composites," CCM Technical Report 87-35, 1987.
96. Whitney, J. M. and J. W. Gillespie Jr., "CEMCAL: Composite Experimental Mechanics Calculations," CCM Software Users' Guide, CCM Technical Report 87-39, Technomic Publishing Company, Inc., Lancaster, PA, 1987.
97. Whitney, J. M. and J. W. Gillespie Jr., "CYLAN," CCM Software Users' Guide, Technomic Publishing Company, Inc., Lancaster, PA, 1987.
98. Gillespie, J. W. Jr., L. Shuda, J. J. Garrett, B. J. Waibel, and J. Snowden, "CMAP: Composite Materials Analysis of Plates," CCM Software Users Guide, CCM Technical Report 87-45 1987.
99. Gillespie, J. W. Jr., R. L. McCullough, S. H. Munson-McGee, J. J. Garrett, and B. J. Waibel, "SMC: Micromechanics Model for Composite Materials: Thermoelastic Properties," CCM Software Users' Guide, CCM Technical Report 87-38, 1987.
100. Bogetti, T. A., J. W. Gillespie Jr., and R. B. Pipes, "A Literature Review in Thick Section Composites," CCM Technical Report 87-55, 1987.
101. Trethewey, B. R., L. A. Carlsson, J. W. Gillespie Jr., and R. B. Pipes, "Mode II Interlaminar Fracture During Static and Fatigue Loading," CCM Technical Report 86-26, 1986.
102. Gillespie, J. W. Jr., "Interlaminar Fracture of Composite Laminates," CCM Technical Report 85-05, 1985.
103. Gillespie, J. W. Jr., "Influence of Flow Induced Fiber Orientation on the Thermoelastic Response of Cylindrically Orthotropic Bodies," CCM Technical Report 85-06, 1985.
104. Carlsson, L. A., J. W. Gillespie Jr., R. B. Pipes, R. Rothschilds, B. R. Trethewey, and A. J. Smiley, "Delamination Growth in Composite Laminates," NASA Final Report (NAG-1-475), 1985 (also available as CCM Technical Report 85-18), 1985.
105. Gillespie, J. W. Jr., R. L. McCullough, B. J. Waibel, J. J. Garrett and J. J. Quigley IV, "Micromechanics Model for Composite Materials: Thermal and Electrical Conductivities," CCM Software Users Guide, 1984.

106. Wilson, D. W., J. W. Gillespie Jr., J. L. York, and R. B. Pipes, "Failure Analysis of Composite Bolted Joints," CCM Technical Report 80-16, 1980.
107. Gillespie, J. W. Jr., "Thermal Response of the Cylindrically Material Properties," CCM Technical Report 79-20, 1979.
108. Gillespie, J. W. Jr. and R. B. Pipes, "Axisymmetric Analysis of the Cylindrically Orthotropic Disk of Variable Fiber Orientation," CCM Technical Report 79-10, 1979.
109. Taggart, D. G., R. B. Pipes, R. A. Blake, Jr., J. W. Gillespie Jr., R. Prabhakaran, and J. M. Whitney, "Properties of SMC Composites," CCM Technical Report 79-01, 1979.

## Presentations

### Invited Presentations

1. Chowdhury, S.C., "Rate-Dependent Mixed-Mode Traction Law for Glass Fiber-Epoxy Interphase Developed using Molecular Simulations", Multiscale Materials Modeling International (MMM10) Conference, Baltimore, MD, October 2-7, 2022
2. Meyer, C., B. (Gama) Haque, D. O'Brien, and J. W. Gillespie, Jr., "Predicting the Residual Velocities for Continuum Plain-Weave Composite Plate Model Under Projectile Impact," EMI2019, Engineering Mechanics Institute Conference 2019, Caltech, Pasadena, CA, June 18-21, 2019.
3. Sockalingam, S., S. Chowdhury, and J. W. Gillespie, Jr., "Inter-Fibrillar Interactions in Polyethylene Ballistic Fibers at the Atomic Scale," Mach 2019 Conference, Annapolis, MD, April 3-5, 2019.
4. Chowdhury, S.C. and J. W. Gillespie, Jr., "Molecular Modeling of Silica-Silane-Epoxy Interphase," Mach 2019 Conference, Annapolis, MD, April 3-5, 2019.
5. Yeon, Jejoon and J. W. Gillespie, Jr., "Atomistic Scale Simulation for the Inter-Diffusion of Epon828/Epon1001F and Jeffamine/PACM-20," Mach 2019 Conference, Annapolis, MD, April 3-5, 2019.
6. Casem, D., T. Weerasooriya, S. Sockalingam, and J. W. Gillespie, Jr., "Influence of High Strain Transverse Compression on the Tensile Strength of Ultrahigh Molecular Weight Polyethylene Ballistic Single Fibers," 2018 Mach Conference, Johns Hopkins University, Baltimore, MD, April 4-6, 2018.
7. Sockalingam, S., Preston McDaniel, and J. W. Gillespie, Jr., University of Delaware; D. Casem and T. Weerasooriya, US Army Research Lab., Aberdeen MD, "High Strain Rate Transverse Compression Response of Ballistic Fibers," 2017 Mach Conference, Johns Hopkins University, Baltimore, MD, April 5 – 7, 2017.
8. Gillespie, Jr., J. W., "Dynamic Fracture of Unidirectional Composites," Exxon-Mobil Research Lab, July 2017.
9. Chowdhury, S., R. M. Elder, T. W. Sirk, and J. W. Gillespie, Jr., "Molecular Modeling of Glass Fiber Sizing Interphase Layer," MACH Conference, Annapolis, MD, April 5-7, 2017.
10. Bonyi, E., C. Lansiquot, B. Kioko, O Adesina, C. S. Meyer, D. J. O'Brien, B. Z. (Gama) Haque, J. W. Gillespie, Jr., and Kadir Aslan, "Assessment and Quantification of Ballistic Damage of a Plain-weave S-2 Glass Epoxy Composite," 2017 Mach Conference, Johns Hopkins University, Baltimore, MD, April 5 – 7, 2017.
11. Gillespie, Jr., J. W., "Multiscale Response of Unidirectional Composite Materials," Enterprise for Multiscale Research of Materials (EMRM), Guest Lecture Series, Army Research Laboratory, Aberdeen, MD, November 18, 2016.
12. Gillespie, Jr., J. W., "Thermoplastic Composites for Automotive Applications" – "High Performance Computing Intensive Vehicle Design", Keynote address American Society for Testing and Materials, September 22, 2016.

13. Yeager, M., R. Ganesh, S. Yarlagadda, S. G. Advani, and J. W. Gillespie, Jr., "A Unit Cell Model to Predict Impact of Geometric and Processing Parameters on Energy Absorbed by Fiber Composites." Mach conference, 2015, Annapolis, MD, April 8-10, 2015.
14. Gillespie, Jr., J. W., "Automated OOA Process of High-Performance Thermoplastics Composites for Aerospace Structures," AIRTEC 2015 Congress AERONAUTICS, Munich, Germany, Oct 2015
15. Gillespie, Jr., J. W., "Composites Manufacturing Science", Purdue University, May 29-30, 2013.
16. Gillespie, Jr., J. W., Academic Panel: Unique Collaborations in Academia, 3<sup>rd</sup> Persh Conference, Workforce Development Meeting Material Science and Engineering Needs for the 21<sup>st</sup> Century, Arlington, VA, October 26-28, 2010.
17. Gillespie, Jr., J. W., Integrated Structural Armor: Government and University Perspectives, Association of the United States Army, Washington, D.C., October 5, 2009.
18. Gillespie, Jr., J. W., TexEng Software Ltd., Second World Conference on 3D Fabrics and Their Applications, Greenville, SC, April 6-7, 2009.
19. Gillespie, J. W., Jr., "Multifunctional Materials and Structures," Multi-Scale Materials Behavior in Ultra-High Loading Rate Environments Workshop, Towson, Maryland, September 22-24, 2008.
20. Gillespie, J. W., Jr., Keynote Speaker, "Influence of Fiber Surface Texture on Strength and Energy Absorption," 13<sup>th</sup> US-Japan Conference on Composite Materials, Nihon University, Tokyo, Japan, June 6-7, 2008.
21. Gillespie, J. W. Jr., Keynote Speaker "First World Conference on 3D Fabrics and Their Applications," University of Manchester, UK, April 10-11, 2008.
22. Panelist, "Creating Knowledge-Based Partnerships: Challenges and Opportunities"; Advanced Materials, Clayton Hall, U of D, November 2, 2007
23. Gillespie, J. W., Jr., "Accelerated Insertion of Materials: Partnerships, Design and Simulation," U.S. Army Materials Summit, Gettysburg, PA, March 13-16, 2006.
24. Gillespie, J. W., Jr., "Structural Armor," U.S. Army Materials Summit, Eisenhower Hotels, Conference Center & Resort, Gettysburg, PA, March 13-16, 2006.
25. "Armor Attachment Design for Mission Tailorable Space Frame Vehicles (MTSV)", 17<sup>th</sup> Annual Ground Vehicle Survivability Symposium (2006 GVSS), Northrop Grumman Space Technology Presentation Center (STPC), Redondo Beach, CA March 27-30, 2006.
26. Gillespie, J. W., Jr., "International Experts Workshop on the Future of Marine Structures and Materials – A 30 Year Vision," University of Southampton, UK, November 16-18, 2005.
27. Gillespie, J. W., Jr., S. M. Andersen, "Accelerated Insertion of Lightweight Materials into Military Vehicles," 3<sup>rd</sup> Annual Lightweight Materials for Defense, February 2005, Washington, DC.
28. Ren, L., M. Larson, B. A. Gama, J. W. Gillespie, Jr., "Wave Dispersion in Cylindrical Tubes: Applications to Hopkinson Pressure Bar Experimental Techniques," University of Maryland, Advanced Metals and Intelligent Processing, March 26, 2004.
29. Gama, B. A., Md. J. Haque, J. W. Gillespie Jr. and A. E. Bogdanovich, "Modeling the Dynamic Deformation and Damage of 3-D Woven Fabric Composites," 16<sup>th</sup> U.S. Army Symposium on Solid Mechanics, May 4-7, 2003, in Charleston, SC.

30. Gama, B. A., B. Chottopadhyay, Md. J. Haque and J. W. Gillespie Jr., "Damage Mechanisms and Energy Absorption of Plain Weave S-2 Glass/ SC-15 Composites under Quasi-Static Punch-Shear and Low Velocity Impact Loading," Paper presented in the 'Impact on Composites 2002' symposium, 14th U. S. National Congress of Theoretical and Applied Mechanics, June 23-28, 2002, Blacksburg, VA.
31. Gama, B. A., B. Chottopadhyay, Md. J. Haque, and J. W. Gillespie Jr., "Initiation and Propagation of Delamination in Thick-Section Composites under Dynamic Loading," Paper presented in the 'Impact on Composites 2002' Symposium, 14th U. S. National Congress of Theoretical and Applied Mechanics, June 23-28, 2002, Blacksburg, VA.
32. Defense Manufacturing Conference 2001, Technical Speaker, Las Vegas, NV, November 26-29, 2001.
33. Fink, B., J. M. Sands, S. H. McKnight, J. W. Gillespie, Jr., "Non-polluting Composites Repair and Remanufacture for Military Applications," SERDP Conference, November 2001.
34. Industry and Academia Perspective on Defense Partnering, Panelist, Tech Trends 2001, Atlantic City, NJ, April 18, 2001.
35. Partnering for Success, Panelist, Tech Trends 2001, Atlantic City, NJ, April 18, 2001.
36. Research and Innovations for the 21<sup>st</sup> Century, Panelist, Tech Trends 2001, Atlantic City, NJ, April 18, 2001.
37. Walsh, S. M., E. J. Rigas, W. A. Spurgeon, W. N. Roy, D. Heider, and J. W. Gillespie Jr., "Integrated Product and Process Design for Affordable Composite Structures: A University Perspective,"
38. "Simulation, Sensing and Control of the Vacuum Assisted Resin Transfer Molding Process," invited seminar at Louisiana State University, April 28, 2000.
39. "Success Stories and Lessons Learned: Composites as Advanced Construction Materials, Nonautoclave Processing of Thermoplastic Composites, and VARTM Automation, Sensing, and Control," invited presentation, Composites Manufacturing and Tooling 2000, Newport Beach, CA, February 23-25, 2000.
40. "Characterization of the Fiber-Matrix Interphase in Composite Materials," University of Nevada–Las Vegas, December 9, 1999.
41. Gillespie, J. W. Jr., "Co-Injection Resin Transfer Molding," *Intelligent Design and Manufacturing Tools for Affordable Military Product Development*, Stevens Institute of Technology, Hoboken, NJ, October 14–15, 1998.
42. Gillespie, J. W. Jr., and R. F. Eduljee, "ACP/University Research Effort (URE): Highlights of University of Delaware Research Activities," Affordable Composites for Propulsion Workshop, sponsored by Pratt–Whitney, University of California–Santa Barbara, September 15, 1998.
43. Gillespie, J. W. Jr., "Processing and Performance of Co-Injected Multi-Layer Hybrid Composite Parts," University College Galway, Ireland, June 10, 1998.
44. Gillespie, J. W. Jr., "Diffusion of Reacting Thermosets into Thermoplastic Polymers," University of Limerick, Ireland, June 11, 1998.
45. Gillespie, J. W. Jr. and S. H. McKnight, "Interdiffusion of Reacting Thermosets into Thermoplastics," presented at the Twenty-First Asilomar Conference on Polymeric Materials, Pacific Grove, CA, February 22–25, 1998.

46. Gillespie, J. W. Jr., "Integral Armor Optimization," U.S. Army TARDEC, Warren, MI, November 1997.
47. Gillespie, J. W. Jr., "Processing and Performance of Integral Armor," Winona State University, October 21, 1997.
48. Gillespie, J. W. Jr., "Durability and Shear Distortion of AS4/PR500 Composites for Engine Applications," Pratt Whitney, West Palm Beach, FL, February 12, 1997.
49. Gillespie, J. W. Jr., "Effects-of-Defects Criteria for the Composite Armored Vehicle," United Defense Limited Partnership, November 1996.
50. Gillespie, J. W. Jr., "Effects-of-Defects in Fan Containment Case," Pratt & Whitney, December 1996.
51. Gillespie, J. W. Jr., "Academic R&D Review—Highlights of Research Activities at the University of Delaware Center for Composite Materials," Composite Materials Handbook (MIL-HDBK-17) Coordination Meeting, Schaumburg, IL, September 9, 1996.
52. Gillespie, J. W. Jr., "Bridge Rehabilitation—Advanced Composite Materials," National Research Council Transportation Research Board, National Academy of Science, Irvine, CA, September 29, 1995.
53. Gillespie, J. W. Jr., M. A. Lamontia, and K.V. Steiner, "The Effects of Voids and Waviness on PMC Mechanical Properties," invited lecture, Gordon Research Conference, Ventura, CA, January 7–11, 1996.
54. Gillespie, J. W. Jr., "Process Modeling for Advanced Tow Placement of Thermoplastic Composites," Gordon Research Conference on Composite Materials, Ventura, CA, January 1994.
55. Gillespie, J. W. Jr., "Design Methodology for Short Fiber Reinforced Composite Structures," Gordon Research Conference on Composite Materials, Ventura, CA, January 1988.
56. Gillespie, J. W. Jr., "Benchmarking CAV Candidate Composite Processing for Six Sigma Methodologies," CAV-ADT PDT Meeting, Warren, MI, December 1994.
57. Gillespie, J. W. Jr., "Briefing on Rapid Placement Technology for Polymer-Matrix Composites," CAV-ADT PDT Meeting, Warren, MI, December 1994.
58. Gillespie, J. W. Jr., "Diffusion-Enhanced Adhesive Bonding for Joining S2-PPS Components," CAV-ADT PDT Meeting, Warren, MI, December 1994.
59. Gillespie, J. W. Jr., "Impact of Affordability Exit Criteria on CAV-ATD," CAV-ADT PDT Meeting, Warren, MI, December 1994.
60. Gillespie, J. W. Jr., "Composites Joining," United Technologies Advanced Studies Program, October 1994.
61. Gillespie, J. W. Jr., "Rehabilitation of Steel Infrastructure Using Composites," Department of Mechanical Engineering," Concordia University, Montreal, CA, November 24, 1994.
62. Gillespie, J. W. Jr., "Environmental Durability and Life Prediction of Polymer Matrix Composites," United Technologies Research Center, December 9, 1994.
63. Gillespie, J. W. Jr., "Overview of HSCT Related Composites Research at the University of Delaware," 7th HSCT Mechanics and Durability of Materials Working Group Meeting," Seattle, WA, September 22–24, 1993.

64. Gillespie, J. W. Jr., and R. L. McCullough, "Thermoplastic Composites: The UD-CCM Perspective," ARPA Workshop on Thermoplastic Matrix Composites, San Diego, CA, July 22, 1993.
65. Gillespie, J. W. Jr., "Characterization of Microcracking in Polymeric Composites," 6th HSCT Mechanics and Durability of Materials Working Group Meeting," NASA Langley Research Center, Hampton, VA, March 2-4, 1993.
66. Gillespie, J. W. Jr., "Low-Cost Manufacturing of High-Performance Composites via Robotic Fiber Placement: Modeling and Simulation for Control and Process Optimization," Philadelphia SAMPE Chapter Meeting, March 11, 1993.
67. Gillespie, J. W. Jr., "The Influence of Ply Waviness with Nonlinear Shear on the Stiffness and Strength Reduction of Composite Laminates," Joint SES/ASME Symposium: Mechanics of Composite Materials—Nonlinear Effects, Volume of the Applied Mechanics Division of ASME, First SES-ASME-ASCE Joint Meeting, Charlottesville, VA, June 6-9, 1993.
68. Gillespie, J. W. Jr., "Factors Influencing the Compression Performance of Filament-Wound Composite Structures," High-Capacity Artillery Projectile (HICAP) Advance Planning Briefing for Industry, Aberdeen Proving Grounds, MD, July 8, 1992.
69. Gillespie, J. W. Jr., "Composites for Generators," 1992 Interagency Advanced Power Group 1992 Spring Symposium, Alexandria, VA, March 31-April 2, 1992.
70. Gillespie, J. W. Jr., "Effect of Thermal History on the Long-Term Behavior of High-Performance Composites," Fatigue and Fracture Branch, NASA Langley Research Center, Hampton, VA, February 7, 1992.
71. Gillespie, J. W. Jr., "The Influence of Material, Geometric and Processing Variables on Residual Stresses and Performance of Thermoplastic Composites," Annual Meeting of the Society of Experimental Mechanics, June 1992.
72. Gillespie, J. W. Jr., "Influence of Microstructure on the Residual Stress Development in Short Fiber Composites," Himont, Wilmington, DE, June 11, 1991.
73. Gillespie, J. W. Jr., "Influence of Layer Waviness on Stiffness and Strength of Fiber Reinforced Composite Laminates," Fiber Producer Conference 1991, Clemson University, Clemson, SC, May 6-9, 1991.
74. Gillespie, J. W. Jr., "Joining of Thermoplastic Composites," McDonnell Douglas, St. Louis, MO, April 19, 1991.
75. Gillespie, J. W. Jr., "Influence of Layer Waviness on Performance of Pressure Hulls," Advanced Materials Engineering Centre, Halifax, Nova Scotia, Canada, November 29, 1990.
76. Gillespie, J. W. Jr., "Manufacture and Performance of Resistance Welded Thermoplastic Skin-Core Structures," ALCOA Technical Center, ALCOA Center, PA, September 28, 1990.
77. Gillespie, J. W. Jr., "Process-Induced Stress and Deformation in Thick-Section Thermosetting Composites," United Technologies Research Center, East Hartford, CT, August 31, 1990.
78. Gillespie, J. W. Jr., R. F. Eduljee, and R. L. McCullough, "On the Application of Micromechanics to Predict Macroscopic Residual Thermal Stress During Injection Molding of Composites," NRCC/IMRI Composites-90, Montreal, Canada, October 1990.

79. Gillespie, J. W. Jr., "Damage Tolerance of Composite Structures: The Role of Interlaminar Fracture Mechanics," Thirteenth Asilomar Conference on Polymeric Materials, Pacific Grove, CA, January 30–February 2, 1990 (unable to attend due to illness in family).
80. Gillespie, J. W. Jr., R. L. McCullough, and T. A. Bogetti "Influence of Processing on the Development of Residual Stresses in Thick Section Thermoset Composites," U. S. Army Sagamore Conference on Thick Composites, Plymouth, MA, October 23–26, 1989.
81. Gillespie, J. W. Jr., "Influence of Stacking Sequence on Composite Damping," U.S. Navy Advanced Damping Materials Workshop, Annapolis, MD, October 12, 1989.
82. Gillespie, J. W. Jr., "Residual Stress in Autoclave Cured Thick Sections," Third Annual Thick Composites in Compression Workshop, Knoxville, TN, July 11–12, 1989.
83. Gillespie, J. W. Jr., "Processing of Polymeric Matrix Composites," Army Symposium on Solid Mechanics: Mechanic of Engineered Materials and Applications, Newport, RI, May 16–18, 1989.
84. Gillespie, J. W. Jr., "Composites Education in the United States," 1988 SACMA Fall Conference, San Diego, CA, November 1988.
85. Gillespie, J. W. Jr., "Numerical and Experimental Evaluation of the Mode III Interlaminar Fracture Toughness of Composite Materials," National Research Council Canada IMRI Symposium Series: "Composites-'88," Boucherville, Quebec, November 1988.
86. Gillespie, J. W. Jr., "Workshop on Failure Theories of Thick Section Composites," Ballistics Research Laboratory, Aberdeen Proving Grounds, Aberdeen, MD, July 1988.
87. Gillespie, J. W. Jr., "Maximum Load Transfer Through Composite Material Grooves," Sabot Technology Workshop, Ballistics Research Laboratory, Aberdeen Proving Grounds, Aberdeen, MD, June 1987.
88. Gillespie, J. W. Jr., "Instability Related Delamination Growth in Composite Laminates," Civil Engineering Seminar, University of Delaware, Newark, DE, 1986.

## Other Presentations

1. Guy<sup>1</sup>, J., E. Bonyi<sup>1</sup>, B. Kioko<sup>1</sup>, C. Adesina<sup>1</sup>, T. Obafemi-Babatunde<sup>1</sup>, C. Meyer<sup>2,3</sup>, D. J. O'Brien<sup>2</sup>, B. Z. (Gama) Haque<sup>3</sup>, J. W., Gillespie, Jr.<sup>3</sup>, and K. Aslan<sup>1</sup>; <sup>1</sup>Morgan State University, Department of Civil Engineering, Baltimore, MD; <sup>2</sup>US Army Research Laboratory, Weapons and Materials Research Directorate, Aberdeen Proving Ground, MD; <sup>3</sup>University of Delaware Center for Composite Materials, Newark DE.
2. Kubota, M., J. Deitzel, S. Sauerbrunn, and J. W. Gillespie, Jr., "Functionalization of Pan-Based Carbon Fiber for Improved Wetting and Interfacial Shear Strength," University of Delaware, Clayton Hall, Newark, DE, August 7-10, 2017.
3. Heider, D., J. Dossman, J. J. Tierney, S. Yarlagadda, and J. W. Gillespie, Jr. (CCM, University of Delaware), L. Keuthage, A. Campbell, and D. Rinehardt (BMW AG, Germany), "Fabrication of a Crashworthy Lightweight Thermoplastic Carbon Fiber B-Pillar," CAMX 2017, Orange County Convention Center, Orlando, FL, Sept. 11-14, 2017.
4. Tierney, J. J., B. Haque, D. Heider, S. Yarlagadda, and J. W. Gillespie, Jr. (CCM, University of Delaware), L. Keuthage, A. Campbell, and D. Rinehardt (BMW AG, Germany), "Design and Optimization of a Crashworthy Lightweight Thermoplastic Carbon Fiber B-Pillar," CAMX 2017, Orange County Convention Center, Orlando, FL, Sept. 11-14, 2017.
5. Tanoglu, M. and J. W. Gillespie Jr., "Characterization of the Fiber/Matrix Interphase under High-Strain Rates," presented at IPCM 99: Interfacial Phenomena in Composite Materials, September 8-10, 1999, Berlin, Germany.
6. Sands, J. M., B. K. Fink, and J. W. Gillespie Jr., "Sensor System Integration for Processing and Life-Cycle Monitoring of Composites for Military Systems," ASME Congress, November 15-20, 1998.
7. Xiao, J. Q., S. Yarlagadda, J. W. Gillespie Jr., and B. K. Fink, "Effects of Particle Size and Distribution on Electromagnetic Heating of Ferromagnetic Particle Filled Polymers," presented at the Materials Research Society Meeting, Boston, December 1997.
8. Heider, D. and J. W. Gillespie Jr., "Adaptive Control for the Tow Placement System," presented at the Symposium on Affordable Composites Processing, 1997 ASME International Mechanical Engineering Congress and Exposition (IMECE), Dallas, TX, November 16-21, 1997.
9. Fink, B. K., S. Yarlagadda, and J. W. Gillespie Jr., "Induction Bonding of Composites Using Resistive Susceptors," presented at the Symposium on Affordable Composites Processing, 1997 ASME International Mechanical Engineering Congress and Exposition (IMECE), Dallas, TX, November 16-21, 1997.
10. Gillio, E. F., S. G. Advani, R. F. Eduljee, B. K. Fink, K. R. Bernetich, and J. W. Gillespie Jr., "Characterization of a Co-Injected Vinyl-ester/Phenolic Interphase," presented at the Symposium on Affordable Composites Processing, 1997 ASME International Mechanical Engineering Congress and Exposition (IMECE), Dallas, TX, November 16-21, 1997.
11. Thomas, G. E. and J. W. Gillespie Jr., "The Application of Six-Sigma Analysis to the Composite Armored Vehicle," Defense Manufacturing Conference 95, Dallas, TX, November 1995.
12. Fink, B. K. and J. W. Gillespie Jr. "Army Research Laboratory Collaborative Research in Resin Transfer Molding," Defense Manufacturing Conference 95, Dallas, TX, November 1995.

13. Hoppel, C. P. R., T. A. Bogetti, and J. W. Gillespie Jr. "Design and Analysis of Composite Wraps for Rehabilitation of Concrete Columns," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994 (also CCM Technical Report 95-15).
14. McKnight, S. H., and J. W. Gillespie Jr. "Silane Coupling Agents as Adhesion Promoters in Metal-to-Composite Bonds," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
15. McKnight, S. H., P. E. Bourban, and J. W. Gillespie Jr. "Durability of Composite-to-Steel Bonds for Steel Rehabilitation," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
16. Don, R. C., and J. W. Gillespie Jr. "Integrated Process Models for Simulation and Control of Thermoplastic Fiber Placement," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
17. Pitchumani, R. and J. W. Gillespie Jr. "Effects of Processing Conditions on On-line Consolidation and Void Content during Thermoplastic Fiber Placement," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
18. Tackitt, K. D. and J. W. Gillespie Jr. "A Model of the Temperature Dependence of Sound Transmission through Layered Structures," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
19. Huang, X. G. and J. W. Gillespie Jr. "Mechanics of Discontinuous-Ceramic-Cored-Sandwich Structures for Composites Armored Vehicle Applications," presented at the American Society for Composites Ninth Technical Conference, September 20–22, 1994.
20. Hansen, U. and J. W. Gillespie Jr. "Predictions of Transverse Cracking in Cross-Ply Laminates with Resin-Rich Interlayers: A Variational Approach," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
21. Huang, X. G., R. F. Eduljee, and J. W. Gillespie Jr., "Effect of Laminate Stacking Sequence and Ply-Group Thickness on the Microcracking Behavior of Bismaleimide Composite Laminates, presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20-22, 1994.
22. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr. "An Analysis of Ultrasonic NDE Methods for the In-Process Inspection of In-situ Consolidated Thermoplastic Composites," presented at the American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.
23. Fecko, D. L., K. V. Steiner, and J. W. Gillespie Jr. "Acousto-Ultrasonic Inspection of Pultruded Composites," 1993 University-Industry Research Symposium, University of Delaware, Newark, DE, September 29–30, 1993.
24. Gillespie, J. W. Jr., "Research Issues on Rapid Fiber Placement of Thermoplastic Composites," Tenth Thermoplastic Matrix and Low-Cost Composites Review," La Jolla, San Diego, CA, February 9–11, 1993.
25. Andersen, S. M., J. W. Gillespie Jr., K. Newman, M. A. Lamontia and B. Olson, "Design, Analysis and Hydrotesting of a Composite Cylinder Joint for Pressure-Hull Applications," ASTM STP on Compression Response of Composite Structures, November 1992 (selected as Best Presentation).

26. Gillespie, J. W. Jr., "Influence of Ply Waviness on Stiffness and Strength Reduction in Composite Laminates," Seventeenth Annual Mechanics of Composites Review, Materials Directorate of the Wright Laboratory, Wright-Patterson Air Force Base, OH, October 27–28, 1992.
27. Gillespie, J. W. Jr., "Composite Submarine Structures: Research Issues," Office of Naval Research, Crystal City, VA, March 20, 1992.
28. Gillespie, J. W. Jr., "Joint Demonstrator and Subcomponent Test Program," Critical Design Review—Composite Hull Program, November 14, 1991.
29. Gillespie, J. W. Jr., "Joint Feature Design and Analysis," Preliminary Design Review for Graphite Composite Pressure Hull Program, July 26, 1991.
30. Gillespie, J. W. Jr., "Joining and Subcomponent Test Program," Critical Design Review for Composite Hull Mandrels, October 18, 1991.
31. Gillespie, J. W. Jr., "Design, Analysis and Hydrotesting of a Composite Cylinder Joint for Pressure-Hull Applications," ASTM Symposium on Compression Response of Composite Structures, November 16–17, 1992.
32. Gillespie, J. W. Jr., "Performance of In-situ Filament Wound Graphite/Thermoplastic Composite Ring Stiffened Pressure Hulls," ASTM Symposium on Compression Response of Composite Structures, November 16–17, 1992.
33. Research Center, Naval Civil Engineering Laboratory and The Vibration Institute, April Gillespie, J. W. Jr., "Influence of Ply Waviness and Residual Stress on Hydrostatic Collapse Pressure of Filament Wound Composite Cylinders," 45th Meeting of the Mechanical Failures Prevention Group, Sponsored by Office of Naval Research, David Taylor 1991.
34. Gillespie, J. W. Jr., "Manufacture and Performance of Resistance Welded Graphite Reinforced Thermoplastic Composite Structural Elements," Society of Manufacturing Engineers, October 9–11, 1990.
35. Crane, R. M. and J. W. Gillespie Jr. "Effect of Vibration Amplitude on the Vibration Damping Loss Factor of Glass and Graphite Epoxy Composites," Sixth Annual ASM/ESD Advanced Composites Conference, Composites for Noise and Vibration Control, Detroit, MI, October 8–11, 1990.
36. Gillespie, J. W. Jr., "Effects of Defects on Cylinder Performance," Fourth Annual Thick Composites in Compression Workshop, Knoxville, TN, June 26, 1990.
37. Advani, S. G., R. Shanker, J. W. Gillespie Jr., and S. I. Güçeri, "Non-homogeneous Flow Field Effects in Injection Molding of Fiber Suspensions," Conference of the Polymer Processing Society, Nice, France, 1990.
38. Gillespie, J. W. Jr., "Damage Tolerance of Composite Structures: The Role of Interlaminar Fracture Mechanics," 1990 Conference of the ASME Offshore Mechanics and Arctic Engineering Division," Houston, TX, February 18–23, 1990.
39. Gillespie, J. W. Jr., "Impact of Interactive Videodisc Courseware on Composites Education," 1989 ASEE Annual Conference, University of Nebraska, Lincoln, NE, June 1989.
40. Gillespie, J. W. Jr., "Impact of Interactive Videodisc Courseware on Composites Education," Create Advance on Computer-Based Learning, Academic Computing and Instructional Technology, University of Delaware, Newark, DE, February 1989.

41. Gillespie, J. W. Jr., "Application of Composite Materials to Business Equipment: A Case Study," ASM Materials Week, Cincinnati, OH, 1987.
42. Gillespie, J. W. Jr., "Design Methodology for Short Fiber Reinforced Materials," ASM Materials Week, Cincinnati, OH, 1987.
43. Gillespie, J. W. Jr., "Computer Aided Design of Composite Components," ASM Materials Week '86, Orlando, FL, 1986.
44. Gillespie, J. W. Jr., "Delamination Growth in Composite Laminates," 1985 Grant and Contract Review, Fatigue and Fracture Branch, NASA Langley Research Center, Hampton, VA, 1985.
45. Gillespie, J. W. Jr., "Thermoelastic Response of the Cylindrically Orthotropic Disk," ASTM Symposium: High Modulus Fiber Composites in Ground Transportation and High-Volume Applications, Pittsburgh, PA, 1983.
46. Gillespie, J. W. Jr., "Compressive Strength of Composite Laminates with Interlaminar Defects," Symposium on NDE of Criticality of Defects in Composites Laminates, Valley Forge, PA, NADC-84041-60, 1983.
47. Gillespie, J. W. Jr., "Evaluation of the Embedded Spar Composite Design Concept," 1978 International Conference on Composite Materials, Toronto, Canada, 1978.

**Service****University of Delaware**

Professor, Department of Electrical and Computer Engineering, January 2019

Member, Board of Advisors, Tau Beta Pi, Delaware Alpha Chapter, 2017-2020.

Member, Mentors Committee (Zubaer Hossain), 2017-present.

Member, Awards Committee, 2017-2018

Member, Committee for Director for Additive Manufacturing, 2016

Member, UD Interdisciplinary Manufacturing Program, 2016

Member, Committee for UD Energy Institute, 2016

Member, Institute of Energy Conversion Working Group, 2016

Member, University Research Council, 2014-2015

Member, ME Alumni Relations Planning Team, 2013

Professor, Department of Mechanical Engineering, 2013

Member, Dean's Search Committee, 2012-2013

Member, College of Engineering Financial Levers Taskforce, 2012

Member, College of Engineering Faculty Senate, 2011-2012, 2012-2013, 2013-2014, and 2014-2015

Member, Chief Financial Officer Search Committee, 2010

Member, Deans' Cluster Search Committee on National Security, 2010.

Member, Dean's Cluster Search Committee on Composites, 2010.

Member, Organizing Committee for the Second Joint American – Canadian Conference on Composites - 2011

Member, Committee of Named Professors on Classified Research, July 2009

Member, Classified Research Task Force, June 2009

Member, Dean's Chair's Advisory Committee (DCAC), July 2008 - Present

Member, College of Engineering Strategic Planning Committee, July – Present

Member, Research Council, May 2008 - Present

Member, Dean's Search Committee, 2007-08

Director, Center for Composite Materials, 1996 – Present

Chair of the College Promotion and Tenure Committee, 2007 - 2009

Member, CEE Faculty Search Committee, 2006

Member, College P&T Committee, 2006-07

Coordinator, Science & Engineering Scholars Program Center for Composite Materials, 1982–Present

Member, Civil & Environmental Engineering Advisory Committee, 2001 – Present

Member, College of Engineering Dean’s Advisory Committee, 2000 – Present

Department of Materials Science & Engineering representative, Educational Activities Committee, 1998 –Present

Member, Responsible Conduct of Research (RCR) Council, Office of Vice Provost, 2005

Member, Department of Civil & Environmental Engineering Undergraduate Committee, 2003-2004

Member, *ad hoc* Committee, Independent Review of Department Chair (Materials Science and Engineering), 2003

Member, College of Engineering Promotion and Tenure Committee, 1999 – 2003

Member, Search Committee, Director, Delaware Transportation Institute, 1999

Member, Technical and Scientific Advisory Group (TSAG), Delaware Transportation Institute, 1998 – 1999

Member, Search Committee, College of Engineering Dean’s position, 1998 – 1999

Member, Department of Civil & Environmental Engineering Undergraduate Recruitment and Scholarship Committee, 1998–1999

Member, ABET Implementation Committee/Subcommittee on Civil Engineering, 1998 – 1999

ABET Review Committee, Department of Civil and Environmental Engineering, 1997–1998

Graduate Student Academic Advisor, Department of Materials Science and Engineering, 1997–1998

Member of the Center for Composite Materials Executive Advisory Board, 1995–1998

Chair, Administrator of Intellectual Property Search Committee, University of Delaware Office of the Vice Provost for Research, 1996

Member, Project Manager Search Committee, University of Delaware Office of the Vice Provost for Research, 1996

Associate Director, Center for Composite Materials, 1990–1996

Member, College of Engineering Dissertation Committee and Search Committees

Member Dissertation Committee:

Erich Weigert

Dan Su

Member, Tau Beta Pi - 1976

**External**

Co-Chair, SPE Automotive Composites Conference & Exhibition, Novi, MI, Sept. 7-9, 2022

External Review Board (ERB) member of The Louisiana Materials Design Alliance (LAMDA), 2021

Member, Thermoplastic Composites Conference 2020

Member, International Scientific Committee, ICCM 23, Belfast Ireland August 1-6, 2021

Member, Mach Scientific Committee, 2020

Member, Technical Program committee of 35th ASC Conference on Digital Materials Design and Additive Manufacturing, Feb 29, 2020

Session Co-Chair, From Atoms to Armor: multiaxial dynamic impact mechanics of ballistic fibers and composites, MACH 2019 Conference, Annapolis, MD, April 3-5, 2019.

Session Co-Chair, Modeling and Characterization of Fiber-Matrix Interphase, MACH 2019 Conference, Annapolis, MD, April 3-5, 2019.

Member, International Advisory Body, International Conference on Processing and Characterization of Materials (ICPCM-2018), December 6-8, 2018 at NIT Rourkela.

Member, Consortium Management Committee for Materials for Extreme Dynamic Environment 2013 - Present

Member, Mach Scientific Committee, 2017

Member, Science Advisory Board, Mach Conference, 2016

Member, Board of Directors of the Composites Division of SPE, 2015 -

Session Chair, "Micro-scale models of polymers and composites", Mach Conference, Annapolis, MD, April 8-10, 2015.

Member, Science Advisory Board, Mach Conference, 2015

Chair of the International Advisory Board for the Sixth World Conference on 3D Fabrics and Their Applications, North Carolina State University, Raleigh, NC, May 26-27, 2015.

Member, Science Advisory Board, Mach Conference, 2014

Member, Editorial Board of Fibers, 2013

Member, Science Advisory Board, Mach Conference, 2013

Member of Advisory Group for the Mayor's Manufacturing Task Force on Evaluation of the State of Manufacturing, Philadelphia Industrial Development Corporation, 2013.

Member of Advanced Manufacturing Innovation and Skills Accelerator, Delaware Industrial Resource Center, 2013.

Member International Advisory Committee, Fifth World Conference on 3D Fabrics and Their Applications, Indian Institute of Technology, Delhi, India, December 16-17, 2013.

Member of Scientific Committee, Mechanics of Composites, Atlanta Georgia, June 8-11, 2014.

Member of Editorial Board of Journal of Materials, July 2012.

Academic panelist at SAMPE 2012 in Baltimore, MD, USA on May 21-24, 2012. Panel discussion on "New Breakthroughs, Future Materials, Preparing Students to Take the Lead – A Global Perspective".

Member International Advisory Committee, Fourth World Conference on 3D Fabrics and Their Applications, RWTH Aachen, Germany, September 10-11, 2012.

Session Chair, 2011 International Fiber Symposium, sponsored by the Fiber Society, AATCC, and the National Textile Center, Charleston, South Carolina, October 11-13, 2011

Co-Chair of International Science Advisory Committee, Third World Conference on 3D Fabrics and Their Applications, Wuhan Textile University, Wuhan, China, April 20-21, 2011.

Member Scientific Advisory Committee, International Conference on Textile Engineering and Materials (ICTEM '2011) Tianjin, China, September 23-25, 2011.

Member Scientific Advisory Board, The Second Joint US-Canada Conference on Composites / 26<sup>th</sup> ASC Annual Technical Conference, Quebec, Canada, September 26-28, 2011

Member of Organizing Committee of Symposium on New Frontiers in Fiber Materials Science, Clemson University, 2011

Chair, External Advisory Board for NSF Next Generation Composite CREST Center, Southern University, 2010-2014

Member of Advisory Committee, Second Joint US-Canada Conference on Composite, 2010

External Advisory Group for the Composites CREST Center at Southern University, 2010

Member of Editorial Board, Journal of Materials Processing Technology, xxxx-2009

Member of External Advisory Board to the President of Owens Corning Ventures, 2009-.

Contributed to the Technical Advisory Group process of the Evolution of CEM Pulsed Alternators – EM Gun.

Co-Chair, 24<sup>th</sup> Technical Conference, American Society for Composites and the Canadian Association for Composite Structures and Materials, September 15-17, 2009.

Chair of the International Advisory Committee for the Second World Conference on 3D Fabrics and Their Applications, Greenville, South Carolina, April 2009.

Member of Editorial Board, Advances in Materials Science and Engineering, Hindawi Publishing, 2008 – 2014.

Co-Chair, TEXCOMP9, International Conference on Textile Composites, October 13-15, 2008, University of Delaware.

International Co-Chair, 13<sup>th</sup> US-Japan Conference on Composite Materials, Nihon University, Tokyo, Japan, June 6-7, 2008

Session Co-Chair, Multi-functional Composites, 13<sup>th</sup> US-Japan Conference on Composite Materials, Nihon University, Tokyo, Japan, June 6-7, 2008

Member of International Advisory Committee for the First World Conference on 3D Fabrics and Their Applications, Weston Conference Centre, University of Manchester, UK, April 3-4, 2008.

Member of Independent Review Team for Future Combat Systems, March 08.

Editorial Board, Research Letters in Materials Science, 2007.

Sugar Bowl Steering Committee for the Friends of Wilmington Parks and The Delaware Division of Parks and Recreation, 2005-2007.

Editor, *Journal of Thermoplastic Composite Materials*, 1993 – Present.

Chair, National Research Council, National Materials Advisory Board, Committee on High-Performance Structural Fibers for Advanced Polymer-Matrix Composites, 1998–2005.

Member, National Research Council, Commission on Engineering and Technical Systems, Board on Manufacturing and Engineering Design, 1999–2002.

Past President of the Technical Program Committee, Secretary and Member of the Steering Committee, Society of Plastics Engineers Special Interest Group on Joining of Plastics and Composites, 1990–2002.

Chair, Workshop of the National Academies, High Performance Structural Fibers for Advanced Polymer Matrix Composites, Washington DC, April 5-6, 2004

Session Chair, Defense Needs, Workshop of the National Academies, High Performance Structural Fibers for Advanced Polymer Matrix Composites, Washington DC, April 5-6, 2004.

Session Chair, Commercial Needs, Workshop of the National Academies, High Performance Structural Fibers for Advanced Polymer Matrix Composites, Washington DC, April 5-6, 2004.

National Research Council/National Materials Advisory Board Committee on New Materials for Advanced Civil Aircraft, 1994–1996.

Member, Scientific Committee Meeting on Mesomechanics, Montreal, Canada, August 1-4, 2005.

Chair, Materials, Composites and Nanotechnology Working Group, Strengthening the Mid- Atlantic Region for Tomorrow (SMART), Oct 2003 to present

Served as Member of Grey Beard Panel for Weight Reduction in Future Combat System NLOS Cannon and Mortar Vehicles - 2003

Panel Member of the Independent Assessment of the Future Combat Systems (FCS) Critical Manufacturing Technologies for the Deputy Assistant Secretary of the Army (Science and Technology) 2001 – 2002.

Member, Editorial Board, *International Journal of Environmental Technology and Management*, 2000 – Present.

Member, Editorial Board, *International Journal of Materials and Product Technology*, 2000 – Present.

Faculty Advisor, SAMPE, 2000 – Present.

Member, Selection Committee, Jud Hall Composites Manufacturing Award, SME, 2000 – Present.

Member, Executive Committee, ASEE Postdoctoral Fellowship Programs, 1999 – Present.

Adjunct Faculty, Materials Science and Engineering Program, Tuskegee University, 1998 – Present.

Member, International Committee, *Brazilian Journal of Materials Science and Engineering*, 1998 – Present.

Member, National Research Council (Transportation Research Board), National Cooperative Highway Research Program (NCHRP), Project D10-55, *Fiber Reinforced Polymer Composites for Concrete Bridge Decks*, 1998 – 2003.

Session Chair, ASC 2003 Technical Conference, Gainesville, FL, October 20-22, 2003.

Member, Local Scientific Committee, *Fourteenth International Conference on Composite Materials (ICCM-14): Global Composite Advancements-Bridging Academia and Industry*, San Diego, CA, July 14-18, 2003.

Member, Organizing Committee, *Sixth International Conference on Sandwich Constructions*, Fort Lauderdale, FL, March 31 – April 2, 2003.

Session Chair, “Composites Workshop,” *Leveraging Science and Technology Opportunities,” TechTrends 2002*, Baltimore, MD, 2002.

Co-chair, SME Third Composites Manufacturing and Tooling 2001 Conference.

Member, Executive Board, ARO Tuskegee University Research Consortium on Intelligent Resin Transfer Molding for Integral Armor Applications, 1995–2001.

Panelist, International Conference on Engineering Design and Automation: *Integrated Product and Process Design for Affordable Composite Structures*, Orlando, FL, August 1, 2000.

Member, Task Force for Development of Doctoral Program in Materials Science and Engineering, Tuskegee University/NSF CREST, 1997–2000.

Member, Programme Committee, ISATA 2000: Automotive and Transportation Technology, Dublin, Ireland, September 25–29, 2000.

Plenary Session Participant, 4<sup>th</sup> International Conference on Engineering Design and Automation, Orlando, FL, July 30–August 2, 2000.

Member, Programme Committee, 32nd International Symposium on Automotive Technology and Automation (ISATA), Vienna, Austria, June 14–18, 1999.

Member, International Advisory Board, Polymer Composites 99: International Symposium on Polymer Composites Science and Technology, Quebec, Canada, October 6-8, 1999.

Member, Programme Committee, 31st International Symposium on Automotive Technology and Automation (ISATA), Dusseldorf, Germany, June 2–5, 1998.

ASC Contact, ICCI '98 (Second International Conference on Composites in Infrastructure), Tucson, AZ, January 5–7, 1998.

Member, Programme Committee, 30th International Symposium on Automotive Technology and Automation (ISATA), Florence Italy, June 16–19, 1997.

Member, Executive Committee and Editor, American Society for Composites, 1990–1997.

Member, Militarily Critical Technology TARDEC Committee Composites for Ground Vehicles, 1995–1996.

Member, Programme Committee, 29th International Symposium on Automotive Technology and Automation (ISATA), Florence Italy, June 3–7, 1996.

Member, Technology Advisory Board for U. S. Army Composites Armored Vehicle–Advanced Technology Demonstrator (CAV–ATD) Program, 1994–1996.

Session Chairman, Joining, ANTEC 96, Indianapolis, IN, 1996.

Session Chairman, Composites for Infrastructure, Eleventh Technical Meeting of the American Society for Composites, Atlanta, GA, October 1996.

Session Chairman, Joining, ANTEC 95, Boston, MA, 1995.

Co-Chairman of the Technical Committee, ENERCOMP 95, International Conference on Composite Materials and Energy, Quebec, Canada, 1995.

Session Chairman and Organizer on Thermoplastic Composite Materials, Second International Conference on Composites Engineering, New Orleans, LA, August 1995.

Session Chairman, Joining, ANTEC 94, San Francisco, CA, 1994.

Session Chairman, Adhesives and Adhesion Promotion, 39th International SAMPE Symposium and Exhibition, Anaheim, CA, April 11–14, 1994.

Member of the Program Committee, 150th Anniversary of the State University Lvivska Polytechnica International Symposium, “Polymers at the Phase Boundary,” Lviv, Ukraine, October 25–29, 1994.

Session Chairman, Processing, Joint CCM Research Symposium/ American Society for Composites Ninth Technical Conference, Newark, DE, September 20–22, 1994.

Session Chairman, Joining, ANTEC 93, New Orleans, LA, May 9–13, 1993.

Member of the U.S. Army Armament Research, Development and Engineering Center (ARDEC) Independent Design Review Panel of the 9 MJ Range Gun Compulsator Program at the Institute for Advanced Technology, University of Texas at Austin, Austin, TX, 1993.

Session Chairman, Joining, ANTEC 92, Detroit, MI, May 4–8, 1992.

Member of the Science Advisory Committee for the International Conference on Computer Aided Design in Composite Materials Technology, 1992.

Session Chairman, Processing, American Society for Composites Eighth Technical Conference, Battelle, Cleveland, OH, October 19–21, 1993.

Session Chairman, Processing, American Society for Composites Seventh Technical Conference, Penn State University, October 13–15, 1992.

Member of the Organizing Committee, CADCOMP 92, Third International Conference on Computer Aided Design in Composite Material Technology, University of Delaware, Newark, DE, May 13–15, 1992.

Session Chairman, Center for Composites Annual Research Symposium, September 16–17, 1992.

Session Chairman, American Society for Composites Sixth Technical Conference, RPI, Troy, NY, October 7–9, 1991.

Session Chairman, The Eighth International Conference on Composite Materials (ICCM/VIII), Honolulu, HI, July 15–19, 1991.

Panelist, Joints Session, Fourth Annual Thick Composites in Compression Workshop, Knoxville, TN, July 27–28, 1990.

Panelist, Fundamentals of Compression Session, Fourth Annual Thick Composites in Compression Workshop, Knoxville, TN, July 27–28, 1990.

Session Chairman, American Society for Composites Fifth Technical Conference, East Lansing, MI, June 1990.

Session Chairman, 21st International SAMPE Technical Conference, Atlantic City, NJ, September 25–28, 1989.

Panelist, “Manufacturing Thick-Section Composites,” Third Annual Thick Composites in Compression Workshop, Knoxville, TN, July 11–12, 1989.

Session Chairman, “Composites ’88,” Industrial Materials Research Institute, National Research Council Canada, Boucherville, Quebec, Canada, 1988.

Panelist, "Shaping & Expanding the Composites Skill Base in the '90s," 1988 SACMA Fall Conference, San Diego, CA, 1988.

Member, Task Force, Technology-Based Engineering Courseware Consortium, William C. Norris Institute, Minneapolis, MN, 1988.

**Reviewer for Promotion and Tenure Committees:**

- Professor Srikanth Pilla, Clemson University (Department of Automotive Engineering)
- Professor Hassan Mahfuz, Florida Atlantic University (Oceans Engineering Department)
- Professor Anwar Haque, University of Alabama (Department of Mechanical Engineering)
- Professor Adel Hammami, United Arab Emirates University (Department of Mechanical Engineering).
- Professor Raghavan Jayaraman, University of Manitoba (Department of Mechanical & Industrial Engineering).
- Professor John Henshaw, University of Tulsa.
- Professor Mehrdad Ghasemi Nejhad, University of Hawaii.
- Professor Su-Seng Pang, Louisiana State University.
- Professor John Whitcomb, Texas A&M.
- Professor Ranga Pitchumani, University of Connecticut.

**Examiner on Ph. D Committees:**

- Pramod Kumar, National Institute of Technology, "Investigation of Damping in Fiber Reinforced Composite Materials," Department of Mechanical Engineering.
- Bijan Derisi, Concordia University, "Development of Thermoplastic Composite Tubes for Large Deformation," Department of Mechanical and Industrial Engineering.
- T. Thomas, Tuskegee University, "Effects of Temperature and Strain Rate on Impact Response of Foam Core Sandwich Structures," MSE03.
- K. Kanny, Tuskegee University, "Effects of Viscoelasticity on the Flexural Fatigue Performance of Foam Core Sandwich Structures," MSE04.
- J. Wang, University of Buffalo, Department of Mechanical Engineering
- S. Mazumder, Concordia University, Department of Mechanical Engineering, Montreal, Canada.
- R. Chandra, Indian Institute of Technology, "Some Micromechanical Studies on Damping in Fiber-Reinforced Composites."
- Christophe Ageorges, University of Sydney, "Resistance Welding of Thermoplastic Matrix Composite Materials."
- Sachin O. Gajbhiye, Indian Institute of Technology, "Multiscale Dynamic Analysis of Carbon Nano-Structures and Nanocomposites."

**Reviewer**

1. *Science*
2. *Acta Materialia*
3. *ACS Applied Materials & Interfaces*
4. *ACS Nano*
5. *ACS Petroleum Research Fund*
6. *Aerospace Science and Technology*
7. *Advances in Polymer Technology*
8. *Air Force Office of Scientific Research*
9. *American Chemical Society*
10. *American Institute of Aeronautics and Astronautics*
11. *American Institute of Biological Sciences*
12. *American Society for Testing and Materials (ASTM)*
13. *American Society of Mechanical Engineers*
14. *Applied Surface Science*
15. *Analytical Chemistry*
16. *Applied Composite Materials*
17. *Applied Mathematics and Mechanics*
18. *Arabian Journal for Science and Engineering*
19. *Army Research Office*
20. *Australian Research Council*
21. *Austrian Science Fund*
22. *Board of Regents*
23. *Carbon*
24. *Chemical Engineering Science*
25. *Christian Doppler Research Association, Austria*
26. *Clean Products and Processes*
27. *Colloid and Polymer Science*
28. *Composites*
29. *Composites Engineering*
30. *Composites Part A: Applied Science and Manufacturing*
31. *Composites Part B: Engineering*
32. *Composites Science and Technology*
33. *Computational Materials Science*
34. *Computer Methods in Applied Mechanics and Engineering*
35. *Computers and Structures*
36. *Department of Energy*
37. *Deutsche Forschungsgemeinschaft (German Research Foundation)*
38. *DOE*
39. *Engineering Fracture Mechanics*
40. *Engineering Structures*
41. *European Journal of Mechanics – A/Solids*
42. *Experimental Mechanics*
43. *Express Polymer Letters*
44. *Freund Publishing House Ltd.*
45. *International Journal of Applied Ceramic Technology*
46. *International Journal of Computational Methods*
47. *International Journal of Environmental Technology and Management*
48. *International Journal of Fracture*
49. *International Journal of Material Forming*
50. *International Journal of Mechanical Sciences*
51. *International Journal of Multiphase Flow*
52. *International Journal of Multiphase Materials*
53. *International Journal of Precision Engineering and Manufacturing*
54. *International Journal of Solids and Structures*
55. *International Journal of Testing and Evaluation*
56. *International Polymer Processing*
57. *Irish Centre for High-End Computing*
58. *United States-Israel Binational Science Foundation*
59. *Journal of Adhesion Science and Technology*
60. *Journal of Alloys and Compounds*
61. *Journal of ASTM International*
62. *Journal of the American Ceramic Society*
63. *Journal of Applied Geophysics*
64. *Journal of Applied Mathematical Modelling*
65. *Journal of Applied Mechanics*
66. *Journal of Applied Physics*
67. *Journal of Applied Polymer Science*
68. *Journal of Bridge Engineering*
69. *Journal of Composite Materials*

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|-----|--|------|--|
| 70. | <i>Journal of Composites Technology and Research</i>   | 91.  | <i>Journal of Structural Engineering and Mechanics</i> |
| 71. | <i>Journal of Computational Science</i>  | 92.  | <i>Journal of the Textile Institute</i>                |
| 72. | <i>Journal of Dynamic Behavior of Materials</i>  | 93.  | <i>Journal of Thermoplastic Composite Materials</i>    |
| 73. | <i>Journal of Engineered Fibers and Fabrics</i>  | 94.  | <i>Journal of the Royal Society Interface</i>          |
| 74. | <i>Journal of Engineering Mechanics</i>  | 95.  | <i>Journal of Textile Science &amp; Engineering</i>    |
| 75. | <i>Journal of Engineering Materials and Technology (American Society of Mechanical Engineers</i> | 96.  | <i>Journal of Vibration and Control</i>                |
| 76. | <i>Journal of Engineering Structures)</i>  | 97.  | <i>Journal of Vinyl and Additive Technology</i>        |
| 77. | <i>Journal of Experimental Nanoscience</i>   | 98.  | <i>Langmuir</i>  |
| 78. | <i>Journal of Industrial Textiles</i>  | 99.  | <i>Macromolecules</i>                                  |
| 79. | <i>Journal of Materials ChemistryF</i>   | 100. | <i>Mechanics of Materials</i>                          |
| 80. | <i>Journal of Materials and Design</i>   | 101. | <i>Mechanics Research Communications</i>               |
| 81. | <i>Journal of Materials Processing Technology</i>  | 102. | <i>Materials Characterization</i>                      |
| 82. | <i>Journal of Materials and Design</i>   | 103. | <i>Materials Chemistry and Physics</i>                 |
| 83. | <i>Journal of Materials Science</i>  | 104. | <i>Materials Science and Engineering A</i>             |
| 84. | <i>Journal of Mechanics of Materials and Structures</i>  | 105. | <i>Nebraska EPSCoR</i>                                 |
| 85. | <i>Journal of Non-Crystalline Solids</i>   | 106. | <i>National Materials Advisory Board</i>               |
| 86. | <i>Journal of Physics and Chemistry of Solids</i>  | 107. | <i>National Science Foundation</i>                     |
| 87. | <i>Journal of Polymer Engineering</i>  | 108. | <i>NIST Monograph on Technological</i>                 |
| 88. | <i>Journal of Rheology</i>   | 109. | <i>Office of Naval Research</i>                        |
| 89. | <i>Journal of Strain Analysis for Engineering Design</i>   | 110. | <i>Ondon-Tel-Aviv</i>                                  |
| 90. | <i>Journal of Structural Engineering (ASCE)</i>  | 111. | <i>Opportunities in Composite Materials</i>            |
|     |  | 112. | <i>Physica E</i>                                       |
|     |  | 113. | <i>Polymer</i>   |
|     |  | 114. | <i>Polymer &amp; Polymer Composites</i>                |
|     |  | 115. | <i>Polymer Composites</i>                              |

**Consulting**

1. 3TEX, Research Triangle Park, NC
2. Accudyne, Newark, DE
3. Advanced Ceramics Research, Tucson, AZ
4. A.O. Smith Corp., Milwaukee, WI
5. A. I. Technology, Princeton Junction, NJ
6. Alcoa, Alcoa Center, PA
7. Alliant TechSystems, Rocket Center, WV
8. Alliant TechSystems, Hopkins, MN
9. American Cyanamid, Stamford, CT
10. Anholt Technologies, Newark, DE
11. Atlantic Research Company, Gainesville, VA
12. BP North End Advanced Products, LLC
13. CASDE Corp., Alexandria, VA.
14. DE Technologies, Inc., King of Prussia, PA
15. DuPont Company, Wilmington, DE
16. EdgeCraft Corp., Avondale, PA
17. Foster Miller, Inc., Boston, MA
18. W. L. Gore & Associates, Inc., Newark, DE
19. Hercules Inc., Wilmington, DE
20. ISC Education Systems, Lancaster, PA
21. Johnson & Johnson Orthopedics, Raynham, MA
22. Kenetech Windpower, Livermore, CA
23. Keystone Helicopter Corp., Phoenixville, PA
24. Lanxide Armor Products, Inc., Newark, DE
25. Leeds & Northrup Co., North Wales, PA
26. Lockheed, Marietta, GA
27. Lord Corp., Cary, NC
28. Martin Marietta, Baltimore, MD
29. Martin Marietta Composites, Raleigh NC
30. Materials Science Corp., Fort Washington, PA
31. Micro Contacts, Hicksville, NY
32. National Academies Commission on Engineering and Technical Systems
33. Naval Surface Warfare Center, Annapolis, MD
34. NVF Company, Kennett Square, PA
35. Owens Corning, Granville, OH
36. Pacific Northwest National Laboratory
37. p<sup>2</sup> Inc., Aberdeen, MD
38. Product Design Center, Newark, OH
39. Rogers Corp., Rogers, CT
40. Solectria Corp., Woburn, MA
41. Sorvall, Newtown, CT
42. Southwest Research Institute, San Antonio, TX
43. TDA Associates, Wayne, PA
44. Textron, Providence, RI
45. Thiokol, Brigham City, UT
46. Tension Technology Internat'l, Morristown, NJ
47. Triton Systems, Inc., Chelmsford, MA
48. United Defense, San Jose, CA
49. United States Army
50. University of Texas at Austin
51. Versar, Inc., Springfield, VA
52. VALCOR Engineering Corp., Springfield, NJ
53. Westinghouse, Lima, OH
54. West, Bethlehem, PA
55. Xerox Corp., Brewster,

## Teaching and Advisement

### Education Courseware

“Experimental Mechanics of Composites,” ISC Educational Systems Interactive Videodisc Courseware, Subject Matter Expert, and Instructional Designer, 1988.

“Strength and Failure of Composite Materials,” Professional Development Continuing Education Linear Video Course on Composite Materials, Academic Computing and Instructional Technology and Continuing Education, University of Delaware, Newark, DE, 1988.

“Interlaminar Fracture of Composite Materials,” Professional Development Continuing Education Linear Video Course on Composite Materials, Academic Computing and Instructional Technology and Continuing Education, University of Delaware, Newark, DE, 1988.

### Courses Taught

“Experimental Mechanics” MSEG 667, 2007-2020.

“Mechanical Properties of Materials,” MSEG 615, Spring 2003, 2005.

“Material Science for Engineers,” MASC 302, Spring 2001, 2002, 2004 (140 undergraduates), 2006 (240 undergraduates)

“Special Problem in Material Science,” MASS 466, Winter 2001, Summer 2005.

“Advanced Topics in Materials,” MASC 811, Spring 2000.

“Civil Engineering Structures,” CIEG 865, Spring 2000.

Special Problem: “Numerical Modeling of an All-Composite Bridge,” CIEG 866, Spring 1999.

“Strength of Materials” CIEG 212, Spring 1999.

“Experimental Mechanics of Composite Materials” CEEG 467/667–MASC 466/666, Fall 1998.

“Special Problem in Composite Bridge Deck Characterization” CIEG 866, Spring 1998.

“Experimental Mechanics of Composite Materials” CEEG 667/MASC 666, Department of Civil and Environmental Engineering/Materials Science Program, University of Delaware, Fall 1997.

“Mechanical Properties of Materials,” Materials Science Program, Fall 1995 and 1996.

“Experimental Mechanics of Composite Materials,” Department of Mechanical Engineering, University of Delaware, Spring Semester 1989 and 1990 and Winter Session 1994.

**Current & Completed Ph.D. Students**

1. Uday Balaga, Ph.D.M.E.
2. Lukas Fuessel, Ph.D.M.E.
3. Paul Samuel, Ph.D.M.E.
4. Tania Lavaggi, Ph.D.M.E. (Advani)
5. Christopher Scott Meyer, "Impact Damage Evolution of Plain Weave Composites : Multiscale Modeling and Experiments", Ph.D.M.E., 2022
6. Munetaka Kubota, Ph.D.M.S.E.
7. Albraa Ali Jaber, "Modeling and Experimental Investigation of Coating of Electrostatically Charged Polymeric Microspheres to a Carbon Fiber Surface", Ph.D.M.E., 2021 (with Advani),
8. Raja Ganesh, Ph.D.M.E., "Micromechanical Finite Element Modeling of Tensile Failure in Unidirectional Composites", 2022
9. Faheem Muhammed, Ph.D.M.S.E., "Analysis of the Pyrolytic Behavior of Benzoxazine-Derived Carbon/Carbon Composites", 2022 (with Mirotznik)
10. Sandeep Tamrakar, "Characterization of S-Glass Epoxy Composite Interface Under Various Rates of Loading", Ph.D.C.E.E., 2018.
11. Preston McDaniel, "Nanoscale Morphology to Macroscopic Performance in Ultra High Molecular Weight Polyethylene Fibers", Ph.D.M.S.E., 2017.
12. Danning Zhang, "Void Consolidation of Thermoplastic Composites via Non-Autoclave Processing", Ph.D.M.S.E., 2017.
13. Colin Cwalina, "Shear thickening fluids for enhanced protection from micrometeoroids and orbital debris", Ph.D.Ch.E., 2016 (with Wagner)
14. Subramani Sockalingam, "Transverse Impact of Ballistic Fibers and Yarns – Fiber Length-Scale Finite Element Modeling and Experiments", Ph.D.M.E., 2016 (with Keefe)
15. Amanda Kate Guron, (2015 Alan P. Colburn Dissertation Prize) "Nonlinear Oscillatory Rheology and Structure of Wormlike Micellar Solutions and Colloidal Suspensions," Ph.D.Ch.E., 2015 (with Wagner).
16. Jennifer Mueller Seitens, "Exploring Diffusion of Ultrasonically Consolidated Aluminum and Copper Films Through Scanning and Transmission Electron Microscopy," Ph.D.M.S.E., 2014.
17. Jens Z. Hansen, "The Effects of Fibre Architecture on Fatigue Life-time of Composite Materials", Ph.D., 2013 (Technical University of Denmark) – co-supervisor.
18. Quinn McAllister, "The Energy Dissipative Mechanisms of the Particle-Fiber Interface in a Textile Composite," Ph.D.M.S.E., 2013.
19. Gaurav Nilakantan, (2010 Alan P. Colburn Dissertation Prize) "Modeling the Impact of Flexible Textile Composites Through Multiscale and Probabilistic Methods," Ph.D.M.S.E., 2010 (with Keefe).
20. Solange Amouroux, "Pressure Driven Transport of Non-Wetting Fluids in Membranes used in Composite Processing", Ph.D.M.S.E., 2010.

21. Amanda Lim, "Implementing the Split Hopkinson pressure Bar Technique for Complex Fluid Evaluation", Ph.D.M.S.E., 2010.
22. Angel A Leal Ayala, "Effect of Intermolecular Hydrogen Bonding on the Micro-Mechanical Properties of High-Performance Organic Fibers," Ph.D.M.S.E., 2008.
23. Xiao Gao, "Textured Interphases," Ph.D.M.S.E., 2006.
24. Tong Wang, "Fiber Optic Strain Sensors", Ph.D.M.S.E., 2004.
25. BAZLE A. GAMA (2003 R.L. McCULLOUGH SCHOLARS AWARD), "HIGH-STRAIN-RATE RESPONSE OF THICK-SECTION COMPOSITES USING FIBER OPTICS," PH.D.M.S.E., 2004.
26. Witchuda Suwanwatana (2002 Director's Award), "Induction Heating of Magnetic Nanoparticles," Ph.D.M.S.E., 2004.
27. Maureen E. Foley, (2001 Director's Award), "The Microflow Behavior and Interphase Characterization of Fiber Reinforced Polymer Composites," Ph.D.M.S.E. 2003.
28. John J. Tierney, "Material Quality Development during the Automated Tow Placement Process," Ph.D.M.S.E., 2002.
29. William M. Edberg, "Behavior of Orthotropic Fiber Reinforced Polymer Bridge Decks on Traditional Girders," Ph.D.C.E.E., 2001 (with Mertz)
30. Douglas Eckel II, "An All Fiber-Reinforced-Polymer-Composite Bridge: Design Analysis Fabrication Full Scale Experimental Structural Validation Construction and Erection," 2001 Ph.D.C.E.E.
31. Metin Tanoglu, "Investigation of the Fiber/Matrix Interphase under High Loading Rates," Ph.D.M.S.E., 2000.
32. Kirk D. Tackitt, "Through-Transmission Ultrasonics for On-Line Sensing and Control of Thermoplastic Fusion Bonding Processes," Ph.D.M.S.E., 1999.
33. Gopalakrishnan Rajagopalan, "Diffusion of Reacting Thermosets into Thermoplastics," Ph.D.M.S.E., 1999.
34. Dirk Heider, "Model-Based Control Incorporating Neural Network Optimization of the Automated Thermoplastic Tow-Placement Process," Ph.D.E.E., 1998.
35. Mark R. Van Landingham, "Characterization of Interphase Regions in Fiber-Reinforced Polymer Composite Materials," co-advised with R. F. Eduljee, Ph.D.M.S.E., 1997.
36. Steven H. McKnight, "Influence of Surface Modification on the Processing and Performance of Aluminum Adhesive Joints Bonded with Thermoplastic Polymers," Ph.D.M.S.E., 1996.
37. Ulrich Hansen, "Transverse Cracking of Laminated Composite Materials with Interleaves," Ph.D.M.E., 1996.
38. David L. Fecko, "In-Situ Ultrasonic Porosity Monitoring for the Thermoplastic-Matrix Pultrusion Process," Ph.D.M.S.E., 1996.
39. Suranjan Roychowdhury, "Void Formation and Growth in Amorphous Thermoplastic Polymeric Materials," co-advised with S. G. Advani, Ph.D.M.A.T., 1995.
40. Mehrdad Ghasemi-Nejhad, "Three-Dimensional Thermal and Residual Stress Analysis of In-Situ Thermoplastic Filament Winding," co-advised with R. Cope and S. I. Güçeri, Ph.D.M.E., 1992.

41. Bruce Fink, "Heating of Continuous Carbon-Fiber-Reinforced Thermoplastics by Magnetic Induction," co-advised with R. L. McCullough, Ph.D.M.A.T., 1991.
42. Ravi Shanker, "The Effect of Non-Homogeneous Flow Fields and Hydrodynamic Interactions on the Rheology of Fiber Suspensions," co-advised with S. I. Güçeri, Ph.D.M.E., 1991.
43. Rushad F. Eduljee, "Influence of Microstructure on the Residual Stress Development in Short Fiber Composites," co-advised with R. L. McCullough, Ph.D.M.A.T., 1991.
44. Scott Gilmore, "Thermal and Residual Stress Analysis in Processing of Thermoplastic Composites," co-advised with S. I. Güçeri, Ph.D.M.E., 1991.
45. Roger M. Crane, "Vibration Damping Response of Composite Materials," Ph.D.M.A.T., 1991.
46. Travis A. Bogetti, "Process-Induced Stress and Deformation in Thick-Section Thermosetting Composites," Ph.D.M.E., 1989.
47. Bruce R. Trethewey Jr., "Mechanics and Performance of Composite Laminates with Discontinuous Internal Plies," co-advised with D. J. Wilkins, Ph.D.M.E., 1989.

**Current & Completed Master's Degree Students**

1. Brannon Chen, M.M.S.E., "Characterization of Residual Strain in Thermoplastic Carbon Fiber Micro-Composites" 2025
2. William Manning, III, M.M.S.E.
3. Alex Michael Vanarelli, "Optimization of Thin Flexible Compression Column for Implementation into Weight Bearing Garment", M.E., 2020
4. Christopher Scott, M.M.E.
5. Brian Allik, M.M.S.E.
6. Connor Keenan, M.M.S.E.
7. Gregory Kelly, M.S.E.
8. Maxime Dempah, "Development of Spray on Bag for Manufacturing of Large Composites Parts : Diffusivity Analysis", M.S.E., 2014
9. William Chance Malkin, C.E.E.
10. Jeff Rockwell, "High Velocity Impact of Dyneema Laminates of Varying Sizebnnnnnn", C.E.E. 2014
11. Jonathan Stephens, "Performance of Tailored Joints in Discontinuous Ceramic Cored Sandwich Structures", C.E.E., 2012
12. Stephen Beaver, "Transverse Loadings of Bolted Joints in Discontinuous Ceramic Cored Sandwich Structures", C.E.E., 2012
13. Evan Brodsky, "Composite Sandwich Structure Subjected to Blast", M.C.E.E.
14. Stephen Koellhoffer, Role of Friction in the Thermal Development of Ultrasonically Consolidated Foils and Continuous Fiber Reinforced Metal Matrix Composite Tape, M.M.E.
15. Garrett Peters, "Response of the Adhesive Interlayer under Dynamic Loading", M.C.E.E., 2011.
16. Kristopher Weidner, "Performance of Bolted Joints in Discontinuous Ceramic Cored Sandwich Structures", M.C.E.E., 2010.
17. Anthony Manzella, "A Parametric Analysis of the Quasi-Static Penetration of Composite Materials, M.C.E.E., 2010.
18. Kevin Cromer, "Impact and Post-Impact Response of a Composite Material to Multiple Non-Coincident Impacts", M.M.E., 2010.
19. "C" Josiah Hughes, M.S.E., 2009.
20. Justin Clews, "Ultrasonic Consolidation of Continuous Fiber Metal Matrix Composite Tape", M.M.S.E., 2009.
21. Michael Golt, "Magnetic and Dielectric Properties of Magneto-Dielectric Materials Consisting of Oriented, Iron Flake Filler within a Thermoplastic Host," M.M.S.E., 2008.
22. David Streilein, "Development of a Model for Predicting the Alignment of Ferromagnetic Particles in a Thermoplastic Matrix," M.M.S.E., 2007.
23. Curt Cichanowski, "Strain Rate Dependent Interlaminar Properties," M.M.S.E., 2003.

24. Michael Larson, "Split Hopkinson Bar Data Reduction," M.M.S.E., 2003.
25. John Brody, "The Evaluation of Preform Binders in Laminated Composite Materials," M.M.S.E., 2003.
26. Nathaniel Johnson, M.E.C.E., 2002.
27. Anuya Harkare, "In-situ Barrier Layer Formation for CIRTM," M.M.S.E., 2002.
28. Prakriti Taylia, "Design and Optimization of Magnetostrictive Sensors for Strain Monitoring," M.M.S.E., 2002.
29. Jeffrey A. Acheson, "The Role of Vacuum Pressure, Dual Scale Media, and Fiber Compaction in VARTM," M.M.E., 2002.
30. Florella Flores (2000 Achievement Award), "Investigation of Cure Behavior in Thermosetting Composites Using Fiber Optics," M.M.S.E., 2001.
31. Todd West, "Enhancements to the Bond between Advanced Composite Materials and Steel for Bridge Rehabilitation," M.C.E.E., 2001. \*\*Also published as DCT-140 December 2002. Delaware Center for Transportation.
32. Franklin L. Moon II, "Large-Scale Experimental Validation of an All-Composite Bridge Deck and Deck Connections," M.C.E.E., 2000.
33. Mahendra Babu Dorairaj, "Cure Characterization of Vinyl Ester Resins using Direct Current Sensing," M.M.S.E., 1999.
34. John Demitz, "Limit States Design Methodology for Composite Material Bridge Structures," M.C.E., 1999.
35. Ahmed Monib, "Damage Tolerance of Thick-Section Composites Subjected to Ballistic Impact," M.M.S.E., 1999.
36. Kanu P. Singh, "Characterization of Phenolic Resins and Their Co-Cure with Other Matrix Resins," M.M.S.E., 1999.
37. Emanuele F. Gillio, "Co-Injection Resin Transfer Molding of Hybrid Composites," co-advised with S. G. Advani, M.M.E., 1998.
38. Douglas A. Eckel II, "A Theoretical and Experimental Study of the Behavior of Sandwich Bridge Decks Composed of Composite Materials," co-advised with D. R. Mertz, M.C.E., 1998.
39. Steven M. Andersen, "Development of Joint Designs and Design Methodology for Composite Pressure Hulls," M.M.E., 1998.
40. Molly A. Stone, "Thermochemical and Thermomechanical Response of Reacting Polymers," co-advised with B. K. Fink, M.M.S.E., 1997.
41. Kenric M. England, "Direct Current Sensing of Viscosity and Degree of Cure of Vinyl-Ester Resins," co-advised with B. K. Fink, M.M.S.E., 1997.
42. Kristie M. Immordino, "Characterization of the Polysulfone/Epoxy Interphase for Bonding Thermoplastic Composites," co-advised with S. H. McKnight, M.M.S.E., 1996.
43. Michael A. Sasdelli, "A Methodology for the Design and Manufacture of RTM Composites with Molded-In Metal Inserts," co-advised with V. M. Karbhari, M.M.E., 1996.

44. Nouredine Ammar, "Rehabilitation of Steel Bridge Girders with Graphite Pultrusion," co-advised with D. R. Mertz, M.C.E., 1996.
45. Thomas Miller, "Characterization and Constitutive Modeling of Flexible Polyurethane Matrix Continuous Fiber Composites," M.M.S.E., 1996.
46. Scott T. Holmes, "A Study of the Processing and Performance of Large-Scale Resistance Welded Thermoplastic Composite Joints," M.M.E., 1996.
47. Min Chao, "Non-Isothermal Strength Model Including Healing and Bondline Thickness Effect for Fusion Bonding of Thermoplastic Composites," M.M.S.E., 1993.
48. Christopher L. Pedersen, "The Effect of Temperature on Transverse Crack Development in Carbon-Fiber-Reinforced Cross-Ply Laminates," co-advised with R. L. McCullough, M.Ch.E., 1992.
49. Laurent J. Bastien, "Nonisothermal Model for Fusion Bonding of Thermoplastic Composites Using an Amorphous Film Technique," M.M.S.E., 1990.
50. Eric C. Eveno, "Experimental Investigation of Resistance and Ultrasonic Welding of Graphite Reinforced Polyetheretherketone Composites," co-advised with J. R. Vinson and J. M. Schultz, M.M.S.E., 1988.
51. Thomas J. Chapman, "The Effect of Cooling Rate on Residual Stresses and Mode I Fracture Toughness of Thermoplastic Composite Materials," co-advised with R. B. Pipes, M.M.E., 1988.
52. Gary J. Becht, "An Investigation of Interlaminar Fracture of Composite Materials Under Mode III Loading," M.M.E., 1988.
53. Valerie Guenon, "Interlaminar Fracture Toughness of a Three-Dimensional Composite," co-advised with T-W. Chou, M.M.E., 1987.
54. Rushad F. Eduljee, "Process Induced Fiber Orientation and Weld-Line Studies on BMC and TMC Materials," co-advised with R. B. Pipes, M.M.S.E., 1987.
55. Travis A. Bogetti, "Process Induced Stress and Deformation in Thick-Section Thermosetting Composites," co-advised with R. B. Pipes, M.M.E., 1987.
56. Robert J. Rothschilds, "Mixed Mode Delamination Failure Criteria," co-advised with R. B. Pipes, M.M.E., 1986.
57. Jean Bozarth, "Fiber Orientation of Carbon Fiber Reinforced PEEK and Its Effect Upon Thermoelastic Properties (An Experimental/Analytical Comparison Study)," co-advised with R. B. Pipes, M.M.E., 1985.
58. Jean Vanderschuren, "Prediction of the Strength of Short Fiber Composites with Molded-In-Holes," co-advised with R. B. Pipes, M.M.E., 1983.

**Conflict of Interest**

<b>COI for</b>	John W. Gillespie	Collaborator/Co-Author (past 4 years)	
<b>Affiliation:</b>	University of Delaware	Co-Editor (past 2 years)	
<b>Role:</b>	Principal Investigator	Graduate Advisor (your own)	
			Postdoctoral Advisor (your own)
			Postdoctoral Scholar (past 5 years)
			Graduate Student (all prior)

Last Name	First Name	Current Affiliation (if known)	Type of Conflict -
Abrams	Cameron	Drexel	Collaborator/Co-Author
Abu-Obaid	Ahmad	Zagar University, Jordans	Collaborator/Co-Author
Adkinson	William	University of Delaware	Collaborator/Co-Author
Advani	Suresh	University of Delaware	Collaborator/Co-Author
Agrawal	Sunil	Columbia	Collaborator/Co-Author
Alfredsson	K.	University of Skovde	Collaborator/Co-Author
Bogetti	Travis	Army Research Laboratory	Collaborator/Co-Author
Brady	Janet	Philadelphia University	Collaborator/Co-Author
Brondsted	Povl	Technical University of Denmark	Collaborator/Co-Author
Burns	B.	University of Pennsylvania	Collaborator/Co-Author
Carlsson	Leif	Florida Atlantic University	Collaborator/Co-Author
Chen	Wayne	Purdue University	Collaborator/Co-Author
Chowdhury	Sanjib	University of Delaware	Collaborator/Co-Author
Chou	Tsu-Wei	University of Delaware	Collaborator/Co-Author
Dey	Moutushi	Air Liquide	Collaborator/Co-Author
Gao	Xiao	3M	Collaborator/Co-Author
Gawandi	Anis	Siemens	Collaborator/Co-Author
Deitzel	Joseph	University of Delaware	Collaborator/Co-Author
Drane	Patrick	University of Massachusetts	Collaborator/Co-Author
Haque	Bazle	University of Delaware	Collaborator/Co-Author
Hartman	Dave	Owens Corning	Collaborator/Co-Author
Harrington	J.	University of Delaware	Collaborator/Co-Author
Heider	Dirk	University of Delaware	Collaborator/Co-Author
Hoppel	R.	US Army	Collaborator/Co-Author
Hurley	Timothy	DiaPedia	Collaborator/Co-Author
Jensen	Robert	Army Research Laboratory	Collaborator/Co-Author
Keefe	Michael	University of Delaware	Collaborator/Co-Author
Lopatnikov	Sergey	University of Delaware	Collaborator/Co-Author
Lumpkin	R.	Mentis Sciences	Collaborator/Co-Author
Maher	Michael	Maher & Associates	Collaborator/Co-Author
Merrill	R.	US Army	Collaborator/Co-Author

McKnight	Stephen	Virginia Tech	Collaborator/Co-Author
Molligan	Danny	University of Delaware	Collaborator/Co-Author
Morand	C.	Mentis Sciences	Collaborator/Co-Author
Palmese	Giuseppe	Drexel	Collaborator/Co-Author
Ramesh	K.T.	JHU	Collaborator/Co-Author
Riley	John	NCMS	Collaborator/Co-Author
Scarborough	Stephen	ILC Dover	Collaborator/Co-Author
Simacek	Pavel	University of Delaware	Collaborator/Co-Author
Sahin	O.	Selcuk University	Collaborator/Co-Author
Sherwood	Jim	University of Massachusetts	Collaborator/Co-Author
Sun	Z.	Rice	Collaborator/Co-Author
Tierney	John.	University of Delaware	Collaborator/Co-Author
Thostenson	Erik	University of Delaware	Collaborator/Co-Author
VanLandingham	Mark	Army Research Laboratory	Collaborator/Co-Author
Wagner	Norm	University of Delaware	Collaborator/Co-Author
Wetzel	Eric	Army Research Laboratory	Collaborator/Co-Author
Xiao	John	University of Delaware	Collaborator/Co-Author
Yarlagadda	Shridhar	University of Delaware	Collaborator/Co-Author
Zangenberg	Jens	Technical University of Denmark	Collaborator/Co-Author
Zheng	James	US Army	Collaborator/Co-Author
Pipes	Byron	Purdue	Graduate Advisor
Allik	Brian	Synchron, LLC	Graduate Student
Armouroux	Solange	Dassault	Graduate Student
Bogetti	Travis	Army Research Laboratory	Graduate Student
Brodsky	Evan	Delaware Dept. of Transportation	Graduate Student
Cicchetti	Nicole	Unknown	Graduate Student
Crane	Roger	Composites Automation	Graduate Student
Cromer	Kevin	TCOM	Graduate Student
Cwalina	Colin	Dow Chemical	Graduate Student
Dempah	Maxime	Meggitt	Graduate Student
Eckel	Douglas	Unknown	Graduate Student
Edberg	William	HNTB	Graduate Student
Eduljee	Rushad	Citi	Graduate Student
Fecko	David	Penn State	Graduate Student
Fink	Bruce	Deceased	Graduate Student
Foley	Maureen	Naval Surface Warfare Center	Graduate Student
Ganesh	Raja	University of Delaware	Graduate Student
Gao	Xiao	3M	Graduate Student
Gilmore	Scott	Unknown	Graduate Student
Gopalakrishnan	Rajagopalan	United Technologies	Graduate Student
Guron	Amanda Kate	University of Delaware	Graduate Student
Hansen	Jens	LM Wind	Graduate Student
Hansen	Ulrich	Imperial College London	Graduate Student
Haque	Bazle	University of Delaware	Graduate Student
Heider	Dirk	University of Delaware	Graduate Student

Keenan	Connor	Hexcel	Graduate Student
Kelly	Gregory	First Quality Enterprises	Graduate Student
Koellhoffer	Stephen	Terumo Cardiovascular Systems	Graduate Student
Leal	Angel	ABB	Graduate Student
Malkin	Chance	Pennoni Assoc.	Graduate Student
Manzella	Anthony	Armann & Whitney	Graduate Student
McAllister	Quinn	San Diego Composites	Graduate Student
McDaniel	Preston	Dow Chemical	Graduate Student
McKnight	Stephen	Virginia Tech	Graduate Student
Mehrdad	Ghasemi-Nejhad	University of Hawaii	Graduate Student
Meyers	Christopher	ARL	Graduate Student
Mishra	Roshan	University of Delaware	Graduate Student
Nilakantan	Guarav	University of Southern California	Graduate Student
Peters	Garrett	DuPont	Graduate Student
Ratzlaff	Adam	University of Delaware	Graduate Student
Rockwell	Jeffrey	Reed Composites	Graduate Student
Roychowdhury	Suranjan	Unknown	Graduate Student
Scott	Christopher	General Electric	Graduate Student
Shanker	Ravi	Dow Chemical	Graduate Student
Sietins	Jennifer Mueller	Army Research Laboratory	Graduate Student
Sockalingam	Subramani	University of South Carolina	Graduate Student
Staniszewski	Jeffrey	Army Research Laboratory	Graduate Student
Tackitt	Kirk	Alliant Techsystems	Graduate Student
Tamrakar	Sandeep	Ford	Graduate Student
Tanoglu	Metin	Izmir Institute of Technology	Graduate Student
Tierney	John	University of Delaware	Graduate Student
Trethewey	Bruce	Johns Hopkins	Graduate Student
Tsuchida	Yukia	Unknown	Graduate Student
Vanarelli	Alex	University of Delaware	Graduate Student
VanLandingham	Mark	NIST	Graduate Student
Wang	Tong	Unknown	Graduate Student
Weidner	Christopher	AECOM	Graduate Student
Witchuda	Suwanwatana	Unknown	Graduate Student
Wu	Amanda	Lawrence Livermore National Lab	Graduate Student
Zhang	Danning	Arevo	Graduate Student

**Past Students Now Teaching**

1. Prakriti Tayalia, Ph.D. – IIT Bombay
2. Prakash Jadhve, Ph.D. – SRM University, India
3. Tong-Earn Tay – National University of Singapore
4. Mehrdad Ghasemi Nejhad - 1992 – University of Hawaii at Manoa
5. Ranga Pitchumani – University of Connecticut
6. Ulrich Hansen - 1996 – University of London, England
7. Dirk Heider – 1998 - University of Delaware – Electrical and Computer Engineering
8. Franklin Moon - 2000 – Drexel University
9. Metin Tanoglu - 2000 – Izmir Institute of Technology, Turkey
10. William Edberg - 2001 - University of Massachusetts Dartmouth
11. Guowei Ma, 2002 – Nanyang Technological University, Civil and Environmental Engineering
12. Bazle Zahurul (Gama) Haque – 2004 - University of Delaware – Mechanical Engineering
13. Myung-Keun Yoon, 2005 – South Dakota School of Mines
14. Francis Aviles, 2006 – Center of Scientific Research of Yucatan (CICY)
15. Alberto Ortona, 2007 – Ecole Polytechnique Fédérale de Lausanne (EPFL)
16. Nuri Ersoy, 2011 – Assoc. Professor, Mechanical Engineering Dept. Bogazici University, Istanbul, Turkey
17. Steven H. McKnight – 2014 – Professor, Virginia Tech
18. Shridhar Yarlagadda – Electrical and Computer Engineering
19. Ray Dagastine, Dept. of Chemical and Biomolecular Engineering, University of Melbourne, Australia
20. Subramani Sockalingam – 2017 – Mechanical Engineering, University of South Carolina

**Science & Engineering Scholars**

1. Jeffrey Bergman, "Graphical User Interface Development for Smart Fins: Piezoelectric Fin Control," 2005.
2. Eric Busillo, 2004
3. Jennifer Pahnke, 2002.
4. Benjamin Rohner, "Fiber Optics Strain Measurement," 2000-2001.
5. Michelle Choi (Imperial College), "Durability of the Carbon-Fiber/Vinyl-Ester Interphase," 2000.
6. Amy Cummings, "Investigation of a Hybrid Composite Beam System," 2000.
7. Brandon Fichera, "Influence of Moisture on Composites: Diffusion in Hygroscopic Expansion," 1996-1997.
8. Scott Quirico, "Microstructure Property Relationships for In-Situ Thermoplastic Composites Manufacturing," 1996-1997.
9. Jason Firko, "Induction Heating of Composites," 1996-1997.
10. Scott Gilmore, "Numerical Solutions in Anisotropic Composite Materials," 1984-1985.
11. Jeffrey Burmeister, "Testing and Analysis of Fluoropolymer Fabric Composites," 1986-1987.
12. Robert Taylor, "Bearing Failure," 1986-1987.
13. Laura McCarron, "Analysis of Injection Molding," 1987-1988.
14. Ann Marie Sastry, "Influence of Constituent Properties and Geometric 601 Form on Behavior of Woven Fabric Reinforced Composites," 1987-1988.
15. Roderic C. Don, "Ultrasonic Welding of Thermoplastic Composites Fiber/Matrix Interface," 1988-1989.
16. William Eberle, "Three-Dimensional Reinforcement of a Composite T-Section," 1990-1991.
17. John Bastianelli, "Fiber Placement of Thermoplastic Composites," 1992-1993.
18. Loyd Burcham, "Accelerated Test Methodology for Thermal Aging," 1992-1993.
19. Robert Foglesong, "Transverse Cracking of Composite Laminates," 1992-1993.
20. Eric Wetzel, "Large-Scale Resistance Welding," 1992-1993.
21. Matthew McBride, "Welding of Aluminum to Polypropylene Composites," 1993-1994.
22. Darlene Gorton, "Robotic Fiber Placement of Thermoplastic Composites," 1994-1995.
23. Chirag Mehta, "Durability of High-Performance Composites for High-Speed Civil Transport Applications," 1994-1995.
24. Ahmed Monib, "Infrastructure Rehabilitation Using Composites," 1994-1995.
25. Mark Scott, "Welding of Dissimilar Materials," 1994-1995.
26. Ankur Parekh, "Rapid Placement Technology for Affordable Composites Manufacturing," 1995-1996.

27. Eric Ramos, "Repair of Thick-Section Composites," 1995–1996.
28. Kevin Stolfo, "Investigation of Ultrasonics for Field Inspection of Thick-Section Composites," 1995–1996.
29. Aristedes Yiournas, "Structural Adequacy of Thick-Section Repaired Composites," 1995–1996.

**Past and Present Research Professionals and Administrative Staff**

1. Mr. Eli Bogetti,
2. Mr. Aidan Ford, Materials and Process Engineer
3. Dr. Ankita Bisht, Postdoctoral Researcher
4. Dr. Nuwan Dewapriya Mallika Arachchige, Postdoctoral Researcher
5. Dr. Abdasalam Ibrahim Fadeel, Postdoctoral Researcher
6. Dr. Navid Niknafs Kermani, Postdoctoral Researcher
7. Ms. Megan Maher, Financial Analyst II
8. Mr. Keith Carey, Composite Technician II
9. Mr. Zachary Krewson, Research Associate II
10. Mr. Jesse Brown, Electromechanical Design Engineer
11. Dr. Dirk Heider, Asst. Director for Technology
12. Dr. Joseph Deitzel, Sr. Scientist
13. Dr. John Tierney, Sr. Scientist
14. Dr. Nicholas Shevchenko, Manager Composite Technology
15. Dr. Nithin Kaliyath Parambil, Research Associate III
16. Dr. Pavel Simacek, Research Associate III
17. Dr. Sagar Doshi, Associate Scientist
18. Dr. Shridhar Yarlagadda, Asst. Director for Research
19. Dr. Steve Sauerbrunn, Thermal Analysis Engineer
20. Mr. Alex Vanarelli, Composites Design Manager
21. Mr. John Morris, Research Technician II
22. Mr. John Thiravong, Laboratory Coordinator II
23. Mr. Molla Ali, Research Technician
24. Mr. Munetaka Kubota, Materials Engineer
25. Mrs. Corinne Hamed, Manager, Business Operations
26. Mrs. Kristen Scully, Administrative Assistant iV
27. Mrs. Therese Stratton, Director, Business Operations
28. Mr. David Roseman, Manufacturing Process Engineer
29. Mr. Connor Whitehead, Composite Technician II
30. Dr. Tekin Ozdemir, Postdoctoral Researcher
31. Mrs. Raija Eggert, Administrative Assistant
32. Dr. Thomas Cender, Scientist

33. Dr. Ahmad AbuObaid, Associate Scientist
34. Mr. Shashank Sharma, Manufacturing Engineer
35. Dr. Abhishek Bhesania, Postdoctoral Researcher
36. Mr. John Pollock, Accountant
37. Mr. Christian Marquina, Research Associate II
38. Dr. Bazle Z. (Gama) Haque, Sr. Scientist
39. Mr. Christian Marquina, Research Associate II
40. Ms. Courtney Carpenter, Research Technician
41. Dr. Sanjib Chowdhury, Associate Scientist
42. Mr. Ryan Rogers, Lead Advanced Mfg. Process Engineer
43. Dr. Laure Moretti, Postdoctoral Researcher 2022
44. Mr. Robert Balonis, Composite Technician I
45. Dr. Jejoon Yeon, Postdoctoral Researcher, 2022
46. Mr. Larry (LJ) Holmes, Asst. Director Additive Manufacturing, 2022
47. Dr. Fatmaelzahraa Mohamed Abdelmola, Postdoctoral Researcher, 2021
48. Dr. Chris Henry, Postdoctoral Researcher, 2021
49. Mrs. Heather Gordon, Sr. Sponsored Program Coordinator, 2020
50. Dr. Patrick Dixon, Postdoctoral Researcher, 2020
51. Mr. Dan Molligan, Asst. Director Composite Engineering, 2020
52. Ms. Leah Stephens, Administrative Assistant, 2020
53. Mr. Jason Etherington, Comp Design Manager, 2020
54. Ms. Winona Burris, Research Technician II, 2020
55. Mrs. Robin Mack, Administrative Assistant, 2020
56. Mrs. Penny O'Donnell, Administrative Assistant, 2019
57. Mr. Stephen Durbano, Research Technician, 2019
58. Mr. Robert Morgan, Research Associate, 2019
59. Mr. William Adkinson, Sr. Materials & Process Eng, 2017
60. Mrs. Megan Hancock, Sr. Sponsored Program Coordinator, 2017
61. Mr. Michael Lourdemaria, Composite Design Associate II, 2017
62. Mr. William Patterson, Materials & Process Engineer, 2017
63. Ms. Jessica Sun, Research Associate II, 2018
64. Mr. Tulong Zhu, Sr. Composites Engineer, 2017
65. Dr. Narinder Khattri, Postdoctoral Researcher, 2017

66. Dr. Tong Li, Postdoctoral Researcher, 2017
67. Dr. Laksmanan Palanimuthu, Postdoctoral Researcher, 2017
68. Mr. Mark Davis, Composite Technician II, 2017
69. Mr. Ryan Jackson, Composite Technician, 2017
70. Mr. Bernard Schneiders, Composite Technician II, 2017
71. Mr. Jordan Wagner, Composite Technician II, 2017
72. Ms. Alison Wells, Composite Technician II, 2015
73. Mr. Michael Gilley, Composite Technician, 2014
74. Dr. Sergey Lopatnikov, Associate Scientist, 2014
75. Mrs. Moutushi Dey, Limited Term Researcher, 2014
76. Mr. Philip Rollins, Limited Term Researcher, 2014
77. Mr. Kenneth Wilkins, Laboratory Technician, 2014
78. Mr. Greg Kelly, Limited Term Researcher, 2014
79. Ms. Rachael Creighton, Composite Technician, 2014
80. Dr. Changsheng Shan, Postdoctoral Researcher, 2014
81. Mr. Philip Roach, Laboratory Coordinator, 2013
82. Mr. John Lewis, Laboratory Technician, 2013
83. Mr. David Fudge, Composite Engineer, 2013
84. Mrs. Kelly Mecca, Laboratory Technician, 2013
85. Mr. Anthony Thiravong, Research Technician II, 2013
86. Mr. Hope Deffor, Research Associate II, 2012
87. Dr. Arthur Levy, Postdoctoral Researcher, 2012
88. Dr. Gaurav Nilakantan, Limited Term Researcher, 2012
89. Mr. Pit Schulze, Research Associate, 2012
90. Dr. Sphurti Bhargava, Postdoctoral Researcher, 2012
91. Mr. Mark Scott, Limited Term Researcher, 2011
92. Mr. Augustus Mandrachia, Sponsored Program Processing Associate, 2011
93. Dr. Anton Kovalchuk, Postdoctoral Researcher, 2011
94. Dr. Anis Gawandi, Research Associate II, 2011
95. Mr. Christopher Arvanitelis, Limited Term Researcher, 2011
96. Dr. Sangguk Kang, Limited Term Researcher, 2011
97. Mr. Raymond McCauley, Limited Term Researcher
98. Mr. Jason McLaughlin, Limited Term Researcher, 2011

99. Dr. Madhwapati Prabhakar Rao, Limited Term Researcher, 2011
100. Mr. Leonard Hobbs, Manager
101. Mr. Stephen Andersen, Asst. Director for Military Programs, 2010
102. Mr. Kyle Brand, Limited Term Researcher, 2010
103. Mr. Adam DiNetta, Laboratory Technician, 2010
104. Ms. Olivia Polczyk, Research Associate, 2010
105. Mr. Denis Kissounko, Limited Term Researcher, 2010
106. Ms. Robin Sheffield, Records Specialist
107. Dr. Chunyu Li, Limited Term Researcher, 2009
108. Mrs. Kimberley Green, Sponsored Program Coordinator
109. Mr. Anthony Hendrickson, Limited Term Researcher, 2008
110. Mrs. Neelima Yarlagadda, Limited Term Researcher, 2008
111. Mr. Prakash Jadhav, Limited Term Researcher, 2008
112. Mr. Shawn Doherty, Limited Term Researcher, 2008
113. Mr. Jie Zhang, Limited Term Researcher, 2008
114. Mrs. Veronica Gamboa, Records Technician, 2008
115. Mr. Ajaya Nayak, Limited Term Researcher, 2008
116. Dr. Jiarun Xiao, Associate Scientist, 2007
117. Mr. Huseyin Denli, Limited Term Researcher, 2007
118. Mr. Hans Laudorn, Limited Term Researcher, 2007
119. Mr. Zaicheng Sun, Limited Term Researcher, 2007
120. Mr. Ashiq Quabili, Limited Term Researcher, 2007
121. Dr. Jeffrey Lawrence, Limited Term Researcher, 2007
122. Dr. Crystal Newton, Scientist, 2006
123. Dr. Aurimas Dominauskas, Research Associate III, 2006
124. Mr. Young Seok Song, Limited Term Researcher, 2006
125. Dr. Yuhong Zhang, Postdoctoral Researcher, 2006
126. Mr. Francis Aviles, Limited Term Researcher, 2006
127. Dr. Sukti Chatterjee, Limited Term Researcher, 2006
128. Dr. Amit Chatterjee, Research Associate III, 2006
129. Mr. Barry Pollock, Limited Term Researcher, 2006
130. Dr. Suvarchala Pogula, Postdoctoral Researcher
131. Dr. Hee June Kim, Research Associate II, 2005

132. Dr. Haifeng Chen, Limited Term Researcher, 2005
133. Mr. Md Jahirul Haque, Research Associate II, 2005
134. Dr. Weidong Li, Postdoctoral Fellow, 2005
135. Mr. Myung Keun Yoon, Research Associate II, 2005
136. Mr. Carl Krauthauser, Limited Term Researcher, 2004
137. Dr. Wei Li, Postdoctoral Researcher, 2004
138. Dr. Libo Ren, Postdoctoral Researcher, 2004
139. Mr. Saravana Kumar, Limited Term Researcher, 2004
140. Mr. Zhicheng Yu, Limited Term Researcher, 2004
141. Dr. Biswajit Chattopadhyay, Postdoctoral Fellow, 2003
142. Mr. Antonio Paesano, Limited Term Researcher, 2003
143. Mr. Kuang-Ting Hsiao, Limited Term Researcher, 2003
144. Mr. Yongmao Shen, Limited Term Researcher, 2003
145. Dr. Guowei Ma, Postdoctoral Researcher, 2002
146. Mr. Saeed Ziaee, Limited Term Researcher, 2002
147. Dr. Stephane Mahdi, Postdoctoral Researcher, 2002
148. Dr. Mahmoud Dweib, Postdoctoral Researcher, 2001
149. Dr. Lorence Augh, Postdoctoral Fellow, 2001
150. Dr. Selen Ciftci, Postdoctoral Researcher, 2001
151. Dr. Gopalakrishnan Rajagopalan, Postdoctoral Researcher, 2000
152. Dr. Feiyi Pang, Postdoctoral Fellow, 1999
153. Dr. Brahim Tighiouart, Postdoctoral Researcher, 1999

**Visiting Scholars and Interns**

1. Markus Schwaiger, Visiting Scholar 2023
2. Richard Kraft, Visiting Scholar 2022
3. Alexander Legenstein, Visiting Researcher 2022
4. Joao Machado, Visiting Researcher 2022
5. Duco Mulder, Visiting Researcher 2022
6. Fynn Snger, Visiting Researcher 2022
7. Julien Ferec, Visiting Professor 2021-2022
8. Ali Imran Ayten, Visiting Researcher 2021-Present
9. Rebecca Emmerich, Visiting Researcher 2021-2022
10. Aydin Gunes, Visiting Researcher 2021-Present
11. Tekin Ozdemir, Visiting Researcher 2019-Present
12. Maria Odila Hilario Cioffi, Visiting Professor, 2020-2021
13. Mark Davis, Visiting Researcher, 2017-Present
14. Lukas Fuessel, Visiting Scholar, 2018-2021
15. Nithinkumar Manoharan, Visiting Scholar, 2020-2021
16. Kai Phouthavongsa, Visiting Researcher, 2019-Present
17. Tania Lavaggi, Visiting Scholar, 2020-Present
18. Sriragesh Thangraj, Visiting Scholar, 2020
19. Uday Balaga, Visiting Scholar, 2019-2020
20. Daniel Brighenti Bortoluzzi, Visiting Scholar, 2019-2020
21. Sinan Boztepe, Visiting Researcher, 2019
22. Alexander Gabriel, Visiting Scholar, 2019
23. Simon Hammer, Visiting Scholar, 2019-2020
24. Mert Hancioglu, Visiting Scholar, 2018-2019
25. Robert Sionkala, Visiting Scholar, 2019
26. Verena Gargitter, Visiting Scholar, 2017-2019
27. Jens Marchetti, Visiting Scholar, 2018
28. Estefania Zielinski Moura, Visiting Scholar, 2018
29. Barbara Righetti De Souza, Visiting Scholar, 2018
30. Olena Syerko, Visiting Scholar, 2018
31. Olena Syerko, Visiting Scholar, 2018
32. Soodabeh Sharafi, Visiting Scholar 2018
33. Ahamd AbuObaid, Visiting Professor, 2017-2018
34. Ricardo Mello Di Benedetto, Visiting Scholar, 2017-2018
35. Yi Geng, Visiting Scholar, 2016-2018
36. Tanja Arnolds, Visiting Scholar, 2017-2018
37. Matt Etchells, Visiting Scholar, 2018

38. Mert Hencioglu, Visiting Scholar, 2018-2019
39. Masoud Bodaghi, Visiting Scholar, 2017
40. Ghassen Brinis, Visiting Scholar, 2017
41. Georg Burkhardt, Visiting Scholar, 2017
42. Juan Carlos Canaza, Visiting Scholar, 2017
43. David de Haes, Visiting Scholar, 2016-2017
44. Sabrine Gharbi, Visiting Scholar, 2017
45. Mario, Golz, Visiting Scholar, 2017
46. Richard Haas, Visiting Scholar, 2016-2017
47. Chaima Hammi, Visiting Scholar, 2017
48. Wassim Khorchef, Visiting Scholar, 2017
49. Mohamed Lahmar, Visiting Scholar, 2017
50. Katia Nunes, Visiting Scholar, 2017
51. Ana Carolina Santos, Visiting Scholar, 2017
52. Oussama Saoud, Visiting Scholar, 2017
53. Rania Triki, Visiting Scholar, 2017
54. Ties van de Woord, Visiting Scholar, 2017
55. Rexhep Ajvazi, Visiting Scholar, 2016
56. Mohamed Henchir, Visiting Scholar, 2016
57. Meike Kollmanthaler, Visiting Scholar, 2016
58. James Maguire, Visiting Scholar, 2016
59. Ffion Martin, Visiting Scholar, 2016
60. Rodrigo De Sousa E Silva, Visiting Scholar, 2016
61. Maik Theissig, Visiting Scholar, 2016
62. Lutz Venhofen, Visiting Scholar, 2016
63. Katharina Resch, Visiting Scholar, 2015
64. Christian Vierkoetter, Visiting Scholar, 2015
65. Pavel Saieed, Visiting Scholar, 2015
66. Raphael Derop, Visiting Scholar, 2015
67. Julia Cavalheiro Rodrigues, Visiting Scholar, 2015
68. Jonas Dossmann, Visiting Scholar, 2015-2017
69. Jonas Hammer, Visiting Scholar, 2015-2016
70. Johannes Simons, Visiting Scholar, 2015-2016
71. Sinan Boztepe, Visiting Scholar, 2014-2015
72. Raphael Dill, Visiting Scholar, 2014-2015
73. Gabor Muenkel, Visiting Scholar, 2014-2015
74. Ewald Fauster, Visiting Scholar, 2014-2015
75. Frank Notten, Visiting Scholar, 2014-2015
76. Michael Victor, Visiting Scholar, 2014-2015

77. Zhe Gao, Visiting Scholar, 2014-2015
78. Fabian Bosch, Visiting Scholar, 2014
79. Dominic Dolan, Visiting Scholar, 2014
80. Beatriz Goncalves, Visiting Scholar, 2014
81. Breno Silva de Carvalho, Visiting Scholar, 2014
82. David McGlynn, Visiting Scholar, 2014
83. Jonathan Faull, Visiting Scholar, 2013
84. Hui-Yun Hwang, Visiting Professor, 2013-2014
85. Andrew Kennedy, Visiting Scholar, 2013
86. Jun Misumi, Visiting Researcher, 2013-2015
87. Roman Woznitza, Visiting Scholar, 2013
88. Gerhard Wischmann, Visiting Scholar, 2013
89. David Elfi, Visiting Scholar, 2013-2014
90. Mehmet Omer, Visiting Scholar, 2013
91. Dong Ju Lee, Visiting Scholar, 2012-2013
92. Clemens Buschhoff, Visiting Scholar, 2012-2013
93. Claire Daniel, Visiting Scholar, 2012-2013
94. Julia Schweiss, Visiting Scholar, 2012-2013
95. Wook Ryol Hwang, Visiting Scholar, 2012
96. Jens Zangenberg Hansen, Visiting Scholar, 2012
97. Lean Falk, Visiting Scholar, 2012
98. Andreas Nonn, Visiting Scholar, 2012
99. Maxime Leblanc, Visiting Scholar, 2012
100. Sinan Boztepe, Visiting Scholar, 2012
101. Metin Tanoglu, Visiting Professor, 2012
102. Clemens Buschhoff, Visiting Scholar, 2012
103. Abdullah Tugrul Seyhan, Visiting Professor, 2012
104. Martin Noll, Visiting Scholar, 2011
105. Juan Vico Rodriguez, Visiting Scholar, 2011
106. Ramon Tirschmann, Visiting Scholar, 2011
107. Ishita Biswas, Visiting Scholar, 2011-2013
108. Andrew Rider, Visiting Researcher, 2011-2012
109. Roman Weber, Visiting Scholar, 2011-2012
110. Sven Schneiders, Visiting Scholar, 2011-2012
111. Simon Hammer, Visiting Scholar, 2010-2011
112. Dominik Hanft, Visiting Scholar, 2010-2011
113. Christopher Lenz, Visiting Scholar, 2010-2011
114. Johannes Lutz, Visiting Scholar, 2010-2011
115. Daniel Kroll, Visiting Scholar, 2010

116. Johannes Feddersen, Visiting Scholar, 2010
117. Fabien Martinez, Visiting Scholar, 2010
118. Jamie Timms, Visiting Scholar, 2010
119. Hyoung Geun Kim, Visiting Scholar, 2009-2010
120. Christian Schoenborn, Visiting Scholar, 2009-2010
121. Wook Ryoul Hwang, Visiting Professor, 2009-2010
122. Claas Ehlbeck, Visiting Scholar, 2009
123. Sascha Berger, Visiting Scholar, 2008-2009
124. Omer Eksik, Visiting Scholar, 2008-2009
125. Kai Zweiacker, Visiting Scholar, 2008-2009
126. Arun Agrawal, Visiting Scholar, 2008
127. Laurent Garnier, Visiting Scholar, 2008
128. Veit Wodicka, Visiting Scholar, 2008
129. Damien Faudot, Visiting Scholar, 2008
130. Shashank Sharma, Visiting Scholar, 2008
131. Stephan Ritter, Visiting Scholar, 2008
132. Chau Bui, Visiting Scholar, 2007-2008
133. Mira Reuter, Visiting Scholar, 2007-2008
134. Martin Finger, Visiting Scholar, 2007-2008
135. Olivia Polczyk, Visiting Scholar, 2007-2008
136. Stefan Huber, Visiting Scholar, 2007
137. Limin Gao, Visiting Scholar, 2007
138. Anastasia Lorenz, Visiting Scholar, 2007
139. Aude Catry, Visiting Scholar, 2007
140. Nathan Depenbusch, Visiting Scholar, 2007
141. Hung-chieh Lo, Visiting Scholar, 2007
142. Stephan Mehling, Visiting Scholar, 2007
143. Praveen Pasupuleti, Visiting Scholar, 2007
144. Tristan Reitz, Visiting Scholar, 2007
145. Diana Scialom, Visiting Scholar, 2007
146. Richard Teruya, Visiting Scholar, 2007
147. Michael Glowania, Visiting Scholar, 2007
148. Konstantin Friesen, Visiting Scholar, 2007
149. Luigi-Jules Vandi, Visiting Scholar, 2007
150. Nadin Vogel, Visiting Scholar, 2007
151. Timo Gebauer, Visiting Scholar, 2006-2007
152. Manoj Saraswat, Visiting Scholar, 2006-2007
153. Abdullah Tugrul Seyan, Visiting Scholar, 2006-2007
154. Christopher Baudron, Visiting Scholar, 2006

155. Jens Schuster, Visiting Scholar, 2006
156. Pierre Frey, Visiting Scholar, 2006
157. Vladimir Gendlin, Visiting Scholar, 2006
158. Julien Henau, Visiting Scholar, 2006
159. Fabian Klein, Visiting Scholar, 2006
160. Patrick Plitzner, Visiting Scholar, 2006
161. Gunner Hubel, Visiting Scholar, 2006
162. Susanna Laurenzi, Visiting Scholar, 2005-2006
163. Josef Mauer, Visiting Scholar, 2005-2006
164. Patrick Schauenburg, Visiting Scholar, 2005-2006
165. Erwan Istasses, Visiting Scholar, 2005-2008
166. Sebastian Scholz, Visiting Scholar, 2005
167. Bjorn Becker, Visiting Scholar, 2005
168. Nicolas Vernin, Visiting Scholar, 2005
169. Victor Bondiek, Visiting Scholar, 2005
170. Alex Mueller, Visiting Scholar, 2005
171. Christian Niggemann, Visiting Scholar, 2005
172. Maik Himstedt, Visiting Scholar, 2005
173. Dominik Bender, Visiting Scholar, 2004
174. Alex Mueller, Visiting Scholar, 2004
175. Charolette Corlay, Visiting Scholar, 2004
176. Sowmya Subramanian, Visiting Scholar, 2004
177. Christoph Bammann, Visiting Scholar, 2004
178. Peter Vancsa, Visiting Scholar, 2003-2004
179. Elisabeth Wolf, Visiting Scholar, 2003-2004
180. Achim Nickel, Visiting Scholar, 2003-2004
181. Oded Rabinovitch, Visiting Scholar, 2002-2006
182. Ralf Eigl, Visiting Scholar, 2002-2003
183. Michael Kurz, Visiting Scholar, 2002-2003
184. Susanna Laurenzi, Visiting Scholar, 2002-2003
185. Christian Reichert, Visiting Scholar, 2002-2003
186. Andre Haertelt, Visiting Scholar, 2002-2003
187. Tom Roida, Visiting Scholar, 2002-2003
188. Alexander Roshau, Visiting Scholar, 2002
189. Andre Jamnik, Visiting Scholar, 2002
190. Kazimieras Juzenas, Visiting Scholar, 2002
191. Jochen Krehl, Visiting Scholar, 2002
192. Tomas Cerniauskas, Visiting Scholar, 2001-2002
193. Leif A. Carlsson, Visiting Professor, Florida Atlantic University, Summer 2003-2008

194. Tomas Cerniauskas, Visiting Scholar, Kaunas University of Technology, "Evaluation of the Rapid Re-Formable Tooling for VARTM Processing", 2001-2002
195. Klaus Kristian Engel, Visiting Scholar, Fachhochschule Kaiserslautern, "Intelligent VARTM Processing", 2001-2002
196. Andre Jamnik, Visiting Scholar, 2002
197. Kazimieras Juzenas, Visiting Scholar, Kaunas University of Technology, "Ultrasonic Evaluation of VARTM Parts", 2001-20002
198. Jochen Kreho, Visiting Scholar, 2002
199. Hongyun Li, Visiting Scholar, "CAV Integrated Hybrid Structures", 2001
200. Jens Mueller, Visiting Scholar, Fachhochschule fur Technik Esslingen, MANTECH and ONR, 2001
201. Stephan Pressler, Visiting Scholar, Fachhochschule fuer Technik Esslinger, MANTECH, 2001
202. Hilko Siebels, Visiting Scholar, Universitaet Karlsruhe, CAV-IHS. 2001-2002
203. Jun Xiao, Visiting Scholar
204. Peter Bengtsson, Visiting Scholar, Ecole Europeenne d'Ingenieurs en Genie des Materiaux, "Induction Based Processing of Carbon Thermoplastics", 2001
205. Lisa Carlgren, Visiting Scholar, University of Lulea, CTC, 2001
206. Dominik Decker, Visiting Scholar, Beundesministerium fuer Verteidigung Ministry of Defense, MANTECH, 2001
207. Olivier Emeraud, Visiting Scholar, Universite de Bretagne Sud, "Intelligent VARTM Manufacturing", 2001
208. Kati Flemmig, Visiting Scholar, Technische Universitat Dresden, "Porous Titanium Materials", 2001
209. Thomas Gietl, Visiting Scholar, University of Bayreuth, "Metal Foam Development", 2001
210. Cecilia Lauri, Visiting Scholar, University of Lulea, UDLP, 2001
211. Helene Le Houedec, Visiting Scholar, Universite de Bretagne Sud, "VARTM Processing and Testing of Composite Integral Armor", 2001
212. Mariannick Roche, Visiting Scholar, Universite de Bretagne Sud, "Intelligent VARTM Manufacturing", 2001
213. Gaelle Rodary, Visiting Scholar, "Binder Preform", EEIGM, 2001
214. Bettina Spandl, Visiting Scholar, University of Bayreuth, "Metal Foam Development", 2001
215. Martina Trahan, Visiting Scholar, University of Applied Sciences Kaiserslautern, "SMART Layer Fabrication Based on Fiberoptics", 2001
216. Heike Fichna, Visiting Scholar, "Automated Resin Mixing for the VARTM Process", 2000-2001
217. Jean-Etienne Fournier, Visiting Scholar, CAV Integrated Hybrid Structure, 2000-2001
218. Jurgen Gluch, Visiting Scholar, Powder Metallurgy, 2000-2001
219. Stephane Maniwczak, Visiting Scholar, 2000-2001

220. Georg Bedal, Visiting Scholar, Intelligent VARTM Testbed, 2000
221. Georg Burghart, Visiting Scholar, ONR, 2000
222. Florian Despang, Visiting Scholar, Technical University of Dresden, "Powder Metallurgy", 2000
223. Daniel Schumacher, Visiting Scholar, 2000
224. Siegfried Zeh, Visiting Scholar, Acousto-Ultrasonice Set-up, 2000
225. Steffen Baumgaertner, Visiting Scholar, Implementing IR-Thermography, 1999-2000
226. Ismail Dagli, Visiting Student from Esslingen, Germany, VARTM Control, 1999
227. Boris Gourichon, Visiting Scholar, SERDP, 1999-2000
228. Lijun Han, Visiting Scholar, China, VARTM Processing, February 1999
229. Erik Hartlieb, Visiting Scholar, VARTM, 1999-2000
230. Christoph Hoffmann, Visiting Student, Aachen, Germany, completing master's thesis on complex flow pattern analysis, February 1999
231. Marcus Knappe, Visiting Student from Esslingen, Germany, Nondestructive Acousto-ultrasonic Evaluation of Composites, August 1998–February 1999
232. Alfred Leibbrand, Visiting Scholar, VARTM, 1999-2000
233. Sophie Mangin, Visiting Student, Paris, France, Induction Heating /Through-Thickness Degradation Studies, March 1999
234. Harald Schuler, Visiting Scholar, VARTM, 1999-2000
235. Noel Tierney, Visiting Scholar, 1999
236. Juergen Wuest, Visiting Student from Esslingen, Germany Acousto-Ultrasound Measurements and NDE, March 1999
237. Geoffrey McKnight, Co-injection Processing, 1997–1998
238. Victor Avilés-Hernández, Visiting Student, University of Puerto Rico at Maguayez, (civil engineering, with Prof. Kevin Folliard), 1997–1998
239. Kin Liao, Durability of Glass/Vinyl Ester Composites, 1997
240. Josephina Diaz-Perez, Flow Sensing and Cure using SMARTweave, 1997
241. Shridhar Yarlagadda, "Induction Heating/Bonding of Composites," ARL Composite Materials Research Collaborative Program, 1996–1997
242. Andreas Eggert, University of Kaiserslautern, Germany, "Activity-Based Cost Analysis of Manufacturing Processes for the Composite Armored Vehicle," 1996
243. Bernhard Stieglmaier, Fachhochschule Polytechnic Munich, Engineering Physics, "Sensing and Control of Robotic Fiber Placement," 1996–1997
244. Itty Matthew, "Diffusion-Enhanced Adhesion," summer intern, CMR Program
245. Vasyl Kharik, "Interphase Mechanics," summer intern, CMR Program, 1996
246. Kessavan Potty, "Design and Analysis of Flexible Couplants," 1996–1997
247. Steven McKnight, "Joining of Dissimilar Materials," 1995–1996

248. Frank Woehrmann, "Robotic Fiber Placement," Institute of Osnabruck, Germany, 1995–1996
249. Veronique Monnard, "Processing and Characterization of Bonds Between Thermoset and Thermoplastic Composites," Ecole Polytechnique Federale de Lausanne, Switzerland, 1995–1996
250. Julien Dohuuduc, Ecole Polytechnique Federale de Lausanne, Switzerland, 1995
251. Andre Bals, Ecole Polytechnique Federale de Lausanne, Switzerland, 1995
252. Andreas Obst, "Mechanics of Composites," 1995–1996
253. Knut Krieger, "On-line Inspection Techniques for Void Content During Thermoplastic Tow Placement," Lehrstuhl fur Verbundwerkstoffe, TU Chemnitz–Zwickau, 1995
254. Birgit M. Bauer, Experimental Validation of Thermoplastic Tow Placement, University of Erlangen, Erlangen, Germany, 1994
255. Dirk Heider, University of Aachen, Germany, "On-line NDE Techniques for Thermoplastic Pultrusion," 1994–95; "Neural Network Based Control for Thermoplastic Tow Placement," 1995–1996
256. Nuri B. Ersoy, Ph.D. candidate, Department of Mechanical Engineering, Bogazici University, 1995
257. Eric Faude, "Fiber Placement Head Development," Student Exchange Program from Carl Duisberg Society, February–August 1993
258. Torsten Flemming, "Process-Induced Residual Stress and Warpage During Fiber Placement," 1994
259. Ranga Pitchumani, "Development of Rapid, Affordable Manufacturing Technologies for Polymer- and Ceramic-Matrix Composites," 1992–1994
260. Xiaogang Huang, "Modeling Transverse Cracking in Composite Laminates," 1992–1996
261. Chris Hoppel, "Mechanics and Failure of Thick Section Mechanics," 1993–1994
262. Shen Zuwei, "Characterization of Transverse Cracking," 1993–1994

**Over 342 Undergraduate Research Assistants and Summer Interns, 1981 - 2022**

1. Jennifer Pahnke, Science and Engineering Scholar, 2002
2. John Gillespie III, Summer Intern, 2002
3. Yanmin Zhang, Research Technician, 2002
4. Preethi Natarajan, Research Technician, 2002
5. Maxim Baldytchev, Research Technician, 2002
6. Jason Etherington, Research Technician, 2001
7. Oluseyi Olasupo Onawola, Summer Intern, 2002
8. Asadul Md. Haque, Research Technician, 2002
9. Marc Orgovan, Research Technician, 2002
10. Khammouane Dejvongsa, Research Technician, 2000-2002
11. Erica C Eckler, Research Technician, 2000-2001
12. Ashiq A Quabili, Research Technician
13. Rosa, Elvin O, Research Technician, 2001
14. Sean Devlin, Research Technician. 2001
15. John Yakubic, Research Technician, 2001
16. Benjamin Tang, Research Technician, 2001
17. John Fader, Research Technician, 2001
18. Ravi Prasad, Research Technician, 2001
19. Adrien Salomon, Research Technician, 2001-2002
20. Jordan Wagner, Research Technician, 2001
21. Saravana Kumar, Research Technician, 2001
22. David A Madanat, Research Technician, 2001
23. Yaqiang Ding, Research Technician, 2001
24. Theresa Gajewski, Research Technician, 2001
25. Matthew R. Charnik, Research Technician, 2000-2001
26. Martin Saliger, Summer Intern, 1998
27. Rajesh Hirandani, Summer Intern (TU), VARTM Controller, 1998
28. Nitesh Jadhav, Summer Intern (TU), VARTM SMARTweave, 1998
29. Aurelia Gardner, Summer Intern (TU), Ballistic Performance, 1998
30. Lesa Austin, Summer Intern, (TU) Cure Behavior, 1998
31. Makeba Atkins, Summer Intern (TU), Cure Behavior, 1998
32. Lilma dos S. Ribeiro, Summer Intern (DeIDOT 896), 1998

33. David Henderson, Summer Intern, (DeIDOT 896), 1998
34. Montri Dechasakulcom, Summer Intern (BIR), 1998
35. Sean Wells, Summer Intern (CMR), Induction-Based Repair, 1998
36. Matt Savage, Summer Intern (CMR), 1998
37. Peter Peno, Summer Intern, (CMR) Induction Robot Head, 1998
38. Binal Patel, Summer Intern, Coatings (CMR), 1998
39. Caroline Hurst, Summer Intern (CMR), 1998
40. David Daughton, Summer Intern (CMR), Metal Films on Polymers, 1998
41. Betsy Ablao, Summer Intern, Composite Modeling (CMR), 1998
42. Robert Plitko, Research Technician, Fabrication of Angle Bends Using SCRIMP, 1996
43. Rob Harbeson, Research Technician, Infrastructure Renewal, 1996–97
44. Jon Olin, Research Technician, Composite Infrastructure, 1996
45. Alyson Radel, Research Technician, Composite Infrastructure, 1996
46. Brian Revels, Research Technician, Composite Infrastructure, 1996
47. Darin Triolo, Research Technician, Composite Infrastructure, 1996
48. David Conway, Research Technician, Joining, 1996
49. Zeenab Razak, Research Technician, Robotics (FP/Induction), 1996
50. Raymond Foulk, Research Technician, Robotics (FP/Induction), 1996
51. Michael Rosner, Research Technician, SW/Sensor Data Visualization, 1996
52. Jason Tiffany, Research Technician, Autoclave Processing, 1996
53. Jason Pusey, Research Technician, RTM, 1996
54. Allyson Wilkes, Research Technician, Specimen Fab/Signature, 1996
55. James Elwood, Research Technician, A2/E3 Durability, 1996
56. Brian Richard, Research Technician, SCRIMP/Flow Control, 1996
57. Adam Martin, Research Technician, Induction Heating, 1996
58. Frank Puchino, Lab Technician, 1996
59. David Malotky, Lab Technician, 1996–97
60. Dewey Thomas, Lab Technician, 1995
61. Helen Yen, Lab Technician, 1995–96
62. Peter Wyatt, Lab Technician, 1995–96
63. Sagar Mathur, Lab Technician, 1995–96
64. Michael Lentz, Lab Technician, 1994–95
65. Christopher Lawler, Lab Technician, 1994–95

66. Dennis Brinley, Lab Technician, 1994–1995
67. Erdal Karamuk, Lab Technician, 1994
68. Kevin Perdue, Lab Technician, 1993–1995
69. Jay Iceman, Lab Technician, 1993
70. Clint Weslager, Lab Technician, 1993–94
71. Sherise Wood, Lab Technician, 1993 to 1994
72. John Franco, Lab Technician, 1993
73. Paul Franco, Lab Technician, 1993
74. Michael Tolin, Lab Technician, 1993–1994
75. Gary March, Lab Technician, 1993
76. Neil Garrett, Lab Technician, 1992–93
77. Bruce Rettig, Lab Technician, 1992–93
78. Scott Stuart, Lab Technician, 1992–93
79. Andy Schwartz, Lab Technician, 1992
80. Francis Mulvey, Lab Technician, 1992
81. Chris Mundis, Lab Technician, 1991–92
82. Jenny Sterba, Lab Technician, 1991–92
83. Scott Morin, Lab Technician, 1991–92
84. David O'Halloran, Lab Technician, 1991
85. John McGeehan, Lab Technician, 1990–91
86. William Eberle, Lab Technician, 1990–91
87. Scott Holmes, Lab Technician, 1989–90
88. Eric Tu, Lab Technician, 1989–90
89. Robert Pigford, Lab Technician, 1989–90
90. Eric Phillipe, Lab Technician, 1989
91. Robert Zachman, Lab Technician, 1989
92. Ian Howie, Lab Technician, 1989–92
93. John Stevens, Lab Technician, 1988–90
94. Mark Savarese, Lab Technician, 1988–89
95. Catherine Baron, Lab Technician, 1986
96. Bob Kaminski, Senior Research, 1986
97. Ed Ashmead, Senior Research, 1986
98. James Snowden, Software Development, 1985–87

99. Joel Garrett, Software Development, 1983–87
100. Brian Waibel, Software Development, 1983–87
101. Skip Shuda, Software Development, 1982–83
102. Gary Becht, Lab Technician, 1983–85
103. Dan Mongan, Lab Technician, 1983–85
104. Chris Rutz, Lab Technician, 1983–84
105. Roseanne Givler, Lab Technician, 1982–83
106. Melody Munson, Lab Technician, 1980–82
107. Steve Ellery, Lab Technician, 1981–83

**Undergraduate Research Projects**

1. Chad Daksha, "Parametrization of ReaxFF for S-glass using Genetic Algorithm and Machine Learning."
2. Ka Lo Michelle Choi, "Durability of the Carbon-Fiber/Vinyl-Ester Interphase," Imperial College of the University of London, 2000
3. Raymond Foulk, "Intelligent Control of Induction Heating," Senior Thesis/Degree with Distinction Candidate, 99BSME
4. Z. Z. Wong, "Ultraviolet Curing of a GFRP Composite Based on Vinyl-Ester," Imperial College of the University of London, 1997
5. Zeenab Razak, Imperial College of the University of London, 1996
6. Ahmed Monib, "Repair and Residual Strength of Thick Section Composites," 96BSME
7. Andre Bals, "Thermal Degradation of Thermoset Composites," Laboratoire de Technologie des Composites et Polymeres, Ecole Polytechnique Federale de Lausanne, Switzerland, 1994
8. Julien Do Huu Duc, "Relaxation in Polyimide Composites," Laboratoire de Technologie des Composites et Polymeres, Ecole Polytechnique Federale de Lausanne, Switzerland, 1994
10. Clint Weslager, "Mine-Blast Resistant Sandwich Structures," 95BSME
11. Erdal Karamuk, "Induction Welding of Composites," Laboratoire de Technologie des Composites et Polymeres, Ecole Polytechnique Federale de Lausanne, Switzerland, 1994
12. Beat Luthi, "Neural Networks for Thermoplastic Tow Placement," Laboratoire de Technologie des Composites et Polymeres, Ecole Polytechnique Federale de Lausanne, Switzerland, 1994
13. Eric Wetzal, "Induction Bonding of Composites," 95BSME
14. Paul Franco, "Joining of Glass/Polypropylene and Anodized Aluminum," 94BSME
15. Scott Morin, "Transverse Cracking in Polymer Matrix Composites," 93BSME
16. Ian Howie, "Resistance Welding of Dual Polymer Radel 8320/Polysulfone Composites," 92BSME
17. John McGeehan, "Characterization of Processed Induced Void Content during Structural Reaction Injection Molding of Preforms," 91BSME
18. Scott Holmes, "Three-Dimensional Reinforcement for Composite Structures," 90BSME
19. Roderic Don, "Fusion Bonding of Thermoplastic Composites," 90BSME
20. Jeffrey Burmeister, "Vibration Damping in Composite Laminate," 88BSME
21. Tom Chapman, "Temperature and Strain Rate Effects on Mode II Interlaminar Fracture," co-advised with R. B. Pipes, 86BSME
22. Ed Ashmead, "In-Situ Mode I Interlaminar Fracture," 86BSME
23. Bob Kaminski, "Vibration Damping in Composite Laminates," 86BSME

## Design Projects

- Laser Measuring Device for Hygrothermal Growth Characterization in Composite Materials, sponsored by U. S. Army, 1997–98.
- Design of a Thermoplastic Composite Pressure Hull with Randy McCreary undergraduate intern at MIT, 1994.
- Artillery Resupplier with W. Grant Carboy III, William Everitt, Christopher Snodgrass, and Steve Viskocil sponsored by U. S. Army, 1993–94.
- Composite Pallet Program, with V. Basilio, A. Miller and D. Skinner, sponsored by U. S. Army, 1992–93.
- Composite Generator Housing, with I. Howie, J. Tompkins, J. Lambert, and B. Burd, sponsored by U. S. Army, ASME Award Winner, (article included in *Mechanical Engineering Magazine*), 1991–92.
- Automated Resistance Welder, with R. C. Don, S. T. Holmes, S. M. Andersen, and B. S. Leach, sponsored by Alcoa, 1990–91; ASME Award Winner; patent issued, 1993.

### Continuing Education

- “Fusion Bonding,” Annual CCM Composites Workshop, University of Delaware, Newark, DE, May 10–12, 1994.
- “Experimental Mechanics I and II,” Annual CCM Composites Workshop, University of Delaware, Newark, DE, May 10–12, 1994.
- “Experimental Mechanics I and II,” Annual CCM Composites Workshop, University of Delaware, Newark, DE, May 19–21, 1992.
- “Joining of Composites,” Annual CCM Composites Workshop, University of Delaware, Newark, DE, May 19–21, 1992.
- “Experimental Mechanics I and II,” Tenth Annual CCM Composites Workshop, University of Delaware, Newark, DE, April 22–24, 1991.
- “Joining of Thermoplastic Composites,” Tenth Annual CCM Composites Workshop, University of Delaware, Newark, DE, April 22–24, 1991.
- “Residual Stresses in Composites,” Tenth Annual CCM Composites Workshop, University of Delaware, April 22–24, 1991.
- “Experimental Mechanics of Composites,” and “Interlaminar Fracture of Composites,” ALCOA Technical Laboratories, Pittsburgh, PA, April 2–4, 1991.
- “Thermoplastic Composites,” AIAA Composites Short Course, St. Louis, MO, April 20, 1991.
- “Mechanics of Composites,” Tutorial on Composites, Sixth Annual ASM/ESD Advanced Composites/Exposition, Detroit, MI, October 8–11, 1990.
- “Experimental Mechanics of Composites,” Tutorial on Composites, 6th Annual ASM/ESD Advanced Composites/Exposition, Detroit, MI, October 8–11, 1990.
- “Residual Stresses in Thick Section Thermosetting Composites,” Center for Composite Materials Annual Workshop, May, University of Delaware, Newark, DE, May 1990.
- “Residual Stresses in Thermoplastic Composites,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1990.
- “Experimental Mechanics I,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, 1990.
- “Experimental Mechanics II,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1990.
- “Fusion Bonding and Welding of Thermoplastic Composites,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1990.
- “Experimental Mechanics of Composite Materials,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, 1990.
- “Interlaminar Fracture of Composites,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1989.
- “Strength and Failure of Composites,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1988.

- “Strength and Failure of Composites,” DuPont Professional Course on Composite Materials, the Du Pont Company, April 1987.
- “Strength and Failure of Composites,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, 1987.
- “Basic Laminate Mechanics,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, 1987.
- “Interlaminar Failure: Characterization and Impact on Design,” American Society for Composites/Center for Composite Materials Workshop, San Diego, CA, January 1987.
- “CCM Software for Composites Analysis and Design,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1986.
- “Strength and Fracture of Composites, Design Considerations,” Center for Composite Materials Workshop, FMC Corporation, January, Santa Clara, CA, 1986.
- “CCM Software for Design of Composites: Solid Mechanics,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1985.
- “Microcomputer Software Workshop,” Center for Composite Materials Annual Workshops, University of Delaware, Newark, DE, May 1984.
- “Finite Element Methods in Composite Analysis and Design,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1984.
- “Interlaminar Fracture in Compression,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1984.
- “Computer-Aided Design and Optimization Techniques,” Center for Composite Materials Annual Workshop, University of Delaware, Newark, DE, May 1983.

**Research Funding**

Gillespie's Awarded Contracts and Grants: 1989-2022

**Total Funding: \$186M**

Industrial Gift Funding: 1996-2020

**Total Funding: \$10.08M**

Award ID	Award Title	PI	Begin	End	Sponsor	Budget
AGR 940606	(D) HERC GRANT-IN-AID	Gillespie	7/1/1989	12/31/2050	Hercules, Inc.	\$ 125,000
Closed Before PS	DUP CYLINDER PERFORM	Gillespie	9/1/1989	8/31/1990	EI DUPONT DE NEMOURS	\$ 93,448
Closed Before PS	BAC 3-D REINFORCED T	Gillespie	5/1/1990	8/31/1990	BOEING AEROSPACE CO	\$ 25,000
Closed Before PS	ST MATCH DUP DRP91	Gillespie	7/1/1990	6/30/1991	DE RESEARCH PARTNERSHIP	\$ 25,000
Closed Before PS	ST MATCH BAC DRP91	Gillespie	7/1/1990	8/31/1990	DE RESEARCH PARTNERSHIP	\$ 25,000
Closed Before PS	DUP 3-D FILAMENT WIN	Gillespie	1/1/1991	12/31/1991	EI DUPONT DE NEMOURS	\$ 25,000
Closed Before PS	DUP RESIDUAL STRESS	Gillespie	2/15/1991	12/31/1991	EI DUPONT DE NEMOURS	\$ 54,747
Closed Before PS	LOCKHEED BONDING DRP 92 GILLESPIE	Gillespie	6/1/1991	6/30/1992	LOCKHEED AER SYSTEMS CO	\$ 79,961
Closed Before PS	MCD WELDING	Gillespie	6/1/1991	10/31/1991	MCDONALD DOUGLASS CORP	\$ 29,846
Closed Before PS	DUP HULL JOINTS	Gillespie	7/1/1991	7/31/1992	EI DUPONT DE NEMOURS	\$ 57,402
Closed Before PS	ST MATCH DUP DRP92 GILLESPIE	Gillespie	7/1/1991	6/30/1992	DE RESEARCH PARTNERSHIP	\$ 19,900
Closed Before PS	ST MATCH LOCK DRP92 GILLESPIE	Gillespie	7/1/1991	6/30/1992	DE RESEARCH PARTNERSHIP	\$ 79,000
Closed Before PS	DUP DRP 91.92 GILLESPIE	Gillespie	7/1/1991	6/30/1992	EI DUPONT DE NEMOURS	\$ 25,000
Closed Before PS	UTC/SA/THERMOPLAS-PHASE II	Gillespie	11/1/1991	10/31/1992	UNITED TECHNOLOGY CORP	\$ 63,552
Closed Before PS	UTC SIKORSKY/AUTO WELD PHASE II	Gillespie	11/1/1991	6/30/1992	UNITED TECHNOLOGY CORP	\$ 43,563
Closed Before PS	SIKORSKY THERMPOLAS	Gillespie	1/1/1992	11/30/1993	SIKORSKY AIRCRAFT	\$ 20,000
Closed Before PS	DUP RESIDUAL STRESS ANALYSIS	Gillespie	1/1/1992	2/28/1993	EI DUPONT DE NEMOURS	\$ 55,000
Closed Before PS	DARPA WINDING-STEINER	Gillespie	5/15/1992	1/31/1994	DEFENSE ADVANCED RES PROJ	\$ 243,334
Closed Before PS	DUP DRP93 QUALITY ASSMT FLMT	Gillespie	6/1/1992	2/28/1993	EI DUPONT DE NEMOURS	\$ 55,000
Closed Before PS	ST MATCH DUP DRP93 GILLESPIE	Gillespie	7/1/1992	2/28/1993	DE RESEARCH PARTNERSHIP	\$ 55,000
Closed Before PS	US ARMY-APG BONDED WEDGES	Gillespie	7/1/1992	11/30/1992	US ARMY ABERDEEN PROV GRO	\$ 18,000
Closed Before PS	LOCKHEED BONDLINE	Gillespie	10/1/1992	12/31/1994	LOCKHEED AER SYSTEMS CO	\$ 25,000
Closed Before PS	FMC-CAV	Gillespie	11/6/1992	7/1/1993	FMC CORPORATION	\$ 20,000
Closed Before PS	ST MATCH DRP94 DUP GILLESPIE	Gillespie	7/1/1993	12/31/1994	DE RESEARCH PARTNERSHIP	\$ 40,000
Closed Before PS	DUP/DRP 94 CENTRIFUGE	Gillespie	7/1/1993	12/31/1994	EI DUPONT DE NEMOURS	\$ 40,000
Closed Before PS	UNIDEF FMC CAV ATD	Gillespie	3/1/1994	6/28/1996	UNITED DEFENSE, LP	\$ 514,886

Closed Before PS	UNIDEF FMC CAV ATD-ADD ON	Gillespie	3/9/1994	6/30/1997	UNITED DEFENSE, LP	\$ 35,610
Closed Before PS	ARDEQ PICCATINY (RFQ)	Gillespie	4/1/1994	9/15/1994	US ARMY ARDEC, PICATTINNY	\$ 23,947
Closed Before PS	UCSD BRIDGE ARPA	Gillespie	6/9/1994	8/31/1996	UNIV CALIF SAN DIEGO	\$ 44,551
Closed Before PS	UCSD BRIDGE ARPA	Gillespie	6/9/1994	5/31/1996	UNIV CALIF SAN DIEGO	\$ 657,900
Closed Before PS	UCSD BRIDGE ARPA	Gillespie	6/9/1994	5/31/1996	UNIV CALIF SAN DIEGO	\$ 702,451
Closed Before PS	ARO RAPTEC-ACM	Gillespie	9/15/1994	12/31/1997	ARMY RESEARCH OFFICE	\$ 2,980,000
Closed Before PS	NACI/NAVY	Gillespie	9/30/1994	1/31/1995	NATIVE AMER CONSLTNTS, INC.	\$ 79,000
Closed Before PS	UCSB/ARPA/ACP PROGRAM	Gillespie	11/1/1994	10/31/1995	UNIV CA S BARBARA	\$ 250,000
Closed Before PS	NSWC-STATIC & FATIGUE	Gillespie	12/23/1994	12/22/1996	NAVAL SURFACE WEAPONS CTR	\$ 302,300
Closed Before PS	UNIDEF SIX SIGMA	Gillespie	2/9/1995	8/7/1995	UNITED DEFENSE, LP	\$ 49,400
Closed Before PS	DUP/AFOSR WELDTech-PMC	Gillespie	2/13/1995	2/12/1996	EI DUPONT DE NEMOURS	\$ 75,000
Closed Before PS	ARO ARL/URETH-MAT COMP	Gillespie	6/15/1995	7/31/1998	ARMY RESEARCH OFFICE	\$ 113,010
Closed Before PS	ST MATCH DRP96 HARDCORE GILLESPIE	Gillespie	8/1/1995	6/30/1997	DE RESEARCH PARTNERSHIP	\$ 50,000
Closed Before PS	HARDCORE DRP96/97 GILLESPIE	Gillespie	8/1/1995	12/31/1996	HARDCORE DUP COMPOSITES	\$ 375,000
Closed Before PS	AROSR/DURIP EQPMT	Gillespie	8/1/1995	12/31/1996	USAF OFF OF SCI RESEARCH	\$ 225,000
AGR 19951129	(D) TUSKEGEE/ARO ARMOR RTM	Gillespie	9/29/1995	9/30/2001	Tuskegee University	\$ 2,399,949
Closed Before PS	ATLRC/ARPA MODEL DEV MOD SYSTEMS	Gillespie	10/31/1995	8/1/1996	ATLANTIC RESEARCH CORP	\$ 45,000
Closed Before PS	TRA DTI 97 DECKS	Gillespie	7/7/1996	6/30/1998	DEL DEPT TRANSPORTATION	\$ 45,000
Closed Before PS	ARO DURIP	Gillespie	7/16/1996	7/15/1997	ARMY RESEARCH OFFICE	\$ 280,142
Closed Before PS	TRA DTI 96 COMPOSITE SLAB BRIDGE	Gillespie	9/1/1996	6/30/2000	DEL DEPT TRANSPORTATION	\$ 600,000
Closed Before PS	ST MATCH DRP97 HARDCORE GILLESPIE	Gillespie	9/1/1996	8/31/1997	DE RESEARCH PARTNERSHIP	\$ 110,000
Closed Before PS	HARDCORE/UCSD/ARPA BIR-PHASE II	Gillespie	10/16/1996	10/31/1997	HARDCORE DUP COMPOSITES	\$ 616,460
Closed Before PS	TELEDYNE/DARPA ARMOR	Gillespie	7/1/1997	7/9/1999	TELEDYNE BROWN ENGINEERING	\$ 275,000
Closed Before PS	TRA DTI98 GIRDERS	Gillespie	7/1/1997	6/30/1999	DEL DEPT TRANSPORTATION	\$ 30,000
Closed Before PS	HARDCORE/UCSD/ARPA BIR-PHASE II	Gillespie	11/1/1997	5/31/1998	HARDCORE DUP COMPOSITES	\$ 41,124
Closed Before PS	JMI/DARPA BIR-II TASK 16	Gillespie	1/1/1998	9/30/1999	J MULLER INTERNATIONAL INC	\$ 198,198
Closed Before PS	TRA/FHA/DTI RT896 BRIDGE	Gillespie	2/18/1998	8/31/1999	DEL DEPT TRANSPORTATION	\$ 18,326

Closed Before PS	PRODUCTION PROD/ARO SMART STRUCTURE	Gillespie	3/1/1998	2/28/2000	PRODUCTION PRODUCTS MFG	\$ 125,000
Closed Before PS	ARO DURIP HIGH STRAIN RATE	Gillespie	3/2/1998	1/1/2000	ARMY RESEARCH OFFICE	\$ 85,500
Closed Before PS	ARO DURIP LOW COST MFG	Gillespie	3/5/1998	1/4/2000	ARMY RESEARCH OFFICE	\$ 116,950
DAAL01-98-K- 0058	(D) ARL - SERDP	Gillespie	4/30/1998	7/30/2002	US Army Research Laboratory	\$ 985,000
	TRITON/ARL/SBIR INDUCTION	Gillespie	6/17/1998	3/31/1999	TRITON SYSTEMS, INC.	\$ 85,000
DAAE30-99-2- 0100	(D) ARDEC/DUAP THERMOPLASTICS	Gillespie	3/12/1999	3/11/2001	US Army ARDEC	\$ 598,906
N00014-99-1- 0636	(D) ONR DURIP-99 VARTM	Gillespie	3/31/1999	12/31/2000	Office of Naval Research	\$ 334,000
N00014-97-C- 0415	(D) ONR VARTM PROCESSING	Gillespie	4/15/1999	8/31/2000	Office of Naval Research	\$ 180,000
	TRA/SPR DTI FY00 QC/QA	Gillespie	8/9/1999	8/8/2000	DEL DEPT TRANSPORTATION	\$ 29,999
DAAL01-96-2- 0048	(D) ARL/CMR FASTRAC PROCESS	Gillespie	1/1/2000	2/3/2001	US Army Research Laboratory	\$ 4,109,000
SCJ000114	(D) UDLP/TACOM MANTECH 2000	Gillespie	7/24/2000	8/1/2002	United Defense, LP	\$ 550,000
AGR 20000925	(D) 3TEX/ARO-STTR 3-D WOVEN COMPOS	Gillespie	8/15/2000	8/14/2002	3TEX, Inc.	\$ 50,000
02-3106-01	(D) TENG/NAS INVEST HYBRID-COMP	Gillespie	8/25/2000	4/20/2002	Teng And Associates, Inc.	\$ 48,045
N00014-00-C- 0333	(D) ONR INTELLIGENT PROCESSING	Gillespie	9/19/2000	12/31/2002	Office of Naval Research	\$ 2,613,000
SCJ000109	(D) UDLP/ARO CAV ATD	Gillespie	10/29/2000	1/31/2002	United Defense, LP	\$ 750,000
AGR 20001201	(D) ANHOLT/NSWC CIRTM	Gillespie	11/1/2000	10/31/2002	Anholt Technologies, Inc.	\$ 168,200
DAAD19-01-2- 0001	(D) ARL/CMRC	Gillespie	12/1/2000	3/31/2006	US Army Research Laboratory	\$ 5,943,000
10200409	(D) CTC/ONR CERAMIC ARMOR SYSTEMS	Gillespie	3/1/2001	4/30/2002	Concurrent Technologies	\$ 110,000
N00014-01-1- 0509	(D) ONR PBT THERMOPLASTIC	Gillespie	3/16/2001	6/30/2002	Office of Naval Research	\$ 100,000
N00014-01-1- 0595	(D) ONR DURIP INTERPHASE MATERIALS	Gillespie	4/15/2001	4/30/2002	Office of Naval Research	\$ 260,985
DAAD19-01-2- 0005	(D) ARL CMT	Gillespie	6/29/2001	12/31/2007	US Army Research Laboratory	\$ 23,431,165
N00014-01-M- 0235	(D) PROD PROD/ONR STTR	Gillespie	7/15/2001	7/14/2002	Production Products Mfg.	\$ 42,000
AGR 20010525	(D) SOLECTRIA/ARL SBIR PHASE II	Gillespie	8/27/2001	8/26/2003	Solectria Corporation	\$ 249,000
AKX229	(D) BHC/NASA LIQUID MOLDING	Gillespie	10/11/2001	12/31/2002	The Boeing Company	\$ 65,000
AGR 20020128	(D) FRAUNHOFER/ARL ALUMINUM-FOAM	Gillespie	11/1/2001	10/31/2003	Fraunhofer USA, Inc.	\$ 50,000
AGR 20020423	(D)3TEX/ARL STTR PHASE II	Gillespie	3/8/2002	6/7/2004	3TEX, Inc.	\$ 100,000
N00014-02-1- 0811	(D) ONR INTELLIGENT PROCESSING	Gillespie	8/1/2002	8/1/2004	Office of Naval Research	\$ 1,300,000

N00014-02-C-0392-DEL	(D) TOUCHSTONE/ONR CARBON FOAM	Gillespie	11/5/2002	8/31/2004	Touchstone Research Laboratory	\$ 200,000
N00014-03-1-0891	(D) ONR INTELLIGENT PROCESSING3	Gillespie	6/16/2003	6/15/2005	Office of Naval Research	\$ 1,260,000
02-3106-02	(D) TENG/NAS COMPOSITE BEAM	Gillespie	9/12/2003	6/3/2006	Teng And Associates, Inc.	\$ 94,480
AGR 20040604-03144	(P) 2PHASE TECH/AATD TOOLING	Gillespie	5/1/2004	6/7/2007	2Phase Technologies	\$ 347,270
N00014-04-1-0574	(D) ONR AMIPC PHASE VI	Gillespie	5/12/2004	12/31/2005	Office of Naval Research	\$ 1,079,000
41000040	(D) CTC/UDLP Phase IV CAV/IHS	Gillespie	10/5/2004	12/15/2006	Concurrent Technologies	\$ 281,056
W911NF-05-2-0006	(D)TUSKEGEE/ARO STF	Gillespie	11/18/2004	5/17/2010	Tuskegee University	\$ 828,553
N00014-05-1-0832	(D) ONR AMIPC PHASE VII	Gillespie	7/11/2005	1/12/2007	Office of Naval Research	\$ 1,080,000
Q3-19018-011	(D) NORTHROP/NAVY FLOW SIMU	Gillespie	10/4/2005	7/31/2006	Northrop Grumman- Ship Systems	\$ 165,639
W911NF-06-2-0011	(D) ARL CMR VEHICLE PROTECTION	Gillespie	5/1/2006	12/31/2014	US Army Research Laboratory	\$ 7,799,427
N00014-06-1-1000	(D) ONR AMIPC VIII GILLESPIE	Gillespie	7/10/2006	12/31/2011	Office of Naval Research	\$ 1,670,000
R000058	(D) 3TEX/NAVY PH II SBIR 3D	Gillespie	9/7/2006	6/8/2009	3TEX, Inc.	\$ 330,000
W911NF-07-2-0026	(D) ARL CART	Gillespie	4/23/2007	12/31/2014	US Army Research Laboratory	\$ 11,120,405
W911NF-07-1-0387	(D) ARO DURIP MMC GILLESPIE	Gillespie	6/7/2007	6/6/2008	US Army Research Office	\$ 106,985
W911NF-07-1-0294	(D) ARO DEPSCOR BLAST FORCES	Gillespie	5/8/2007	5/7/2011	US Army Research Office	\$ 650,080
W56HZV-07-C-0142	(D) TACOM COMPOSITE STRUCTURES	Gillespie	6/8/2007	12/31/2013	US Army Tank-Automotive Command	\$ 23,490,813
PO# 262K08300	(D) ACCUDYNE NASA PH I STTR	Gillespie	1/25/2008	6/5/2009	Accudyne Systems, Inc.	\$ 45,000
8000648	(D) VSYS/AATD ROTORCRAFT DRIVE SYS	Gillespie	2/15/2008	3/1/2011	V System Composites, Inc.	\$ 180,000
206-115-P-A	(D) APCI ARL BALLISTIC PROG	Gillespie	9/30/2008	9/30/2013	Air Products and Chemicals, Inc.	\$ 3,850,000
9001388	(D)OWENS CORNING FIBER SIZINGS	Gillespie	6/1/2009	6/7/2014	Owens Corning Science & Technology	\$ 150,000
N00014-09-1-1011	(D) ONR AMIPC NXT GEN SCALABLE MFG	Gillespie	6/1/2009	5/31/2012	Office of Naval Research	\$ 1,760,000
PO# 262M08X002	(D) ACCUDYNE NASA STTR PHASE II	Gillespie	6/20/2009	6/19/2011	Accudyne Systems, Inc.	\$ 200,000
N00014-10-1-0971	(D) ONR AMIPC MARITIME MFG	Gillespie	8/5/2010	8/3/2014	Office of Naval Research	\$ 1,400,000
PO# 91975	(D) MORGAN SERVICE AGRMT	Gillespie	12/6/2010	12/31/2012	Morgan Advanced Materials & Technologies	\$ 200,000
PO# 4503892486	(D) OWENS CORNING FIBER SIZ FY11	Gillespie	2/15/2011	6/30/2012	Owens Corning Science & Technology	\$ 150,000

PO# 2146579	(D) BOEING NEXT GEN JWG	Gillespie	12/1/2011	12/21/2012	The Boeing Company	\$ 200,000
11A01572	(D) DIAPEDIA ARMY SBIR FOOTWARE	Gillespie	12/12/2011	4/11/2013	DIApedia, LLC	\$ 22,500
W911NF-12-2-0022	(D) ARL JHU CRA MEDE	Gillespie	4/16/2012	12/31/2013	US Army Research Laboratory	\$ 387,145
W911QX-12-C-0042	(D) DARPA WAR WEB ITRUSS	Gillespie	5/24/2012	5/7/2015	Defense Advanced Research Project	\$ 1,617,284
13A00137	(D) OTEC SERVICES AGRMT	Gillespie	11/1/2012	6/30/2016	OTEC International LLC	\$ 30,000
W911NF-12-2-0022-CLIN2	(D) ARL JHU CRA MEDE2013	Gillespie	1/1/2013	6/30/2014	Johns Hopkins University	\$ 668,247
PO# 304824	(D) ILC NASA SPACE SUIT	Gillespie	5/28/2013	7/10/2015	ILC Dover, Inc.	\$ 687,800
13A00085	(D) DIAPEDIA PH II COMPOSITE ORTHOTIC	Gillespie	6/28/2013	12/27/2015	DIApedia, LLC	\$ 197,368
W911NF-13-2-0027	ARL CREATE ORTHOTICS	Gillespie	8/22/2013	8/21/2018	US Army Research Laboratory	\$ 3,651,708
2001518468-CLIN4	(D) JHU ARL CRA MEDE PLUSUP CLIN4	Gillespie	1/1/2014	4/30/2016	Johns Hopkins University	\$ 75,000
W911NF-12-2-0022-CLIN3	(D) ARL JHU CRA MEDE CLIN 3	Gillespie	1/1/2014	12/31/2015	Johns Hopkins University	\$ 812,582
201439-124015	(D) NCMS NHTSA BMW DOOR	Gillespie	8/1/2014	8/22/2016	National Ctr for Mfg Sciences	\$ 951,243
2001518468	(D) JHU ARL CRA MEDE CLIN 3.15	Gillespie	1/1/2015	4/30/2016	Johns Hopkins University	\$ 899,549
16A00654	(D) SABIC PC PREPREG SRV	Gillespie	11/15/2015	5/15/2016	SABIC Global Technologies, B.V.	\$ 20,000
20015-18468-CLIN 5	(D) JHU ARL CRAMEDE 2016	Gillespie	1/1/2016	3/31/2017	Johns Hopkins University	\$ 949,455
HR0011-16-2-0014	DARPA TUFF GILLESPIE	Gillespie	3/14/2016	10/31/2021	Defense Advanced Research Project	\$ 15,194,298
2001518468 CLIN-5.17	JHUARL CRA MEDE 2017	Gillespie	1/1/2017	4/3/2018	Johns Hopkins University	\$ 894,391
2001518468 CLIN 8	(D) JHUARL CRA MEDE PLUS UP 17	Gillespie	9/1/2017	12/31/2018	Johns Hopkins University	\$ 870,000
2001518468 CLIN 10	JHU ARO CRA MEDE CLIN 10	Gillespie	1/1/2018	3/31/2019	Johns Hopkins University	\$ 865,053
EM11159 Task Order 2	EMRE MICROSCALE STUDIES	Gillespie	2/9/2018	12/31/2018	ExxonMobil Corporation	\$ 200,000
2001518468 PLUS UP 18	JHU/ARO CRA MEDE PLUS UP 18	Gillespie	7/23/2018	12/31/2019	Johns Hopkins University	\$ 811,900
2001518468-CLIN 10.19	JHU/ARL CRA MEDE CLIN 10.19	Gillespie	1/1/2019	12/17/2019	Johns Hopkins University	\$ 751,610
EM11159 TASK ORDER 4	EMRE MICROSCALE STUDIES TO4	Gillespie	1/1/2019	12/31/2019	ExxonMobil Corporation	\$ 200,000
N00014-19-1-2173	ONR DURIP 18 GILLESPIE	Gillespie	3/1/2019	2/29/2020	Office of Naval Research	\$ 395,000
PO# 3676459	DEDO CCM RES MATCH	Gillespie	7/1/1998	6/30/2023	Delaware Economic Dev Office	\$ 2,500,000
2001518468 PLUS UP 19	JHU/ARO CRA MEDE PLUS UP 19	Gillespie	4/15/2019	4/14/2021	Johns Hopkins University	\$ 1,818,750
EM11159 TASK ORDER 7	EMRE MICROSCALE STUDIES TO7	Gillespie	1/1/2020	12/31/2020	ExxonMobil Corp	\$ 200,000
W911NF1820299	ARL CREATE GILLESPIE 2018-23	Gillespie	10/1/2018	9/30/2020	US Army Research Laboratory	\$ 14,526,362

2001518468-CLIN 23	JHU/ARL CRA MEDE CLIN 10.23	Gillespie	1/1/2020	6/30/2021	Johns Hopkins University	\$ 846,476
2001518468 CLIN 23.21	JHU/ARO CRA MEDE CLIN 23.21	Gillespie	1/1/2021	2/28/2022	Johns Hopkins University	\$ 914,807
2001518468 CLIN 26	JHU/ARO CRA MEDE CLIN 26	Gillespie	9/28/2020	4/30/2022	Johns Hopkins University	\$ 1,052,500
80NSSC20M0164	NASA ULI AERO AUTO GILLESPIE	Gillespie	9/1/2020	8/31/2024	NASA	\$ 5,893,840
W911NF1820299	ARL CREATE GILLESPIE 2018-23	Gillespie	10/1/2018	9/30/2021	US Army Research Laboratory	\$ 5,084,862
DE-AR0001333	DOE TUFF IWRAP GILLESPIE	Gillespie	2/1/2021	12/31/2023	US Department of Energy	\$ 5,954,639
<a href="#">21A01514</a>	JHU/ARL MEDE PLUS GILLESPIE	Gillespie	12/2/2021	9/2/2023	Johns Hopkins University	\$ 999,970
2021-0696	CRG/NASA PHII STTR GILLESPIE	Gillespie	10/25/2021	9/15/2022	Cornerstone Research Group, Inc.	\$ 195,427
22A00501	DUPONT MSM GIFT GILLESPIE	Gillespie	10/26/2021	10/25/2024	DuPont Company	\$ 250,000
21A01514	JHU/ARO MEDE PLUS GILLESPIE	Gillespie	12/2/2021	9/2/2021	Johns Hopkins University	\$ 999,970
						\$ 185,988,202