Jihua (Jan) Gou, Ph.D., Professor

Director, Composite Materials and Structures Laboratory (CMSL)
Department of Mechanical and Aerospace Engineering
University of Central Florida, 4000 Central Florida Blvd, Orlando, FL 32816-2450
Phone: 407-823-2155, Fax: 407-823-0208, E-mail: jihua.gou@ucf.edu
URL: http://mmae.ucf.edu/Faculty/jgou/
(Updated on December 25, 2013)

I. BIOGRAPHICAL DATA

Professional Interests

Advanced Composites Manufacturing, Nanocomposite Materials, Multi-functional Composite Materials and Structures, Advanced Manufacturing, Materials Processing Techniques, Design and Manufacturing, Solid Mechanics

Professional Positions

08/13 – present	Professor, Department of Mechanical and Aerospace Engineering (MAE) Director of Composite Materials and Structures Laboratory University of Central Florida, Orlando, FL
08/07 – 07/13	Associate Professor, Department of Mechanical & Aerospace Engineering (MAE) Director of Composite Materials and Structures Laboratory University of Central Florida, Orlando, FL
08/02 – 07/07	Assistant Professor, Department of Mechanical Engineering Director of Composite Materials Research Laboratory University of South Alabama, Mobile, AL
08/99 – 07/02	Research Assistant, Florida Advanced Center for Composite Technologies Florida State University, Tallahassee, FL

Education

Ph.D.	Industrial Engineering, 2002 Department of Industrial & Manufacturing Engineering, Florida State University PhD Advisor: Prof. Ben Wang, Director of Georgia Tech Manufacturing Institute
Ph.D.	Materials Engineering, 1999

School of Materials Science & Engineering, Shanghai Jiao Tong University, China PhD Advisor: Prof. Xueyu Ruan, Member of Chinese Academy of Engineering

M.S. Materials Engineering, 1996

School of Materials Science and Engineering, Chongqing University, China

B.S. Materials Engineering, 1993

School of Materials Science and Engineering, Chongqing University, China

II. RECOGNITION AND AWARDS

Honors and Awards

2013 "Chuang Yuan" Distinguished Seminar

Title: Molecular Dynamics Simulations of Polymer Nanocomposites
Organized by Southwest Jiao Tong University, Chengdu, China, November 26, 2013

2012 CECS Distinguished Researcher Award (at the Associate Professor level) College of Engineering and Computer Science (CECS), University of Central Florida

2012 Shell Distinguished Seminar

Title: Carbon Nanopaper Enabled Nanocomposites: From Nanoparticles to Products Organized by Department of Mechanical Engineering, University of Houston, Houston, TX, February 23, 2012

2011 Keynote Lecture

Title: Carbon Nanopaper Enabled Structural and Multifunctional Nanocomposites 19th Annual International Conference on Composites and Nano Engineering, Shanghai, China, July 24, 2011

2010 Best Paper Award

Title: Study of Fire Retardant Performance of Composites Coated with Hybrid Carbon Nanofiber Paper; Authors: J. F. Zhuge (PhD student), Y. Tang (Post-Doc), J. Gou, R.H. Chen, C. Ibeh, and Y. Hu; American Society of Civil Engineers (ASCE) Earth and Space Conference 2010, Honolulu, HI

2010 MAE Researcher of the Year

Department of Mechanical and Aerospace Engineering (MAE), University of Central Florida

2009 MAE Researcher of the Year

Department of Mechanical and Aerospace Engineering (MAE), University of Central Florida

2007 Nomination for **College of Engineering Research Excellence Award**University of South Alabama

2002 Best Poster Award

Awarded by Engineering and Physical Science Research Council (EPSRC) at International Conference on Multi-Scale Materials Modeling, University of London

Research News

"Helping Industry Through Nanotechnology," USA Research and Outreach Magazine, Vol. 3, 2007

III. TEACHING

Courses Taught at UCF (2007 - present)

Department of Mechanical and Aerospace Engineering, University of Central Florida

Fall 2007

EGM 3601 Solid Mechanics	3 credit hours
EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I	3 credit hours

Spring 2008

EML 4502C/EAS 4710C Mechanical/Aerospace Engineering Design II 3 credit hours

Fall 2008

EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I	3 credit hours
EML 5546 Engineering Design with Composite Materials	3 credit hours

Spring 2009 EML 4502C/EAS 4710C Mechanical/Aerospace Engineering Design II	3 credit hours
Fall 2009 EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I EML 5937 SP: Advanced Composites Manufacturing	3 credit hours 3 credit hours
Spring 2010 EML 4502C/EAS 4710C Mechanical/Aerospace Engineering Design II EML 6085 Research Methods	3 credit hours 3 credit hours
Fall 2010 EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I EML 5546 Engineering Design with Composite Materials	3 credit hours 3 credit hours
Spring 2011 EML 4502C/EAS 4710C Mechanical/Aerospace Engineering Design II EML 5237 Intermediate Mechanics of Materials	3 credit hours 3 credit hours
Fall 2011 EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I EML 5546 Engineering Design with Composite Materials	3 credit hours 3 credit hours
Spring 2012 EML 4502C/EAS 4710C Mechanical/Aerospace Engineering Design II EML 5937 SP: Design for Turbine Manufacturing	3 credit hours 3 credit hours
Fall 2012 EML 3500 Machine Design and Analysis EML 5937 SP: Design for Turbomachinery Manufacturing	3 credit hours 3 credit hours
Spring 2013 EML 4501C/EAS 4700C Mechanical/Aerospace Engineering Design I EML 5546 Engineering Design with Composite Materials	3 credit hours 3 credit hours
Courses Taught at South Alabama (2002 - 2007) Department of Mechanical Engineering, University of South Alabama	
Fall 2002 EG 283 Statics	3 credit hours
Spring 2003 ME 326 Materials Science ME 336 Materials and Mechanics Laboratory	3 credit hours 1 credit hour
Summer 2003 EG 284 Dynamics	3 credit hours
Fall 2003 ME 326 Materials Science ME 336 Materials and Mechanics Laboratory	3 credit hours 1 credit hour

	4 gineering Graphics and Communication terials and Mechanics Laboratory	3 credit hours 1 credit hour
Fall 2004 ME 135 Engineering Graphics and Communication ME 336 Materials and Mechanics Laboratory ME 419/519 Computer Aided Design and Manufacturing (CAD/CAM)		3 credit hours 1 credit hour 3 credit hours
	5 echanics of Materials terials and Mechanics Laboratory	3 credit hours 1 credit hour
Summer 20 ME 590 Intro	005 oduction to Composite Materials	3 credit hours
		3 credit hours 3 credit hours
ME 336 Materials and Mechanics Laboratory 1		3 credit hours 1 credit hour 3 credit hours
	terials Science chanics of Composite Materials	3 credit hours 3 credit hours
ME 336 Materials and Mechanics Laboratory 1 credit hou		3 credit hour 1 credit hour 3 credit hours
	Engineering Graphics and Communication Statics Dynamics Mechanics of Materials Machine Design Materials Science Materials and Mechanics Laboratory Computer Aided Design and Manufacturing (CAD/CAM) Solid Mechanics Machine Design and Analysis EAS4700C Mechanical/Aerospace Engineering Design I EAS4710C Mechanical/Aerospace Engineering Design II	

Summary: Graduate Courses

ME519	Computer Aided Design and Manufacturing (CAD/CAM)
ME590	Mechanics of Composite Materials
EML5237	Intermediate Mechanics of Materials

EML5546	Engineering Design with Composite Materials
EML5937	SP: Advanced Composites Manufacturing
EML5937	SP: Design for Turbomachinery Manufacturing
EML6085	Research Methods

IV. RESEARCH SUPERVISION

Supervised Post-Docs & Visiting Scholars (as major professor)

Dr. Fei Liang, Post-Doctoral Research Associate (2012- current)

Dr. Yanzhi Cai, Visiting Scholar (2013- current), Current Employment: Assistant Professor of College of Materials and Mineral Resources, Xi'an University of Architecture and Technology, Xi'an, China

Dr. Yong Tang, Post-Doctoral Research Associate (2008-2010), Current Employment: R&D Engineer of Albemarle Corporation, Baton Rouge, LS

Dr. Haibao Lu, Visiting Scholar (2009), Current Employment: Full Professor of Center for Composite Materials and Structures, School of Aeronautics, Harbin Institute of Technology, Harbin, China

Dr. Zhongfu Zhao, Post-Doctoral Research Associate (2007-2008), Current Employment: Associate Professor of the Department of Polymer Science and Engineering, School of Chemical Engineering, Dalian University of Technology, Dalian, China

Dr. Xiaoyong Ji, Visiting Scholar (2007), Current Employment: Post-doc at the University of New Orleans, LA

Supervised Ph.D. Students (as major professor)

Hongjiang Yang, PhD in Mechanical Engineering (in progress)

Dissertation Title: High Temperature Ceramic Nanocomposites for Thermal Protection Systems

Xin Wang, PhD in Materials Science and Engineering (in progress) Dissertation Title: Dynamic Properties of Nanocomposite Materials

Chris Parlier, PhD in Materials Science and Engineering (in progress)

Dissertation Title: High Temperature Composites for Thermal Protection Systems

Jason Gibson, PhD in Mechanical Engineering (August 2013), Current Employment: Technical Manager of Composites One

Dissertation Title: Nanoparticles in Multi-Scale Composites and Ballistic Applications

Fei Liang, PhD in Materials Science and Engineering (December 2012), Current Employment: Post-doc at the University of Central Florida

Dissertation Title: Processing, Characterization and Performance of Carbon Nanopaper Based Mutlifunctional Nanocomposites

Jinfeng Zhuge, PhD in Mechanical Engineering (May 2012), Current Employment: R&D Engineer of SABIC. Philadelphia. PA

Dissertation Title: Fire Retardant Polymer Nanocomposites: Materials Design and Thermal Degradation Modeling

Supervised M.S. Students (as major professor)

John Sparkman, MS in Mechanical Engineering (in progress)

Thesis Title: Multi-functional Layer-by-Layer Topcoat Nanofilm for Smartskin Leather Using Nano Deposition System

Sarah Cox, MS in Materials Science and Engineering (in progress)

Thesis Title: Lightweight High Temperature Composites for a Portable Launch Pad

Donovan Lui, MS in Mechanical Engineering (in progress)

Thesis Title: Design, Characterization and Ablation Testing of Ultra High Temperature Composites for Thermal Protection Systems

James McKee, MS in Materials Science and Engineering (December 2013)

Thesis Title: Development and Characterization of Nanoparticle Enhancements in Pyrolysis-Derived High Temperature Composites

Marvin Tsoi, MS in Mechanical Engineering (May 2011)

Thesis Title: Modeling of Thermal Properties of Glassfiber/Polyester Resin Composites under Thermal Degradation Condition, co-advisor (major advisor: Prof. R.H. Chen)

Jinfeng Zhuge, MS in Mechanical Engineering (May 2010)

Thesis Title: Processing, Characterization and Optimization of Carbon Nanofiber Paper for Fire-Resistant Polymer Matrix Composites

Lee Algozzini, MS in Aerospace Engineering (May 2009)

Thesis Title: Multi-functional Nanocomposites with High Damping Performance for Aerospace Structures

Scott S. O'Briant, MS in Mechanical Engineering (2005), Current Employment: Plant Engineer at Mitsubishi Polysilicon, Theodore, AL

Thesis Title: Processing, Characterization and Modeling of Functionalized Carbon Nanofiber-Modified Composite Laminates

Krishna Anumakonda, MS in Mechanical Engineering (2005), Current Employment: Design/Manufacturing Engineer at Dassault, Little Rock, AR

Thesis Title: Molecular Dynamics Simulations of Functionalized Carbon Nanofiber-Based Nanocomposites

Ph.D. Dissertation Committee (as committee member)

Yulin Xiao, PhD in Civil Engineering (in progress)

Dissertation Title: Ultra High Performance Concrete (UHPC) Related Deck System Optimization

Zhilin Xie, PhD in Mechanical Engineering (in progress)

Dissertation Title: Boron Rich Ceramic Compounds for Structural Application

Wenlang Liang, PhD in Materials Science and Engineering (Summer 2013)

Dissertation Title: Self-Assembly Two-Component Organic Tubes: Structures and Applications

Othmane Nenafan, PhD in Mechanical Engineering (Spring 2012)

Dissertation Title: Deformation and Phase Transformation Processes in Polycrystalline NiTi and NiTiHf High Temperature Shape memory Alloys

Cuong Quoc Nguyen, PhD in Mechanical Engineering (2010)

Dissertation Title: Interaction between Secondary Flow & Film Cooling Jets of a Realistic Angular Airfoil Cascade (High Mach Number)

Zhiliang Li, PhD in Mechanical Engineering (2010)

Dissertation Title: Experimental and CFD Investigations of Lifted Tribrachial Flames

Peng Zhang, PhD in Mechanical Engineering (2008)

Dissertation Title: Design and Fabrication of Chemiresistor Type Micro/Nano Hydrogen Gas Sensor Using Interdigitated Electrodes

M.S. Thesis Committee (as committee member)

Steve Kraft, MS in Mechanical Engineering (Spring 2013)

Thesis Title: Resilience of Woven Wire Mesh under Biaxial, Tensile Fatigue Conditions

Jessica Vanterpool, MS in Aerospace Engineering (Spring 2013)

Thesis Title: Combustion Synthesis and Characterization of Porous NiTi Intermetallic for Structural Application

Robert Sivilli, MS in Aerospace Engineering (Fall 2012)

Thesis Title: Vision-based Testbeds of Control System Applications

Nnadozie N.F. Dike, MS in Civil Engineering (Fall 2012)

Thesis Title: Performance of Mechanical and Non-Mechanical Connections to GFRP Composites

Ryan Vorwaller, MS in Mechanical Engineering (Summer 2012)

Thesis Title: The Effect of Magnetic Bearing on the Vibration and Friction of a Wind Turbine

Zhilin Xie, MS in Mechanical Engineering (2012)

Thesis Title: Re, Os, Al and Mg Boron Rich Ceramic Compounds for Structural Application

Robert Slade, MS in Civil Engineering (2012)

Thesis Title: Repair of Impact Damaged Utility Poles Using Externally Bonded FRP

Eric Deane, MS in Mechanical Engineering (2011)

Thesis Title: Multi-Sensor Optimization of the Simultaneous Turning and Boring Operation

Gregory J. Freihofer, MS in Aerospace Engineering (2011)

Thesis Title: Raman Spectroscopy as a Tool to Characterize and Optimize CNT Composites

Nghia Trong Van Tran, MS in Mechanical Engineering (2010)

Thesis Title: Film Cooling With Wake Passing Applied to an Annular Endwall

Jing Bai, MS in Mechanical Engineering (2009)

Thesis Title: Percolation Study of Nano-Composite Conductivity Using Monte Carlo Simulation

Brad Tipton, MS in Materials Science and Engineering (2008)

Thesis Title: Prevention of Environmentally Induced Degradation of Carbon/Epoxy Composite Material via Implementation of a Polymer Based Coating System

Jer Min Ong, MS in Electrical Engineering (2006)

Thesis Title: Growth of SI_xGE_{1-x} Thin Films for Optoelectronics and Microelectronics Applications

Robert C. Williams Jr., MS in Mechanical Engineering (2006)

Thesis Title: A Study on Crack-Particle Interactions in Particulate Reinforced Composites Using SGBEM and FEM: Effects of Elastic Constants Mismatch and Dynamic Loading

Kelechi Nwoke, MS in Electrical Engineering (2006)

Thesis Title: Improved Performance and Security of Fingerprint Verification and Identification Systems by Combined Optical and Digital Enhancement Techniques

Syed Shah Abdul Qader Quadri, MS in Electrical Engineering (2005)

Thesis Title: Simulation of Carrier Transport in Nanostructure Devices

Ravi K. Panitapu, MS in Mechanical Engineering (2003)

Thesis Title: Analysis of Filling Pattern in Resin Transfer Molding

Undergraduate Thesis Committee for Honors in the Major (HIM) (as committee member)

Zachary Graham, BS in Mechanical Engineering (Spring 2013)

Thesis Title: Numerical Simulation of Numerical Simulation of Fracture of a Nano-Paper Coated E-Glass/Polyester Composite with Thermal Damage

Steve Kraft, BS in Mechanical Engineering (Spring 2011)

Thesis Title: Mechanical Behavior of Woven Wire Mesh under Biaxial, Tensile Fatigue Conditions

Carson D. Slabaugh, BS in Mechanical Engineering (Spring 2009)

Thesis Title: Heat Transfer Augmentation in a Rectangular Duct Characterized by an Impinging Jet

Inlet: Design of Experiment

Supervised Undergraduate Research Students (as major professor)

John Sparkman, Research Assistant (2013), BS in Mechanical Engineering

Amy Callahan, Research Assistant (2013), BS in Mechanical Engineering (Materials Track) (2013)

Jeffrey Gambrell, Research Assistant (2013), BS in Mechanical Engineering (2013)

Jeremy Lawrence, Research Assistant (2010 - 2012), BS in Industrial Engineering (2013)

Kyle Houser, Research Assistant (2011), BS in Aerospace Engineering (2012)

James McKee, Research Assistant (2008-2011), BS in Aerospace Engineering (2010)

Marcus White, REU Research Assistant (2007-2008), BS in Mechanical Engineering (2008)

Nathalie Patterson, REU Research Assistant (2007-2008), BS in Mechanical Engineering (2008)

Stephen Sumerlin, NSF Computer Science, Engineering and Mathematics Research Scholar (CSEMS) (2005-2007), BS in Mechanical Engineering (2007)

Roy Blanco, NSF Computer Science, Engineering and Mathematics Research Scholar (CSEMS) (2006-2007), BS in Mechanical Engineering (2007)

Qazi Shakoor, NSF Computer Science, Engineering and Mathematics Research Scholar (CSEMS) (2003-2005), BS in Mechanical Engineering (2006)

David Tacchi, NSF REU Student (2004), BS in Mechanical Engineering (2005)

Aaron Wright, NSF REU Research Assistant (2003), BS in Mechanical Engineering (2005)

V. FUNDING

Research Funding:

1. 3D Conformal Delivery System for Surface Decoration and Multi-functional Performance

Project Period: 01/01/2014 – 12/31/2014 Amount: <u>\$120,000</u> <u>PI: J. Gou</u> Co-PI: Y. Xu

Funding Agency: HB Polymer Company (HBP)

2. I-4: Multi-functional Layer-by-Layer Topcoat Nanofilm for Smartskin Leather Using Nano Deposition

System

Project Period: 11/01/2013 – 11/30/2014 Amount: \$100,000

PI: J. Gou

Funding Agency: Florida High Tech Corridor Council (FHTCC)

3. Multi-functional Layer-by-Layer Topcoat Nanofilm for Smartskin Leather Using Nano Deposition

System

Project Period: 11/01/2013 – 11/30/2014 Amount: \$100,000

PI: J. Gou

Funding Agency: HB Polymer Company (HBP)

4. FHTCC: 3D Electrical Actuation of Shape Memory Polymer Nanocomposite Film for Footwear

Decoration Application

Project Period: 01/01/2013 – 12/31/2013 Amount: \$100,000 PI: J. Gou Co-PI: Y. Xu Funding Agency: Florida High Tech Corridor Council (FHTCC)

5. 3D Electrical Actuation of Shape Memory Polymer Film for Footwear Decoration Applications

Project Period: 01/01/2013 – 12/31/2013 Amount: <u>\$120,000</u> <u>PI: J. Gou</u> Co-PI: Y. Xu

Funding Agency: HB Polymer Company (HBP)

6. Lightweight High Temperature Composites for a Launch Pad

Project Period: 08/16/2013 – 08/15/2014 Amount: \$40,000

PI: J. Gou

Funding Agency: NASA Kennedy Space Center (NASA KSC)

7. FAA COE AST: Ultra High Temperature Composites, Aerothermal Modeling and Health Monitoring

for Thermal Protection Systems

Project Period: 06/01/2012 – 05/31/2014 Amount: \$124,000

PI: J. Gou Co-PI: J. Kapat, A. Gordon

Funding Agency: Federal Aviation Administration (FAA)

8. Space Florida Match to FAA COE AST: Ultra High Temperature Composites, Aerothermal Modeling

and Health Monitoring for Thermal Protection Systems

Project Period: 06/01/2012 – 12/31/2013 Amount: \$114,000

PI: J. Gou Co-PI: J. Kapat, A. Gordon

Funding Agency: Space Florida

9. FAA COE AST: TPS Ablation Testing of Ultra High Temperature Composites with Simulated Solid

Rocket Motor

Project Period: 01/01/2012 – 05/31/2013 Amount: <u>\$42,000</u>
PI: J. Gou Co-PI: J. Kapat

Funding Agency: Federal Aviation Administration (FAA)

10. Space Florida match to FAA COE AST: TPS Ablation Testing of Ultra High Temperature Composites

with Simulated Solid Rocket Motor

Project Period: 01/01/2012 – 05/31/2013 Amount: <u>\$42,000</u> PI: J. Gou Co-PI: J. Kapat

Funding Agency: Space Florida

11. Collaborative Research: Laser Sintering of Nanolayered Carbon Nanotube Paper for Functionally

Gradient Ceramic Nanocomposites

Project Period: 08/15/2011 – 07/31/2013 Amount: \$86,000

PI: J. Gou

Funding Agency: National Science Foundation (NSF)

12. FAA COE AST: Ultra High Temperature Composites, Damage Modeling and Health Monitoring for

Thermal Protection Systems

Project Period: 02/14/2011 – 02/13/2012 Amount: \$89,065

PI: J. Gou Co-PI: J. Kapat, A. Gordon, L. An

Funding Agency: Federal Aviation Administration (FAA)

13. Space Florida match to FAA COE AST: Ultra High Temperature Composites, Damage Modeling and

Health Monitoring for Thermal Protection Systems

Project Period: 02/14/2011 – 02/13/2012 Amount: \$89,065

PI: J. Gou Co-PI: J. Kapat, A. Gordon, L. An

Funding Agency: Space Florida

14. Self-Healing Nanocomposites for Cryogenic Hydrogen Storage Tanks

Project Period: 09/01/2011 – 08/31/2012 Amount: \$25,000

PI: J. Gou

Funding Agency: Florida Space Grant Consortium (FSGC)

15. Processing, Characterization and Optimization of Carbon Nanofiber Paper for Fire-Resistant Polymer

Matrix Composites

Project Period: 12/09/2008 – 12/08/2011 Amount: \$250,000 Co-PI: R. Chen, C. Ibeh

Funding Agency: Office of Naval Research (ONR)

16. Collaborative Research: Phase II Development of an Innovative Multi-functional Smart Vibration

Platform

Project Period: 10/01/2007 – 09/30/2011 Amount: \$30,000

PI: J. Gou

Funding Agency: National Science Foundation (NSF)

17. FCAAP - Development of a 3D Fiber Reinforced Polymer Matrix Nanocomposites for Next Generation

Aero-Engine

Project Period: 10/01/2008 – 12/30/2010 Amount: <u>\$181,000</u>
PI: J. Gou Co-PI: L. An, J. Kapat

Funding Agency: Florida Center for Advanced Aero-Propulsion Program (FCAAP)

18. Collaborative Research: Development of Multifunctional Nanocomposites with Engineered Carbon

Nanopaper

Project Period: 10/01/2006 – 09/30/2010 Amount: \$196,280

PI: J. Gou

Funding Agency: National Science Foundation (NSF)

19. GOALI: Multifunctional Nanocomposites with High Damping Performance for Aerospace Structures

Project Period: 10/17/2007 – 09/30/2010 Amount: \$45,000

PI: J. Gou GOALI Partner: Boeing Company

Funding Agency: National Science Foundation (NSF)

20. Development of Carbon Nanofiber Based Nanocomposites for Lightning Strike Protection and

Electromagetic Interference Shielding Applications

Project Period: 05/01/2009 - 04/30/2010 Amount: \$7,500

PI: J. Gou

Funding Agency: UCF In-House Research Grant (UCF)

21. Development of Hybrid Carbon Nanofiber/Nanoclay Sheets for Fire Retardant Applications

Project Period: 05/01/2008 - 04/30/2009 Amount: \$7,500

PI: J. Gou

Funding Agency: UCF In-House Research Grant (UCF)

22. High Strength Composite Materials

Project Period: 09/28/2006 - 08/30/2007 Amount: \$778,981

PI: J. Gou Co-PI: K.T. Hsiao, A. Phan, M. Parker

Funding Agency: National Aeronautics and Space Administration (NASA)

23. Nanofiber Paper Composites for Lightning Strike Protection

Project Period: 08/01/2007 - 03/31/2008 Amount: \$100,000

PI: David Firsich (Inorganic Specialists, Inc.) Co-PI: J. Gou

Funding Agency: DoD SBIR Program (with Air Force Research Laboratory)

24. Synthesis, Processing, and Characterization of Fire-Retardant Polymeric Nanocomposites

Project Period: 01/01/2007 – 08/31/2010 Amount: \$55,000

PI: J. Gou

Funding Agency: American Chemical Society Petroleum Research Foundation (ACS PRF)

25. Innovative Manufacturing of Hybrid Nanocomposites for Cryogenically Cycled Structures

Project Period: 06/01/2006 - 05/31/2007 Amount: \$30,000

PI: J. Gou

Funding Agency: National Aeronautics and Space Administration (NASA)

26. Multi-Scale Modeling and Simulation of Carbon Nanotube/Polymer Composites

Project Period: 06/01/2004 – 05/31/2005 Amount: \$5,000

PI: J. Gou

Funding Agency: University of South Alabama Research Council (USARC)

27. Process Modeling and Simulation of Nano-Scale Infiltration for Single-Walled Carbon Nanotube

Bucky Paper Reinforced Composites

Project Period: 10/01/2003 - 09/30/2004 Amount: \$5,000

PI: J. Gou

Funding Agency: University of South Alabama Research Council (USARC)

28. Interfacial Bonding Analysis of Single-Walled Carbon Nanotube Rope and Epoxy Resin from

Molecular Dynamics Simulations

Project Period: 05/19/2003 - 09/30/2003 Amount: \$8,055

PI: J. Gou

Funding Agency: Florida State University Research Foundation (FSURF)

Educational & Laboratory Development Funding:

1. NASA Great Moonbuggy Race

Project Period: 11/15/2011 - 11/14/2012 Amount: \$3,000

PI: J. Gou

Funding Agency: Florida Space Grant Consortium (FSGC)

2. NASA Great Moonbuggy Race

Project Period: 11/15/2010 - 11/14/2011 Amount: \$4,000

PI: J. Gou

Funding Agency: Florida Space Grant Consortium (FSGC)

3. NASA Great Moonbuggy Race

Project Period: 11/15/2009 - 11/14/2010 Amount: \$3,000

PI: J. Gou

Funding Agency: Florida Space Grant Consortium (FSGC)

4. Development Partnership Project: Articulated Character Heads

Project Period: 09/20/2009 – 04/30/2010 Amount: \$2,500

PI: J. Gou

Funding Agency: Walt Disney World Co.

5. Articulated Character Heads Development Experiments

Project Period: 09/20/2007 – 04/30/2009 Amount: \$5,500

PI: J. Gou

Funding Agency: Walt Disney World Co.

6. Development Partnership Project: Articulated Character Heads Project Period: 09/01/2008 - 05/30/2009 Amount: \$2,500

Pls: J. Gou and M. Compere

Funding Agency: Walt Disney World Co.

7. NASA Great Moonbuggy Race

Project Period: 11/15/2008 - 11/14/2009 Amount: \$2,500

PI: J. Gou

Funding Agency: Florida Space Grant Consortium (FSGC)

8. Autoclave System for Composite Materials Processing

Project Period: 01/01/2008 - 06/30/2009 Amount: <u>\$68,272</u> PI: J. Gou Co-PI: R. Kumar

Funding Agency: UCF Presidential Initiative to Fund Major Research Equipment (UCF)

9. Materials Science Laboratory Development

Project Period: 01/01/2004 - 01/01/2005 Amount: \$20,145

PI: J. Gou

Funding Agency: University of South Alabama (USA)

10. Composite Materials Research Laboratory Development

Project Period: 01/01/2003 - 01/01/2004 Amount: \$39,095

PI: J. Gou

Funding Agency: University of South Alabama (USA)

VI. PUBLICATIONS

Book Chapters (Total: 5)

- J. Gou and F. Liang, "High Conductive Nanocomposite Materials" in <u>Nanomaterials for Aerospace Engineering Applications</u>, edited by Farzana Hussain (to be published by Taylor & Francis/CRC Press).
- 2. <u>J. Gou</u> and J.F. Zhuge, "Nanotechnology Safety in the Marine Industry " in *Nanotechnology Safety Education*, edited by Ramazan Asmatulu, ISBN: 978-0-444-59438-9, CRC Press, Boca Raton, FL, 2013, pp.161-174.
- 3. <u>J. Gou, J.F. Zhuge and F. Liang, "Chapter 4: Processing of Polymer Nanocomposites" in Manufacturing Techniques of Polymer Matrix Composites (PMCs)</u>, edited by Suresh G. Advani and Kuang-Ting Hsiao, Woodhead Publishing, Philadelphia, PA, 2012, pp.95-119.
- J. Gou and Y. Tang, "Chapter 7: Fire Retardant Properties of Polymer Nanocomposites" in <u>Multifunctional Polymer Nanocomposites</u>, edited by Jinsong Leng and Alan Kin-tak Lau, ISBN: 1439816824/ISBN-13: 9781439816820, CRC Press, Boca Raton, FL, 2010, pp.309-336.
- 5. <u>J. Gou</u> and K. T. Lau, "Chapter 7: Modeling and Simulation of Carbon Nanotube/Polymer Composites" in *Handbook of Theoretical and Computational Nanotechnology*, edited by Michael Rieth and Wolfram Schommers, foreword by Pierre-Gilles de Gennes, Nobel Prize Laureate, ISBN:1-58883-042-X, American Scientific Publishers, Stevenson Ranch, CA, 2005, Vol. 8, pp. 361-393.

Journal Publications (Total: 78)

1 on ACS Nano (Impact Factor: 12.062) 1 on Soft Matter (Impact Factor: 3.909)

- 1 on Nanotechnology (Impact Factor: 3.842)
- 6 on Applied Physics Letters (Impact Factor: 3.794)
- 1 on Science and Technology of Advanced Materials (Impact Factor: 3.752)
- 2 on Composites Science and Technology (Impact Factor: 3.328)
- 2 on Composites Part A: Applied Science and Manufacturing (Impact Factor: 2.744)
- 1 on Polymer Degradation and Stability (Impact Factor: 2.770)
- 2 on Journal of Applied Physics (Impact Factor: 2.210)
- 7 on Composites Part B: Engineering (Impact Factor: 2.143)
- 1 on Materials Science and Engineering: A (Impact Factor: 2.108)
- 2 on Smart Materials and Structures (Impact Factor: 2.024)
- 1 on Computational Materials Science (Impact Factor: 1.878)
- 1 on Ceramic International (Impact Factor: 1.789)
- 1. F. Liang, R. Sivilli, C. Chew, J. Gou, Y. Xu, B. Mabbott, "Electrical Actuation and Mechanical Property of Carbon Nanofiber Coated Carbon Fiber/Shape Memory Polymer Nanocomposites," submitted to Composites Part B: Engineering
- 2. J.S. Leng, C.X. Wu, H.B. Lu, Y.J. Liu, <u>J. Gou</u>, "Processing, Structure and Property of Nanopaper with Graphene and Carbon Nanofiber," submitted to <u>Composites Part A: Applied Science and Manufacturing</u>
- 3. H.B. Lu, Y.J. Liu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Shape Memory Nanocomposite Incorporated with Self-Assembled Multi-Walled Carbon Nanotube Nanopaper," submitted to <u>Soft Matter</u>.
- 4. J. Skovron, J., Zhuge, J., Gou, J., A. Gordon, "Effect of Nano-Paper Coating on Flexural Properties of a Fire-Treated Glass Fiber-Reinforced Polyester Composite" submitted to *Composites Part A*.
- 5. T.J. Lu, S.M. Liu, M. Jiang, X.L. Xu, Y. Wang, Z.Y. Wang, <u>J. Gou</u>, D. Hui, Z.W. Zhou, "Effects of Modifications of Bamboo Cellulosic Fibers on the Improved Mechanical Properties of Cellulose Reinforced Poly (lactic acid) Composites," submitted to <u>Composites Science and Technology</u>
- 6. F.C. Meng, Y. Wang, P.L. Zhang, M. Jiang, X.L. Xu, J. Lu, Z.W. Zhou, <u>J. Gou</u>, W.M. Lau, "First Principles Study of Stabilization of the Anti-ferromagnetic Ground State in Zigzag α-graphyne Nanoribbons by Dehydrogenation," submitted to *Carbon*
- 7. H.B. Lu, F. Liang, <u>J. Gou</u>, "Synergistic Effect of Self-assembled Carbon Nanofibers and Hexagonal Boron Nitride for Improved Electro-activated Polymeric Shape-Memory Nanocomposite," submitted to *Journal of Intelligent Material Systems and Structures*
- 8. H.B. Lu, F. Liang, <u>J. Gou</u>, "Synergistic Effect of Self-assembled Carbon Nanopaper and Multi-layered Interface on Shape-Memory Polymer Nanocomposite for High Speed Electrical Actuation," <u>Journal of Applied Physics</u>, (Accepted)
- 9. B. Chen, Q. Yuan, <u>J. Gou</u>, D. G. Yin, and Z.L. Zhang, "Toughness Mechanism of Intersected Aragonite Structure in Chequered Bonnet Shell and Biomimetic Research," <u>Advanced Science Letters</u>, (Accepted)
- X. Jian, D.C. Wang, H.Y. Liu, M. Jiang, Z.W. Zhou, J. Lu, X.L. Xu, Y. Wang, L. Wang, Z.Z. Gong, M.L. Yasng, <u>J. Gou</u>, H. David, "Controllable Synthesis of Carbon Coils and Growth Mechanism for Twinning Double-Helix Catalyzed by Ni Nanoparticle," <u>Composites: Part B: Engineering</u>, (Article in press).
- G. Freihofer, S. Raghavan, <u>J. Gou</u>, David Gosztola, "Ex-situ Variable Raman Excitation of MWNT Composite to Quantify Stress Transfer Effectiveness for Different CNT Transition Species," <u>International Journal of Smart and Nano Materials</u>, (Article in press).
- 12. J. Gibson, J. McKee, <u>J. Gou</u>, "Enhancements in Ballistic Performance of Polymer Composites through Carbon Nanotubes," *International Journal of Smart and Nano Materials*, (Article in press)
- 13. H.B. Lu, F. Liang, Y.T. Yao, <u>J. Gou</u>, D. Hui, "Self-assembled Multi-layered Carbon Nanofiber Nanopaper for Significantly Improving Electrical Actuation of Shape Memory Polymer Nanocomposite," *Composites Part B: Engineering*, 59, pp.191-195, (2014)
- 14. H. Shen, Y. Xu, F. Liang, <u>J. Gou</u>, B. Mabbott "Recovery Torque Modeling of Carbon Fiber Reinforced Shape memory Polymer Nanocomposites," <u>Applied Physics Letters</u>, 103(20), 201903, (2013)
- F. Liang, R. Sivilli, <u>J. Gou</u>, Y. Xu, B. Mabbott, "Electrical Actuation and Shape Recovery Control of Shape Memory Polymer Nanocomposites," <u>International Journal of Smart and Nano Materials</u>, 4(3), pp. 167-178, (2013)

- 16. <u>J. Gou</u>, F. Liang, Y. Xu, B. Mabbott, "Multifunctional Non-Woven Carbon Nanopaper: Fabrication, Properties and Applications," *Applied Mechanics and Materials*, Vols. 423-426, pp. 97-105, (2013)
- 17. H.B. Lu, P.P. Bai, W.Y. Jin, F. Liang, <u>J. Gou</u>, "Magnetically Aligned Carbon Nanotubes in Nanopaper for Electro-Activated Shape-Memory Nanocomposites," <u>Nanoscience and Nanotechnology Letters</u>, 5(7), pp. 732-736, (2013).
- 18. M. Tsoi, J.F. Zhuge, R.H. Chen, <u>J. Gou</u>, "Modeling and Experimental Studies of Thermal Degradation of Glass Fiber Reinforced Polymer Composites," *Fire and Materials*, DOI: 10.1002/fam.2178 (2013).
- 19. B. Chen, D. Yin, <u>J. Gou</u>, Z. Zhang, "Mechanisms of Large Tensile Stiffness and High Fracture Strength of Bone," <u>Journal of Computational and Theoretical Nanoscience</u>, 1(6), pp. 1-4, (2013).
- 20. H.B. Lu, <u>J. Gou</u>, "Study on 3-D High Conductive Graphene Buckypaper for Electrical Actuation of Shape Memory Polymer," *Nanoscience and Nanotechnology Letters*, 4(12), pp. 1155-1159, (2012).
- 21. Y. Tang, <u>J. Gou</u>, Y. Hu, "Covalent Functionalization of Carbon Nanotubes with Polyhedral Oilgomeric Silsequioxane for Superhydrophobicity and Flame Retardancy," <u>Polymer Engineering and Science</u>, DOI: 10.1002/pen.23338, (2012).
- 22. X. Jian, Z.W. Zhou, Q. Zeng, J. Lu, D.C. Wang, J.T. Zhu, <u>J. Gou</u>, Y. Wang, D. Hui, M.L. Yang, "Gas-Induced Formation of Cu Nanoparticle as Catalyst for High-Purity Straight and Helical Carbon Nanofibers," <u>ACS Nano</u>, 6(10), pp. 8611-8619, (2012).
- 23. J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, A. Gordon, J. Kapat, D. Hart, C. Ibeh, "Fire Retardant Evaluation of Carbon Nanofiber/Graphite Nanoplatelets Nanopaper-Based Coating under Different Heat Fluxes," *Composite Part B: Engineering*, 43, 3293-3305, (2012).
- 24. J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, J. Kapat, "Finite Difference Analysis of Thermal Response and Post-Fire Flexural Degradation of Glass Fiber Reinforced Composites Coated with Carbon Nanofiber Based Nanopapers," *Composites Part A: Applied Science and Manufacturing*, 43, 2278-2288, (2012)
- 25. M.R. Vorwaller, K.C. Lin, <u>J. Gou</u>, C. Ham, Y.H. Joo, "Testbed for a Wind Turbine with Magnetic Bearing," <u>Advanced Materials Research</u>, Vols 512-515, 657-660, (2012).
- 26. J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, A.X. Zhou, and Z.Q. Yu, "Fire Performance and Post-Fire Mechanical Properties of Polymer Composites Coated with Hybrid Carbon Nanofiber Paper," <u>Journal of Applied Polymer Science</u>, 124, 37-48, (2012).
- 27. J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, J. Kapat, "Finite Element Modeling of Thermo-Mechanical Response of Fiber Reinforced Polymer Composites under Constant Heat Flux," <u>Composites Part A: Applied Science and Manufacturing</u>, 43, 665-674, (2012).
- 28. G. Freihofer, F. Liang, B. Mohan, <u>J. Gou</u>, S. Raghvan, "*Ex-situ* Raman Spectroscopy to Optimize the Manufacturing Process for a Structural MWNT Nanocomposite," *International Journal of Smart and Nano Materials*, 3(4), 309-320, (2012).
- 29. Y.B. Gao, F. Liang, G. Freihofer, B.X. Wu, S. Raghavan, <u>J. Gou</u>, S.Y. Li, B. Albee, S. W. Bishnoi, "Laser Sintering of Carbon Nanotube - Reinforced Ceramic Nanocomposites," <u>International Journal of Smart and Nano Materials</u>, DOI:10.1080/19475411.2011.620644, 1-11, (2011).
- 30. F. Liang, <u>J. Gou</u>, J. Kapat, H.C. Gu, G. Song, "Multifunctional Nanocomposite Coating for Wind Turbine Blades," *International Journal of Smart and Nano Materials*, 2(3), 120-133, (2011).
- 31. M. Lugovy, V. Slyunyayev, V. Subbotin, F. Liang, <u>J. Gou</u>, N. Orlovskaya, T. Graule, J. Kuebler, "Mechanical Behavior and Failure Mechanisms of BORON Carbide based Three Layered Laminates with Weak Interfaces," *Ceramic International*, 37, 2255-2261, (2011).
- 32. J.F. Zhuge, <u>J. Gou</u>, and C. Ibeh, "Flame Resistant Performance of Nanocomposites Coated with xGnP/CNF Hybrid Nanopapers," *Fire and Materials*, DOI: 10.1002/fam.1104, (2011).
- 33. H.B. Lu, F. Liang, <u>J. Gou</u>, "Nanopaper Enabled Shape-Memory Nanocomposite with Vertically Aligned Nickel Nanostrands: Controlled Synthesis and Electrical Actuation," <u>Soft Matter</u>, 7(16), 7416-7423, (2011).
- 34. H. B. Lu, Y. Liu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Surface Coating of Multi-walled Carbon Nanotube Nanopaper on Shape-Memory Polymer for Multifunctionalization," <u>Composites Science and Technology</u>, 71(11), 1427-1434, (2011).
- 35. H.B. Lu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Magnetically Aligned Carbon Nanotube in Nanopaper Enabled Shape-Memory Nanocomposite for High Speed Electrical Actuation," <u>Applied Physics Letters</u>, 98(17), 174105 (2011).
- 36. Y. Tang, J.F. Zhuge, J. Lawrence, J. Mckee, <u>J. Gou</u>, C. Ibeh, Y. Hu, "Flame Retardancy of Carbon Nanofiber/Intumescent Hybrid Paper Based Fiber Reinforced Polymer Composites," <u>Polymer Degradation and Stability</u>, 96, 760-770, (2011).

- 37. H.B. Lu, <u>J. Gou</u>, "Fabrication and Electroactive Responsive Behavior of Shape–Memory Nanocomposite Incorporated with Self-assembled Multiwalled Carbon Nanotube Nanopaper," *Polymer for Advanced Technologies*, 23(12), 1529-1535, (2011).
- 38. C. Chang, H.C. Gu, L. Algozzini, F. Liang, <u>J. Gou</u>, L. Sun, G. Song, "Damping Characterization and Analysis of Carbon Nanofiber-Modified Composite Laminates," <u>Journal of Advanced Materials</u>, 43(1), (2011).
- 39. H.B. Lu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Synergistic Effect of Carbon Nanofiber and Sub-micro Filamentary Nickel Nanostrand on the Shape Memory Polymer Nanocomposite," <u>Smart Materials and Structures</u>, 20, 035017, (7pp), (2011).
- 40. <u>J. Gou</u>, Y. Tang, J.F. Zhuge, "Fire Retardancy of Carbon Nanofiber Sheet in Composite Laminates" <u>Journal of Advanced Materials</u>, 42 (4), 37-44, (2010).
- 41. J.F. Zhuge, Y. Tang, <u>J. Gou</u>, R.H. Chen, C. Ibeh, Y. Hu, "Flammability of Carbon Nanofiber-Clay Nanopaper based Polymer Composites," <u>Polymers for Advanced Technologies</u>, DOI: 10.1002/pat.1753, (2010).
- H.B. Lu, Y.J. Liu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Electroactive Shape-Memory Polymer Nanocomposites Incorporating Carbon Nanofiber Paper," <u>International Journal of Smart and Nano Materials</u>, 1(1), 2-12, (2010). (Most Popular Nanotechnology Articles for Download from Taylor and Francis/CRC Press)
- 43. H.B. Lu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Electrical Conductivity and Shape-Memory Behavior of Self-Assembled Carbon Nanofiber Nanopaper Incorporated with Shape-Memory Polymer," <u>Smart Materials and Structures</u>, 19, 075021 (7pp), (2010).
- 44. Y. Tang, <u>J. Gou</u>, "Synergistic Effect on Electrical Conductivity of Few-Layer Graphene/Multi-walled Carbon Nanotube Paper," *Materials Letters*, 64, 2513–2516, (2010).
- 45. H. B. Lu, Y.J. Liu, <u>J. Gou</u>, J.S. Leng, S.Y. Du, "Synergistic Effect of Carbon Nanofiber and Carbon Nanopaper on Shape Memory Polymer Composite," <u>Applied Physics Letters</u>, 96, 084102, (2010).
- 46. <u>J. Gou, Y. Tang, J.F. Zhuge, Z.F. Zhao, R.H. Chen, D. Hui, C. Ibeh, "Fire Performance of Composite Laminates Embedded with Multi-ply Carbon Nanofiber Sheets," *Composites: Part B: Engineering*, 41, 176–181, (2010).</u>
- 47. <u>J. Gou</u>, Z.F. Zhao, Y. Tang, F. Liang, D. Firsich, J.C. Fielding, "Carbon Nanofiber Paper for Lightning Strike Protection of Composite Materials," <u>Composites Part B: Engineering</u>, 41,192–198, (2010).
- 48. Y. Tang, J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, C. Ibeh, Y. Hu, "Morphology, Thermal Stability, and Flammability of Polymer Matrix Composites Coated with Hybrid Nanopapers," *Polymers for Advanced Technologies*, DOI: 10.1002/pat.1621, (2009).
- 49. Z.F. Zhao, <u>J. Gou</u>, "Improved Fire Retardancy of Thermoset Composites Modified with Carbon Nanofibers," <u>Science and Technology of Advanced Materials</u>, 10, 015005, 6pp, (2009).
- 50. Z.F. Zhao, J. Gou, A. Khan, "Processing and Structure of Carbon Nanofiber Paper," *Journal of Nanomaterials*, Volume 2009, Article ID 325769, 7 pp, (2009).
- 51. Z.F. Zhao, <u>J. Gou</u>, S. Bietto, C. Ibeh, D. Hui, "Fire Retardancy of Clay/Carbon Nanofiber Hybrid Sheet in Fiber Reinforced Polymer Composites," <u>Composites Science and Technology</u>, 69 (13), 2081-2087, (2009).
- 52. X.F. Zhao, <u>J. Gou</u>, G. Song, J.P. Ou, "Strain Monitoring in Glass Fiber Reinforced Composites Embedded with Carbon Nanopaper Sheet using Fiber Bragg Grating Sensors," <u>Composites Part B: Engineering</u>, 40(2), 134-140, (2009).
- 53. L. Sun, Y. Yu, G. Song, <u>J. Gou</u>, "Numerical Analysis of Acoustic Wave Propagation in Layered Carbon Nanofiber Reinforced Polymer Composites", <u>Journal of Applied Physics</u>, 104, 043522, (2008).
- 54. H. Xing, L. Sun, G. Song, <u>J. Gou</u>, Y.W. Hao, "Surface Coating of Carbon Nanofibers/Nanotubes by Electrodeposition for Multifunctionalization," *Nanotechnology*, 9, 25704, (2008).
- 55. A. Khan, S. Shah, A. Mazen, <u>J. Gou</u>, "Performance Evaluation of n-Type Carbon Nanotube Field Effect Transistors Using Ca as Contact Electrodes," <u>Journal of Computational and Theoretical Nanoscience</u>, 4(6), 1160-1165, (2007).
- 56. A. Khan, <u>J. Gou</u>, M. Imazumi, M. Yamaguchi, "Interaction of Electron Irradiation with Nitrogen-Related Deep Levels in InGaAsN," <u>Applied Physics Letters</u>, 91, 043503, (2007).
- 57. A. Khan, S. R. Kurtz, S. Prasad, S.W. Johnston, <u>J. Gou</u>, "Correlation of Nitrogen Related Traps in InGaAsN with Solar Cells Properties," *Applied Physics Letters*, 90, 243509, (2007).
- 58. <u>J. Gou</u>, K. Anumakonda, A. Khan, "Moleuclar Dynamics Simulation of Functionalized Carbon Nanofibers and Polymer Resins," *International Journal of Nanoscience*, 6(6), 1-10, (2007).

- 59. A. Khan, A. Freundlich, <u>J. Gou</u>, A. Gapud, M. Imazumi, M. Yamaguchi, "Self-Annihilation of Electron Irradiation Induced Defects in InAsxP1-x/InP Multiquantum Well Solar Cell," <u>Applied Physics Letters</u>, 90, 233111, (2007).
- 60. <u>J. Gou</u>, "Single-Walled Nanotube Bucky Paper and Nanocomposite," <u>Polymer International</u>, 55(11), 1283-1288, (2006).
- 61. <u>J. Gou</u>, S. O'Braint, H.C. Gu, G. Song, "Damping Augmentation of Nanocomposites Using Carbon Nanofiber Paper," *Journal of Nanomaterials*, 2006, Article ID 32803, pages 1-7, (2006).
- 62. J. Gou, B. Fan, G. Song, A. Khan, "Study of Affinities Between Single-Walled Nanotube and Epoxy Resin Using Molecular Dynamics Simulations," *International Journal of Nanoscience*, 5(1), 131-144, (2006).
- 63. <u>J. Gou</u>, Z. Y. Liang, C. Zhang, B. Wang, "Computational Analysis of Effect of Single-Walled Carbon Nanotube Rope on Molecular Interaction and Load Transfer of Nanocomposites," <u>Composites Part B:</u> Engineering, 36(6-7), 524-533, (2005).
- 64. <u>J. Gou</u>, B. Wang, Z. Y. Liang, C. Zhang, "Computational and Experimental Study of Interfacial Bonding of Single-Walled Nanotube Reinforced Composites," <u>Computational Materials Science</u>, 31(3-4), 225-236, (2004).
- 65. <u>J. Gou</u>, Z. Y. Liang, B. Wang, "Experimental Design and Optimization of Dispersion Process for Single-Walled Carbon Nanotube Bucky Paper," *International Journal of Nanoscience*, 3(3), 293-307, (2004). **(Featured Article)**
- 66. Z. Y. Liang, <u>J. Gou</u>, C. Zhang, B. Wang, L. Kramer, "Investigation of Molecular Interaction between (10, 10) Single-Walled Nanotube and EPON 862 Resin/DETDA Curing Agent Molecules," <u>Material Science and Engineering</u>: A, 365, 228-234, (2004).
- 67. <u>J. Gou</u>, C. Zhang, Z. Y. Liang, B. Wang, J. Simpson, "Resin Transfer Molding Process Optimization Using Numerical Simulation and Design of Experiments Approach," *Polymer Composites*, 24(1), 1-12 (2003).
- 68. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "The Implementation of Product Data Management Based on IMAN," *Computer Engineering and Applications*, 36(5), 190-192 (2000).
- 69. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Research on Product Model in Product Data Management," *Journal of Shanghai Jiao Tong University*, 34(3), 404-407 (2000).
- 70. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Research on Integrated and Rapid Design and Manufacturing System Based on RPM and PDM Technology," *Mechanical Science and Technology*, 19(2), 321-324 (2000).
- 71. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Rapid Prototyping Manufacturing and its Process Analysis," *Mechanical Science and Technology*, 19(1), 102-105 (2000).
- 72. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Modeling Technology in the Implementation of PDM," *Computer Aided Design and Manufacturing*, 6, 12-15 (1999).
- 73. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Applications of PDM Technology in Product Development," *Applications of the Computer Systems*, 6, 40-43 (1999).
- 74. J. Gou, Y.H. Peng, X.Y. Ruan, "PDM Software and its Selection," *Die & Mold Technology*, 3, 74-79 (1999).
- 75. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Implementation and Development Technology of a Department-level Product Data Management System," *Mechanical Science and Technology*, 5, 128-131 (1999).
- 76. <u>J. Gou</u>, Y.H. Peng, X.Y. Ruan, "Rapid Prototyping Manufacturing and its Applications in Product Development," *Machinery Design and Manufacture*, 4, 62-64 (1999).
- 77. <u>J. Gou</u>, X.C. Xu, M.X. Xiong, D.Z. Yuan, C.A. Zhang, "The Application of CAPP Technology in Colddrawn Process Planning," *Steel Tube*, 26(5), 31-37 (1997).
- 78. C.A. Zhang and <u>J. Gou</u>, "Computer Aided Cold-drawn Process Planning of Steel Tube," *Steel Tube*, 25(12), 5-7 (1996).

Conference Publications (Total: 105)

 F. Liang, J. Gou, H. Shen, Y. Xu, B. Mabbott, "Carbon Fiber Reinforced Shape Memory Polymer Nanocomposites Incorporated with Highly Conductive Carbon Nanopaper for Electro Actuation," Proceedings of ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Snowbird, Utah, China, September 16-18, 2013.

- 2. H. Shen, Y. Xu, F. Liang, <u>J. Gou</u>, B. Mabbott, "Modeling of Conductive Shape Memory Polymer Nanocomposites Based Structure from a Control Perspective," *Proceedings of ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, Snowbird, Utah, China, September 16-18, 2013.
- 3. <u>J. Gou</u>, F. Liang, Y. Xu, B. Mabbott, "Multifunctional Non-Woven Carbon Nanopaper: Fabrication, Properties and Applications," *Proceedings of International Conference on Textile Engineering and Materials*, Dalian, China, August 24-25, 2013.
- 4. F. Liang, <u>J. Gou</u>, J. Kapat, G. Song, H.C. Gu, "Multifunctional Nanocomposite Coating for Wind Turbine Blades," *Proceedings of ASME Turbo Expo 2013*, San Antonio, TX, June 3-7, 2013.
- 5. <u>J. Gou</u>, Y. Tang, F. Liang, Y. Hu, "Covalent functionalization of carbon nanotubes with polyhedral oligomeric silsequioxane for fire retardant nanocomposites," *Proceedings of 24th Annual BCC Conference for Flame Retardancy*, Stamford, CT, May 20-22, 2013.
- 6. <u>J. Gou</u>, J.F. Zhuge, R.H. Chen, J. Kapat, "Fire Retardant Evaluation and Thermal Degradation Modeling of Nanocomposite Coating on Polymer Matrix Composites," *Proceedings of Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 6-9, 2013.
- 7. J.P. Gibson, J. McKee, <u>J. Gou</u>, "Effect of nanoparticles with differing morphologies on energy absorption OF BALLISTIC composites," *Proceedings of Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 6-9, 2013.
- 8. <u>J. Gou</u>, J.F. Zhuge, R. Chen, J. Kapat, "Materials Design and Thermo-Mechanical Modeling of Fire Retardant Nanocomposite Coatings for FRP Applications," *Proceedings of Composites 2013*, Orlando, FL, January 29-31, 2013.
- 9. F. Liang, <u>J. Gou</u>, Y. Xu, R. Sivilli, "Fast Electro Actuation and Precise Shape Control of Carbon Fiber Reinforced Shape Memory Polymer Composites," *Proceedings of Composites 2013*, Orlando, FL, January 29-31, 2013.
- 10. J. Gou, J.F. Zhuge, R. H. Chen, J. Kapat, "Carbon Nanopaper Based Thermal Protective Coating," Proceedings of 20th Annual International Conference on Composites/Nano Engineering (ICCE-20), Beijing, China, July 22-27, 2012.
- 11. M. R. Vorwaller, K.C. Lin, <u>J. Gou</u>, C. Ham, Y.H. Joo, "Test-bed for a Wind Turbine with Magnetic Bearing," *Proceedings of International Conference on Energy and Environmental Protection (ICEEP 2012)*, Hohhot, China, June 23-24, 2012.
- 12. J. P. Gibson, J. McKee, <u>J. Gou</u>, "Ballistic Performance Enhancement of Polymer Composites through Carbon Nanotubes," *Proceedings of 56th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Baltimore, MD, May 21-24, 2012.
- 13. J.F. Zhuge, <u>J. Gou</u>, R.H. Chen, Jay Kapat, "Fire Retardant Carbon Nanopaper Coating for Polymer Composites: Flammability Evaluation and Thermal Degradation Modeling," *Proceedings of 56th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Baltimore, MD, May 21-24, 2012.
- 14. F. Liang, R. Sivilli, Y. Xu, <u>J. Gou</u>, "Electrical Actuation and Vision Based Control of Shape Memory Polymer Carbon Nanocomposites," *Proceedings of 56th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Baltimore, MD, May 21-24, 2012.
- 15. J.F. Zhuge, <u>J. Gou</u>, R. H. Chen, "Fire Retardant Evaluation and Thermal Degradation Modeling of Carbon Nanopaper-Coated Polymer Matrix Composites," *Proceedings of 23th Annual BCC Conference for Flame Retardancy*, Stamford, CT, May 21-23, 2012
- J. Zhuge, C. Carpenter, J. Lawrence, J. Kapat, <u>J. Gou</u>, "Advanced Composites for Thermal Protection System for Reentry Vehicles," *Florida Center for Advanced Aero-propulsion (FCAAP) Annual Symposium & Exhibition*, Tallahassee, FL, April 26-27, 2012
- 17. J. Skovron, J.F. Zhuge, A.P. Gordon, J. Kapat, <u>J. Gou</u>, "Effect of Nano-Paper Coating on Flexural Properties of a Fire-Treated Glass Fiber-Reinforced Polyester Composite," *Supplemental Proceedings: Materials Processing and Interfaces, TMS 2012 141st Annual Meeting and Exhibition, Orlando, FL, March 11-15, 2012*
- D. Ritson, S. Murray, M. Doherty, C. Harrison, S. Rice, <u>J. Gou</u>, J. Kapat, "Environmental Wind Tunnel for Degradation Study of Surface Coatings on Wind Turbine Blades," *Proceedings of Materials Challenges in Alternative & Renewable Energy Conference (MCARE)*, Clearwater, Florida, Feb. 26 -March 1, 2012
- 19. J. Gou, F. Liang, J. Kapat, "Lighting Strike Protection of Composite Wind Turbine Blades,"

- Proceedings of Materials Challenges in Alternative & Renewable Energy Conference (MCARE), Clearwater, Florida, Feb. 26 March 1, 2012
- 20. HB Lu, <u>J. Gou</u>, JS Leng, "Aligned Nickel Nanostrand in Nanopaper Enabled Shape-Memory Nanocomposite for High Speed Electrical Actuation," *Proceedings of 18th International Conference on Composite Materials (ICCM18)*, Jeju Island, South Korean, August 21-26, 2011.
- 21. <u>J. Gou</u>, J.F. Zhuge, F. Liang, "Carbon Nanopaper Enabled Structural and Multifunctional Nanocomposites," Proceedings of 19th Annual International Conference on Composites/Nano Engineering (ICCE-19), Shanghai, China, July 24-30, 2011. **(Keynote Speaker)**
- 22. F. Liang, R. Sivilli, Y. Xu, <u>J. Gou</u>, "Shape Memory Polymer Nanocomposites for High Speed Electrical Actuation," Proceedings of 55th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition, Long Beach, CA, May 23-26, 2011.
- 23. J.F. Zhuge, R.H. Chen, <u>J. Gou</u>, A.X. Zhou, "Fire Performance of Composite Laminates Coated with Hybrid Carbon Nanofiber Paper," Proceedings of 55th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition, Long Beach, CA, May 23-26, 2011.
- 24. Y. Tang, J.F. Zhuge, J. Lawrence, J. McKee, L. An, <u>J. Gou</u>, "High Temperature Polymeric Nanocomposites for Aero-Propulsion Applications," *2nd Florida Center for Advanced Aero-propulsion (FCAAP) Annual Symposium & Exhibition*, Tallahassee, FL, August 9-10, 2010
- 25. <u>J. Gou</u>, F. Liang, Y. Tang, J. Kapat, "Multifunctional Nanocomposites for Offshore Wind Energy," *Proceedings of 20th International Offshore (Ocean) and Polar Engineering Conference (ISOPE)*, Beijing China, June 20 26, 2010.
- 26. <u>J. Gou</u>, F. Liang, Y. Tang, K.C. Lin, C. Ham, Y.H. Joo, "Multifunctional Nanocomposites for Offshore Wind Turbine Blades: Materials, Processing and Performance," Proceedings of 29th ASME International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2010), Shanghai, China, June 6-11, 2010.
- 27. J. Lawrence, F. Liang, H.B. Lu, Y. Tang, <u>J. Gou</u>, Y.J. Liu, J.S. Leng, S.Y. Du, "Shape Memory Polymer Nanocomposites Based on Carbon Nanopaper," *Proceedings of 54th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Washington State Convention Center, Seattle, WA, May 17-20, 2010.
- 28. J. McKee, J.F. Zhuge, Y. Tang, <u>J. Gou</u>, R.H. Chen, C. Ibeh, Y. Hu, "Morphology, Thermal Stability, and Flammability of Carbon Nanofiber Clay Based Nanocomposites," *Proceedings of 54th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Washington State Convention Center, Seattle, WA, May 17-20, 2010.
- 29. F. Liang, Y. Tang, C. Li, L. An, <u>J. Gou</u>, "High Performance Polymeric and Ceramic Nanocomposites for Aircraft Engine Fan Case," *Proceedings of 54th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Washington State Convention Center, Seattle, WA, May 17-20, 2010.
- 30. K.C. Lin, <u>J. Gou</u>, C. Ham, S. Helkin, Y.H. Joo, "Flywheel Energy Storage System with Functionally Gradient Nanocomposite Rotor," Proceedings of 5TH IEEE Conference on Industrial Electronics and Applications (ICIEA 2010), June 15 -17, 2010, Taichung, Taiwan
- 31. Y. Tang, J.F. Zhuge, J. Lawrence, J. McKee, <u>J. Gou</u>, R.H. Chen, C. Ibeh, "Flame Retardancy of Hybrid Carbon Nanofiber Paper Based Polymer Nanocomposites," *Proceedings of 21th Annual Recent Advances in Flame Retardancy of Polymeric Materials*, Stamford, CT, May 24-26, 2010.
- 32. H.B. Lu, <u>J. Gou</u>, J.S. Leng, and S.Y. Du, "Shape Memory Polymer Nanocomposites Based on Carbon Nanopaper," *Proceedings of Earth and Space Conference 2010 and 12th International Conference on Engineering, Science, Construction and Operation in Challenging Environments*, Honolulu, HI, March 14-17, 2010. (Invited Paper)
- 33. Y. Tang, <u>J. Gou</u>, "Morphology, Electrical Conductivity of Novel Graphite Nanoplatelets Carbon Nanotube Hybrid Nanopaper," *Proceedings of Earth and Space Conference 2010 and 12th International Conference on Engineering, Science, Construction and Operation in Challenging Environments*, Honolulu, HI, March 14-17, 2010.
- 34. J.F. Zhuge, Y. Tang, <u>J. Gou</u>, R. Chen, C. Ibeh, and Y. Hu, "Study of Fire Retardant Performance of Composites Coated with Hybrid Carbon Nanofiber Paper," *Proceedings of Earth and Space Conference 2010 and 12th International Conference on Engineering, Science, Construction and Operation in Challenging Environments, Honolulu, HI, March 14-17, 2010. (Best Paper Award)*
- 35. F. Liang, Y. Tang, <u>J. Gou</u>, H. Gu, and G. Song, "Vibrational Damping Enhancement of Polymer Composites with Carbon Nanopaper and Different Fiber Reinforcement," *Proceedings of Earth and*

- Space Conference 2010 and 12th International Conference on Engineering, Science, Construction and Operation in Challenging Environments, Honolulu, HI, March 14-17, 2010.
- 36. F. Liang, Y. Tang, <u>J. Gou</u>, and J. Kapat, "Development of multifunctional nanocomposite coatings for wind turbine blades" *Proceedings of Materials Challenges in Alternative & Renewable Energy 2010*, Cocoa Beach, FL, February 21-25, 2010.
- 37. N. Orlovskaya, M. Lugovy, V. Slyunyayev, V. Subbotin, F. Liang, J. Gou, J. Kuebler, and T. Graule, "Boron Carbide/Boron Carbide-Carbon Nanofiber Laminates with Weak Interfaces," Proceedings of the NATO Advanced Research Workshop on Boron Rich Solids: Sensors for Biological and Chemical Detection, Ultra High Temperature Ceramics, Thermoelectrics, and Armor, Orlando, FL, December 14-18, 2009.
- 38. Zhuge, J., Tang, Y., <u>Gou, J.</u>, Chen, R., Ibeh, C., "Study of Synergistic Fire Retardancy of Nanoparticles in Polymer Matrix Composites," *Proceedings of ASME 2009 International Mechanical Engineering Congress & Exposition (IMECE)*, Lake Buena Vista, FL, November 13-19, 2009.
- 39. Lu, H.B., Tang, Y., <u>Gou, J.</u>, Chow, E., "Actuation of Shape Memory Polymer by Resistive Heating of Carbon Nanopapers," *Proceedings of ASME International Mechanical Engineering Congress & Exposition (IMECE)*, Lake Buena Vista, FL, November 13-19, 2009.
- 40. Tsoi, M., Tang, Y., Chen, R., <u>Gou, J.</u>, "Mass Loss and Effective Thermal Conductivity of Fire Retardant Nanocomposites," *Proceedings of ASME International Mechanical Engineering Congress & Exposition (IMECE)*, Lake Buena Vista, FL, November 13-19, 2009.
- 41. F. Liang, L. Algozzini, Y. Tang, <u>J. Gou</u>, G. Song, "Multifunctional Nanocomposites with High Damping Performance for Aerospace Structures," *Proceedings of ASME International Mechanical Engineering Congress & Exposition (IMECE)*, Lake Buena Vista, FL, Nov. 13-19, 2009.
- 42. Lu, H.B., Tang, Y., Chew, E., <u>Gou, J.</u>, Leng, J.S., Du, S., "Shape Memory Polymer Nanocomposites with Carbon Nanofiber Paper," *Proceedings of Society for Advancement of Material and Process Engineering (SAMPE) Fall Technical Conference*, Wichita, KS, October 19-22, 2009.
- 43. Liang, F., Tang, Y., <u>Gou, J.</u>, Firsich, D., Fielding, J., "Carbon Nanofiber Paper for Lightning Strike Protection of Composite Materials via Hybrid Carbon Nanofiber Paper," *Proceedings of Society for Advancement of Material and Process Engineering (SAMPE) Fall Technical Conference*, Wichita, KS, October 19-22, 2009.
- 44. H.B. Lu, <u>J. Gou</u>, J.S. Leng, and S. Y. Du, "Shape Memory Nanocomposites based on Carbon Nanofiber Paper," *Proceedings of 2nd International Conference on Smart Materials and Nanotechnology in Engineering*, Weihuai, China, July 8-11, 2009. (**Invited Paper**)
- 45. <u>J. Gou</u>, Y. Tang, H. B. Lu, F. Liang, J.F. Zhuge, J.S. Leng, and S. Y. Du, "Carbon Nanopapers and Nanocomposites: Processing, Characterization, and Applications," *Proceedings of 2nd International Conference on Smart Materials and Nanotechnology in Engineering*, Weihuai, China, July 8-11, 2009.
- 46. Y. Tang, <u>J. Gou</u>, "Development of Multifunctional Nanocomposites with Engineered Carbon Nanopaper," *Proceedings of NSF CMMI Research and Innovation Conference*, Honolulu, HI, June 22-25, 2009.
- 47. J.F. Zhuge, Y. Tang, <u>J. Gou</u>, R.H. Chen, C. Ibeh, "Synergistic Fire Retardancy of Hybrid Carbon Nanofiber Paper in Polymer Matrix Composites" *Proceedings of 20th Annual Recent Advances in Flame Retardancy of Polymeric Materials*, Stamford, CT, June 1-3, 2009.
- 48. F. Liang, J.F. Zhuge, L. Algozzini, Y. Tang, X.H. Ren, K.C. Lin, <u>J. Gou</u>, X. Gong, and D. Firsich, "Electromagnetic Interference Shielding and Lightning Strike Protection of Carbon Nanofiber Paper," *Proceedings of 53th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Baltimore, MD, May 18-21, 2009.
- 49. J.F. Zhuge, Y. Tang, L. Algozzini, <u>J. Gou</u>, and R.H. Chen, "Fire Performance of Fiber Reinforced Polymer Matrix Composites with Carbon Nanofiber Paper," *Proceedings of 53th Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Baltimore, MD, May 18-21, 2009.
- 50. <u>J. Gou</u>, Z. Zhao, G. Song, and D. Firsich, "Development of Carbon Nanofiber Paper for Structural and Multifunctional Nanocomposite Applications," *International Conference on Multi-functional Materials and Structures (MFMS)*, Hong Kong, China, July 28-31, 2008.
- 51. <u>J. Gou</u>, Z. Zhao, G. Song, and D. Firsich, "Multifunctional Composite Materials and Structures Based on Carbon Nanofiber Paper," *Proceedings of 16th Annual International Conference on Composites/Nano Engineering (ICCE-16)*, Kunming, China, July 20-26, 2008. (Invited Paper)

- 52. N. Patterson, M. White, <u>J. Gou</u>, and X. Y. Ji, "Microcracks of Carbon Nanofiber-based Nanocomposites under Cryogenic/Elevated Temperature Cycling," *Proceedings of 16th Annual International Conference on Composites/Nano Engineering (ICCE-16)*, Kunming, China, July 20-26, 2008.
- 53. Z.F. Zhao and <u>J. Gou</u>, "A Novel Approach to Enhance Fire Retardancy of Fiber-Reinforced Polymer Matrix Composites," *Proceedings of 52th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 18-22, 2008.
- 54. K. C. Lin, <u>J. Gou</u>, L. An, J. Bai, L. Zhang and D. Lee, "The Conductivity Percolation Model of Carbon Nanofiber Composite," *Proceedings of Earth and Space Conference 2008 and 11th International Conference on Engineering, Science, Construction and Operation in Challenging Environments, Long Beach, CA, March 3-5, 2008.*
- 55. C. Chang, J. Gou, H. Gu, and G. Song, "Damping Characterization of Non-Traditionally Formed Nanocomposite Plates *Proceedings of Earth and Space Conference 2008 and 11th International Conference on Engineering, Science, Construction and Operation in Challenging Environments*, Long Beach, CA, May 18-22, 2008.
- 56. Y. Yong, L. Sun, G. Song, and <u>J. Gou</u>, "Numerical Analysis of Acoustic Wave Propagation in Layered Carbon Nanofiber Composites," *Proceedings of Earth and Space Conference 2008 and 11th International Conference on Engineering, Science, Construction and Operation in Challenging Environments*, Long Beach, CA, May 18-22, 2008.
- 57. Z.F. Zhao and <u>J. Gou</u>, "Recent Development of Fire Retardancy of Fiber Reinforced Polymer Matrix Composites Utilizing Carbon Nanofiber Sheets," *Proceedings of Earth and Space Conference 2008 and 11th International Conference on Engineering, Science, Construction and Operation in Challenging Environments, Long Beach, CA, March 3-5, 2008.*
- 58. Z.F. Zhao and <u>J. Gou</u>, "Study of Flame Retardancy of Carbon Nanopaper Sheets in Glass Fiber-Reinforced Polyester Composites," *Proceedings of 2007 ASME International Mechanical Engineering Congress and Exposition (IMECE'07)*, Seattle, Washington, November 11-15, 2007.
- 59. <u>J. Gou</u>, H. Gu, and G. Song, "Carbon Nanopaper Sheets for Damping Applications: Processing, Characterization, and Modeling," *Proceedings of 2007 ASME International Mechanical Engineering Congress and Exposition (IMECE'07)*, Seattle, Washington, November 11-15, 2007.
- 60. <u>J. Gou</u> and K. Anumakonda, "Molecular Dynamics Simulations of Functionalized Carbon Nanofiber-Based Epoxy Nanocomposites," *Proceedings of International Society for Advancement of Material and Process Engineering (SAMPE) Fall Technical Conference and Exhibition*, Cincinnati, Ohio, October 29-November 1, 2007.
- 61. Z.F. Zhao and <u>J. Gou</u>, "Study of Flame Retardancy of Carbon Nanofiber Sheets in Glass Fiber Reinforced Polyester Composites," *Proceedings of International Society for Advancement of Material and Process Engineering (SAMPE) Fall Technical Conference and Exhibition*, Cincinnati, Ohio, October 29-November 1, 2007.
- 62. X.Y. Ji, H. Li, and <u>J. Gou</u>, "Electrical Breakdown of Carbon Black Reinforced Epoxy Nanocomposites," *Proceedings of International Society for Advancement of Material and Process Engineering (SAMPE) Fall Technical Conference and Exhibition*, Cincinnati, Ohio, October 29-November 1, 2007.
- 63. G. Song, <u>J. Gou</u>, Z. F. Zhao, "Flammability of Carbon Nanopaper Sheets Based Nanocomposites," *Proceedings of the 15th International Conference on Composites/Nano Engineering (ICCE-15)*, Haikou, Hainan Island, China, July 15-21, 2007.
- 64. <u>J. Gou</u>, Z.F. Zhao, X.Y. Ji, S. Sumerlin, H. Gu, and G. Song, "Structural Damping Enhancement of Fiber Reinforced Composites via Carbon Nanopaper Sheets," *Proceedings of the 52th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition, Baltimore*, Maryland, June 3-7, 2007.
- 65. <u>J. Gou</u>, G. Song, and H. Gu, "Development of Carbon Nanopaper Based Nanocomposites for Structural Damping Applications," *World Forum on Smart Materials and Smart Structures Technology*, Chongqing & Nanijin, China, May 22-27, 2007.
- 66. <u>J. Gou</u>, R. Blanco, A. Khan, A. Appalla, "Synthesis of Nickel-Coated Carbon Nanopaper Sheets by Pulse Laser Deposition," *2007 MRS Spring Meeting*, San Francisco, CA, April 9-13, 2007.
- 67. <u>J. Gou</u>, R. Blanco, H. Xing, L. Sun, G. Song, and Y. W. Hao, "Coating Magnetic Layer on Carbon Nanopaper Sheets by Electrochemcial Deposition," *2007 MRS Spring Meeting*, San Francisco, CA, April 9-13, 2007.

- 68. A. Khan, S. Shah, and <u>J. Gou</u>, "Modeling and Simulation of n-Type Carbon Nanotube Field Effect Transistors Using Ca as Contact Electrodes," *2007 MRS Spring Meeting*, San Francisco, CA, April 9-13. 2007.
- 69. A. Khan, A. Freundlich, and <u>J. Gou</u>, "Investigation of the Electrical Field Enhancement of the Deep Level Emission Rates in InAsxP1-x/InP Multiquantum Well Solar Cells Structures," *2007 MRS Spring Meeting*, San Francisco, CA, April 9-13, 2007.
- 70. <u>J. Gou</u>, R. Blanco, C. Olmi, G. Song, "Synthesis and Processing of Carbon Nanopaper for Lightning Strike Protection of Polymer Composite Structures," *Proceedings of International Conference on Integration and Commercialization of Micro & Nanosystems*, Sanya, Hainan, China, January 10-13, 2007.
- 71. <u>J. Gou</u>, S. Sumerlin, H. Gu, G. Song, "Damping Enhancement of Hybrid Nanocomposites Embedded with Engineered Carbon Nanopaper," *Proceedings of 2006 ASME International Mechanical Engineering Congress and Exposition (IMECE'06)*, Chicago, Illinois, November 5-10, 2006.
- 72. <u>J. Gou</u>, K. Anumakonda, "Molecular Dynamics Simulations of Interactions at the Interface between Functionalized Carbon Nanofibers and Polymer Resins," *Proceedings of 2006 ASME International Mechanical Engineering Congress and Exposition (IMECE'06)*, Chicago, Illinois, November 5-10, 2006.
- 73. X. Zhao, <u>J. Gou</u>, and G. Song, "Interlayer Strain Monitoring of Hybrid Composites with Carbon Nanofiber Paper Using Fiber Bragg Grating Sensors," *Proceedings of Multifunctional Nanocomposites International Conference*, Honolulu, HI, September 20-22, 2006.
- 74. <u>J. Gou</u>, H. Gu, and G. Song, "Structural Damping Enhancement of Nanocomposites with Engineered Vapor Grown Carbon Nanofiber Paper," *Proceedings of Multifunctional Nanocomposites International Conference*, Honolulu, HI, September 20-22, 2006.
- 75. <u>J. Gou</u>, K. Anumakonda, and Aurangzeb Khan, "Molecular Dynamics Simulation of Interactions between Functionalized Carbon Nanofiber and Polymer Resin," *Proceedings of the 51th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition, Long Beach, CA, April 30 May 4, 2006.*
- 76. J. Gou, S. O'Braint, S. Sumerlin, H. Gu, and G. Song, "Mechanical Properties of Fiber Reinforced Composites Enhanced with Vapor Grown Carbon Nanofiber Paper," *Proceedings of the 51th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, April 30 May 4, 2006.
- 77. A. Khan, R. Lam, <u>J. Gou</u>, A. Freundlich, A. Alemu, L. Williams, M. Imazumi, and M. Yamaguchi, "Radiation Hardness Analysis of InAsxP1-x/InP Multiquantum Well Solar Cells Structures for Space Applications," *IEEE 4th World Conference on Photovoltaic Energy Conversion*, Waikoloa, Hawaii, May 7-12, 2006.
- 78. A. Khan, <u>J. Gou</u>, R.C. Lam, S. R. Kurtz, S. W. Johnston, M.Imazumi, and M.Yamaguchi, "DLTS Analysis of Radiation-Induced Defects in InGaAsN Solar Cell Structures," *IEEE 4th World Conference on Photovoltaic Energy Conversion*, Waikoloa, Hawaii, May 7-12, 2006.
- 79. <u>J. Gou</u>, S. O'Briant, H. Gu, and G. Song, "Development and Characterization of Carbon Nanopaper-Based Nanocomposite Materials", *Proceedings of SPIE 13th Annual Symposium Smart Structures and Materials*, San Diego, CA, February 26 March 2, 2006.
- 80. <u>J. Gou</u> and K. Anumakonda, "Interfacial Bonding Analysis of Single-Walled Reinforced Nanocomposites," *Proceedings of 50th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 1-5, 2005.
- 81. K. Anumakonda and <u>J. Gou</u>, "Study of Molecular Interactions for Carbon Nanotube/Nanofiber Reinforced Nanocomposites Processing Using Molecular Dynamics Simulations," *Proceedings of ASME 2005 Southeastern Region XI Technical Conference*, Jacksonville, Florida, April 7-9, 2005.
- 82. <u>J. Gou</u>, B. Fan, and G. Song, "Single-Walled Nanotube Bucky Paper and Nanocomposites," *Proceedings of 2nd Conference on Nanoscale Devices and System Integration (NDSI)*, Houston, Texas, April 4-6, 2005.
- 83. A. Khan, S. R. Pagala, S. Marupaduga, <u>J. Gou</u>, A. Freundlich, A. Alemu, and L. Williams, "Transient Capacitance Spectroscopy on InAsxP1-x/InP Multiquantum Well Solar Cells Structures," *Proceedings of 31st Photovoltaic Specialists Conference and Exhibition (IEEE PVSC 31st)*, Coronado Springs Resort Lake Buena Vista, Florida, January 3-7, 2005.

- 84. <u>J. Gou</u>, "The Effect of Rope Size on Load Transfer of Single-Walled Carbon Nanotube/Epoxy Resin Nanocomposites," *Proceedings of 11th International Conference on Composites/Nano Engineering (ICCE-11)*, Hilton-Head, SC, August 8-14, 2004.
- 85. <u>J. Gou</u>, W. Hollinghead, A. Whitaker, B. Sheffer, J. Foster, and D. Hui, "Processing of Fiber Reinforced Composites with Carbon Nanofiber-Modified Matrix Using Resin Transfer Molding," *Proceedings of 11th International Conference on Composites/Nano Engineering (ICCE-11)*, Hilton-Head, SC, August 8-14, 2004.
- 86. K. T. Lau, W. Y. Tam, <u>J. Gou</u>, and D. Hui, "Load Transfer Mechanisms of Multiwalled Nanotubes in Nanocomposites Subjected to Different Loading," *Proceedings of the 11th International Conference on Composites/Nano Engineering (ICCE-11)*, Hilton-Head, SC, August 8-14, 2004.
- 87. <u>J. Gou</u>, K. Anumakonda, Z. Y. Liang, C. Zhang, and B. Wang, "Molecular Dynamics Simulation of Molecular Interactions for the Processing of Single-Walled Nanotube/Epoxy Resin Nanocomposites," *Proceedings of 22th Southeastern Conference on Theoretical and Applied Mechanics (SECTAM XXII)*, Tuskegee University, Tuskegee, AL, August 15-17, 2004.
- 88. B. Wang, Z.Y. Liang, <u>J. Gou</u>, T. H. Jiang, C. Zhang, and L. Kramer, "Interfacial Bonding Strength between Carbon Nanotubes and Epoxy Resin Matrix: Experimental and Computational Studies," *Proceedings of the Fourth Asian-Australasian Conference on Composite Materials (ACCM 4)*, Sydney, Australia, July 6-9, 2004.
- 89. <u>J. Gou</u>, S. L. Jiang, K. T. Hsiao, Z. Y. Liang, C. Zhang, and B. Wang, "Load Transfer in Single-Walled Carbon Nanotube Rope/Polymer Nanocomposites," *Proceedings of 49th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 16-20, 2004.
- 90. J. Simpson, C. Yeh, C. Baker, J. Gou, Z. Liang, C. Zhang and B. Wang, "Investigation and Modeling of SWNT Buckypaper Process", *NSF Workshop on Nanotube-Reinforced Composite Materials for Multifunctional Applications*, Tallahassee, FL, March 23-24, 2004.
- 91. <u>J. Gou</u>, S. L. Jiang, Z. Y. Liang, C. Zhang, B. Wang, "Nanoscale Modeling and Simulation of Interfacial Bonding of Single-Walled Nanotube Reinforced Epoxy Composites," *Proceedings of 2003 ASME International Mechanical Engineering Congress and Exposition (IMECE'03*), Washington, D. C., November 16-21, 2003.
- 92. B. Wang, Z. Y. Liang, <u>J. Gou</u>, C. Zhang, L. Kramer, "Computational and Experimental Investigations of Interfacial Bonding Strength between Carbon Nanotubes and Epoxy Polymer Matrix," *Proceedings of CANCOM 2003*, Ottawa, Canada, August 19-22, 2003.
- 93. B. Wang, <u>J. Gou</u>, T. Jiang, Z. Y. Liang, C. Zhang, and L. Kramer, "Molecular Dynamics Simulation of Molecular Interactions between SWNT and Epoxy Resin Molecules of Nanocomposite Processing," *Proceedings of 14th International Conference on Composite Materials (ICCM-14)*, San Diego, California, July 14-18, 2003.
- 94. <u>J. Gou</u>, Z. Y. Liang, C. Zhang, B. Wang, "Molecular Dynamics Simulations of Interfacial Bonding of Single-Walled Nanotube Reinforced Epoxy Composites," *Proceedings of 10th International Conference on Composites/Nano Engineering*, New Orleans, LA, July 20-26, 2003.
- 95. <u>J. Gou</u>, B. Wang, Z. Y. Liang, and C. Zhang, "Molecular Modeling and Simulation of Interfacial Bonding of Single-Walled Nanotube Reinforced Epoxy Composites," *Proceedings of 4th International Conference on Intelligent Processing and Manufacturing of Materials*, Sendai, Japan, May 18-23, 2003
- 96. <u>J. Gou</u>, Z. Y. Liang, C. Zhang, and B. Wang, "Process Analysis and Optimization of SWNT Bucky Paper Reinforced Epoxy Composites," *Proceedings of 48th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 12-14, 2003
- 97. B. Minaie, W. Li., <u>J. Gou</u>, Y. Chen, A. Mamishev, and A. Mescher, "Direct Adaptive Control of Resin Transfer Molding," *Proceedings of 48th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 12-14, 2003.
- 98. Z. Y. Liang, <u>J. Gou</u>, C. Zhang, Z. Wang, L. Kramer and B. Wang, "Prediction of Molecular Interactions and Interfacial Bonding of Nanotube/Epoxy Composites Using Molecular Dynamics Simulation," *Proceedings of 48th International Society for Advancement of Material and Process Engineering (SAMPE) Symposium and Exhibition*, Long Beach, CA, May 12-14, 2003.

- 99. <u>J. Gou</u>, Z. Y. Liang, C. Zhang, B. Wang, L. Kramer and K. Fosen, "Process Investigation of Carbon Nanotube Bucky Paper/Epoxy Nanocomposites," *Proceedings of 44th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, Norfolk, VA, April 7-10, 2003.
- 100. <u>J. Gou</u>, Z. Y. Liang, C. Zhang and B. Wang, "Investigation of Molecular Interactions and Interfacial Bonding in Nanotube/Epoxy Composites," *Proceedings of 4th International Conference on Composite Science and Technology (ICCST/4)*, Durban, South Africa, January 21-23, 2003.
- 101. J. Gou, Z. Y. Liang, C. Zhang, B. Wang and L. Kramer, "Nanotube Bucky Paper-Epoxy Composites: Modeling, Fabrication and Characterization," *Proceedings of 10th Foresight Conference on Molecular Nanotechnology*, Bethesda, MD, Oct. 11-13, (2002).
- 102. J. Gou, Z. Y. Liang, C. Zhang, B. Wang and L. Kramer, "Application of Molecular Dynamic Simulation to Nanocomposite Processing: Investigation of Interactions between Nanotube and Polymer Molecules," *Proceedings of Nanotech 2002*, Houston, TX, Sept. 9-12, 2002.
- 103. J. Gou, Z. Y. Liang, C. Zhang, B. Wang, L. Kramer, and K. Fosen, "Development of Nanotube Bucky Paper/Epoxy Nanocomposites," *Proceedings of TEXCOMP 6 International Symposium on Textile Composites*, Philadelphia, PA, September 11-13, 2002.
- 104. J. Gou, Z. Y. Liang, C. Zhang, B. Wang, L. Kramer, and K. Fosen, "Molecular Dynamics Simulation of Interaction between Nanotube and Polymer Molecules for Nanocomposite Processing," *Proceedings of 6th International Conference on Nanostructured Materials-Nano2002*, Orlando, FL, June 16-21, 2002.
- 105. C. Zhang, J. Gou, Z. Y. Liang, B. Wang, and J. Simpson, "Optimization of Composite Manufacturing Process with Virtual Manufacturing and Design of Experiments," *Proceedings of TMCE 2002 Symposium*, Wuhan, Hubei, China, April 22-26, 2002.

Invited Keynotes/Lectures/Seminars

- 1. "High Performance Multifunctional Composite Materials," *Chongqing University*, Chongqing, China, November 29, 2013. (**Invited Seminar**)
- 2. "Molecular Dynamics Simulations of Polymer Nanocomposites," *Southwest Jiao Tong University*, Chengdu, China, November 26, 2013. ("Chuangyuan" Distinguished Seminar)
- 3. "Carbon Nanopaper Technology for Structural and Multifunctional Nanocomposite Applications," Southwest Jiao Tong University, Chengdu, China, August 1, 2012. (Invited Seminar)
- 4. "Carbon Nanopaper Enabled Nanocomposites: from Nanoparticles to Products," *University of Houston*, Houston, TX, February 23, 2012. (**Shell Distinguished Seminar**)
- 5. "Carbon Nanopaper-Enabled Structural and Multifunctional Nanocomposites," *Southwest Jiao Tong University*, Chengdu, China, July 22, 2011. (**Invited Seminar**)
- 6. "Process Modeling and Simulation of Polymer Composites Manufacturing," *Harbin Institute of Technology*, Harbin, China, July 18, 2011. (**Invited Seminar**)
- 7. "Carbon Nanopaper-Enabled Structural and Multifunctional Nanocomposites," *Chongqing University*, Chongqing, China, July 15, 2011. (**Invited Seminar**)
- 8. "Carbon Nanopaper Enabled Structural and Multifunctional Nanocomposites," 19th Annual International Conference on Composites/Nano Engineering (ICCE-19), Shanghai, China, July 24-30, 2011. (Keynote Lecture)
- 9. "Multifunctional Carbon Nanopapers and Nanocomposites: Processing, Properties and Applications," *Harbin Institute of Technology*, Harbin, China, July 21, 2010. (**Invited Seminar**)
- 10. "Multifunctional Nanocomposites: from Nanoparticles to Nanopapers," *Northwestern Polytechnic University (NWPU)*, Xi'an, China, June 27, 2010. (**Invited Seminar**)
- 11. "Multifunctional Nanocomposites: from Nanoparticles to Nanopapers," *University of Science and Technology of China (USTC)*, Hefei, China, June 11, 2010. (Invited Seminar)
- 12. "Shape Memory Polymer Nanocomposites based on Carbon Nanopaper," Earth and Space Conference 2010 and 12th International Conference on Engineering, Science, Construction and Operation in Challenging Environments, Honolulu, HI, March 14-17, 2010. (Invited Presentation)
- 13. "Multifunctional Carbon Nanopapers and Nanocomposites: Processing, Properties and Applications," Lamar University, Lamar, TX, June 8, 2009. (Invited Seminar)
- 14. "Multifunctional Nanocomposites based on Carbon Nanopapers," *Donghua University*, Shanghai, China, July 10, 2009. (**Invited Seminar**)

- 15. "Multifunctional Composite Materials and Structures Based on Carbon Nanofiber Paper," 16th Annual International Conference on Composites/Nano Engineering (ICCE-16), Kunming, China, July 20-26, 2008. (Invited Presentation)
- 16. "Carbon Nanofiber Paper for Structural and Multifunctional Composite Applications," College of Materials Science and Engineering, *Kunming University of Science and Technology*, Kunming, China, July 23, 2008. (Invited Seminar)
- 17. "Carbon Nanopapers and Nanocomposites: Manufacturing, Properties and Applications," Department of Mechanical, Materials and Aerospace Engineering, *Illinois Institute of Technology*, Chicago, IL, February 14, 2007. (**Invited Seminar**)
- 18. "Surface Conductivity Enhancement of Nickel-Coated Carbon Nanopaper Sheets," *Boeing Nanotechnology Workshop on the Surface Conductivity of Nano Polymers and Composites*, Boeing Company, Seattle, WA, November 13-14, 2006. (Invited Presentation)
- 19. "Modeling, Processing and Characterization of Carbon Nanotube/Nanofiber Reinforced Polymer Composites", Department of Mechanical Engineering, *University of Houston*, Houston, TX, February 19, 2004. (Invited Seminar)
- 20. "Multi-Scale Modeling and Simulation of Nanocomposites," Department of Manufacturing Engineering, *University of Texas-Pan American*, Edinburg, TX, February 01, 2002. (Invited Seminar)

VI. PROFESSIONAL ACTIVITIES

Associate Editor of Scientific Journal

Associate Editor, International Journal of Smart and Nano Materials, 2010 - present

Editorial Board Member of Scientific Journals

Editorial Board, Composites Part B: Engineering, 2005 - present

Editorial Board, Journal of Computational and Theoretical Nanoscience, 2004 - present

Panelist for Research Proposals

NSF Nanoscale Science and Engineering Center (NSEC) Program

NSF Partnership for International Research and Education (PIRE)

NSF SBIR/STTR Program

NSF CMMI - Nanomanufacturing (NM) Program, 2006 - present

NSF CMMI - Materials Processing and Manufacturing (MPM) Program

NSF DUE - Nanotechnology Undergraduate Education Program

DOE - Advanced Energy Manufacturing Program, 2010

NASA - Space Technology Research Opportunities for Early Career Faculty (STRO-ECT) Program, 2012

Reviewer for Research Proposals

South Carolina NASA EPSCoR and Institutional Development Awards (SC EPSCoR/IDeA), 2011

NSF Office of International Science and Engineering, 2005

NASA EPSCoR Program, 2009 - present

DOE - Vehicle Technologies Program, 2011

U.S. Army Research Office (ARO), 2008

U.S. Army Corps of Engineers Engineer Research and Development Center (ERDC)

American Chemical Society Petroleum Research Foundation (ACS PRF), 2006 - present

U.S. Civilian Research and Development Foundation (CRDF), 2005

Louisiana Space Consortium Research Enhancement Awards (LaSpace), 2002

Natural Sciences & Engineering Research Council of Canada (NSERC), 2011

Fonds National de la Recherche (Luxembourg), 2010

Romanian National Council for Research and Development, 2012

Portuguese Foundation for Science and Technology (FCT), 2012

Czech Science Foundation, 2012

Qatar National Research Fund (QNRF), 2013

Reviewer for Scientific Journals (40 journals)

Advanced Functional Materials

Aerospace Science and Technology

Carbon

Composites Part A: Applied Science and Manufacturing

Composites Part B: Engineering

Composites Science and Technology

Composite Structures

Computational Materials Science

Industry and Engineering Chemistry Research

International Journal of Heat and Mass Transfer

International Journal for Numerical Methods in Fluids

International Journal of Applied Ceramic Technology

International Journal of Smart and Nano Materials

Journal of Adhesion Science and Technology

Journal of Applied Polymer Science

Journal of Aerospace Engineering

Journal of Cluster Science

Journal of Composite Materials

Journal of Materials Engineering and Performance

Journal of Materials Processing Technology

Journal of Manufacturing Processes

Journal of Nanomaterials

Journal of Nanoparticle Research

Journal of Physics D: Applied Physics

Journal of Reinforced Plastics and Composites

Journal of Vibration and Control

Langmuir

Macromolecular Materials and Engineering

Materials Chemistry and Physics

Materials Research Innovations

Mechanics of Advanced Materials and Structures

Nanotechnology

Physica A

Polymer

Polymers for Advanced Technologies

Smart Materials and Structures

Strain - An International Journal for Experimental Mechanics

Surface and Coatings Technology

Textile Research Journal

Tribology Letters

Undergraduate Research Journal

Book Reviewer for Publishers (5 Books)

Carbon Fiber Composites Manufacturing Technology and Applications, Wiley

Fundamentals, Properties, and Applications of Polymer Nanocomposites, Wiley

Polymer Matrix Syntactic Foams: Microstructure, Properties, and Applications, Wiley

Engineering Design, Elsevier

The Mechanical Design Process, McGraw-Hill Higher Education

Reviewer for Conferences (4 Research Conferences)

ASME International Mechanical Engineering Congress & Exposition (IMECE)

ASME International Conference on Manufacturing Science and Engineering Conference (MSEC)

Materials Research Society (MRS) Fall Meeting

International Conference on Smart Materials and Nanotechnology in Engineering (SMN)

Symposiums & Sessions Organized (1 Symposium, 10 Sessions)

1. **Session Chair**, "Session: Nanocomposites," *20th International Conference on Composites and Nano Engineering*, Beijing, China, July 22-28, 2012.

- 2. **Session Chair**, "Session: Nanotechnology Development", Society for Advancement of Material and Process Engineering (SAMPE) Conference and Exhibition, Baltimore, MD, May 21-24, 2012.
- 3. **Session Chair**, "Ceramics and Ceramic Composites," *Society for Advancement of Material and Process Engineering (SAMPE) Conference and Exhibition*, Long Beach, CA, May 23-26, 2011.
- 4. **Session Chair**, "Turbine Cooling and Durability," *49th AIAA Aerospace Sciences Meeting*, Orlando, FL, Jan 4-7, 2011.
- 5. **Session Chair**, "Ceramics," *Society for Advancement of Material and Process Engineering (SAMPE) Conference and Exhibition*, Washington State Convention Center, Seattle, WA, May 17-20, 2010.
- 6. **Symposium Chair**, "Symposium: Advanced Technologies in Composite Materials Processing," *Earth and Space Conference 2010*, Honolulu, HI, March 14-17, 2010.
- 7. **Session Organizer & International Scientific Committee**, 2nd International Conference on Smart Materials and Nanotechnology in Engineering, Weihai, China, July 8-11, 2009.
- 8. **Session Chair**, "Session: Nanocomposites Applications," *International Conference on Multi-functional Materials and Structures (MFMS)*, Hong Kong, China, July 28-31, 2008.
- 9. **Session Chair**, "Session: Nanocomposites," *16th Annual International Conference on Composites/Nano Engineering (ICCE-16)*, Kunming, China, July 20-26, 2008.
- 10. **Session Organizer**, "Session: Nano-Enabled Materials," *Earth and Space Conference 2008* and *11th International Conference on Engineering, Science, Construction and Operation in Challenging Environments*, Long Beach, CA, May 18-22, 2008.
- 11. **Session Chair**, "Session: Nanocomposites," *10th International Conference on Composites/Nano Engineering*, New Orleans, LA, July 20-26, 2003.

International Scientific Committee (2 Committees)

International Conference on Smart Materials & Nanotechnology in Engineering (SMN), 2009 -present

International Conference on Composites/Nano Engineering (ICCE), 2006 - present

Professional Membership and Committee (5 Professional Societies, 1 Technical Committee)

Member, American Ceramic Society (ACerS), 2010 - present

Member, American Society of Engineering Education (ASEE), 2003 - present

Member, American Society of Mechanical Engineers (ASME), 1998 - present

Member, Society for the Advancement of Materials and Processing Engineering (SAMPE), 2003 - present

Dynamics and Controls Committee Member, American Society of Civil Engineers, Aerospace Division (ASCE-ASD), 2008 - present

Member, Materials Research Society (MRS), 2003 - present

VII. COMMITTEE SERVICES AND ADMINSTRATION EXPERIENCE

Committee Services and Administration Experience at UCF

UCF Faculty Senate - Budget and Administrative Committee, 2012-2013

MMAE Annual Evaluation Standards and Procedures (AESP), 2011-2012

MMAE Honors and Awards Committee, 2011-2012

MMAE Graduate Curriculum Committee, 2011

MMAE Materials Science and Engineering Graduate Program Committee, 2010-2011

MMAE Faculty Search Committee, 2007-2011

MMAE Chair Search Committee, 2010

MMAE Strategic Committee, 2007-2008

MMAE Undergraduate Committee, 2009-2012

Director, Composite Materials and Structures Laboratory (CMSL), 2007-present

Faculty Advisor, NASA Moonbuggy Race Team, 2007-2012

Engineering Open House, 2008

Faculty Advisor, ASME Human-Powered Vehicle (HPV) Race Team, 2007-2009

Committee Services and Administration Experience at Univ. of South Alabama

Director, Composite Materials Research Laboratory (CMRL), 2002-2007

Director, Materials Science Teaching Laboratory, 2002-2006

Chair, College of Engineering Computing Committee, 2005-2006

System Administrator, Mechanical Engineering Department Computer Laboratory, 2005-2006

Faculty Advisor, NASA Moonbuggy Race Team, 2003-2006

Faculty Advisor, Pai Tau Sigma, 2005-2006

Graduate Faculty, University of South Alabama, 2002-2007

Instructor, FE EXAM Review, 2002-2006

Chair, EG 140 Introduction to Engineering Mechanics Committee, 2005-2006

EG 283 Statics Committee Member, 2002-2006

EG 315 Mechanics of Materials Committee Member, 2004-2006

Accepting the Challenge to Excel (ACE), 2002-2007

Engineering Open House, 2004-2006