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#### **EDUCATIONAL BACKGROUND**

Degree	Field	Institution	Year
Ph.D.	Civil Engineering	Georgia Institute of Technology, Atlanta, GA	2004
M.S.	Civil Engineering	Georgia Institute of Technology, Atlanta, GA	1999
B.Sc.	Civil Engineering	Bandung Institute of Technology, Indonesia	1997

### **EMPLOYMENT HISTORY**

Title	Institution	Date
Paul Pepper' 54 Professor	Department of Mechanical Engineering Texas A&M University	09/2017-present
Professor	Department of Mechanical Engineering Texas A&M University	09/2015-present
Associate Professor	Department of Mechanical Engineering Texas A&M University	09/2010-08/2015
Assistant Professor	Department of Mechanical Engineering Texas A&M University	09/2004-08/2010
Graduate Research and Teaching Assistant	Civil and Environmental Engineering Georgia Institute of Technology	09/98-07/04
Research and Design Engineer	Civil Engineering Department Bandung Institute of Technology, Indonesia	11/97-05/98
Undergraduate Research and Teaching Assistant	Civil Engineering Department Bandung Institute of Technology, Indonesia	09/95-10/97

## **RESEARCH INTERESTS**

Nonlinear and time dependent constitutive material modeling, thermal stress analyses, micromechanics of composite and functionally graded materials, multi-scale analyses of heterogeneous materials subject to coupled thermal, electrical, and mechanical stimuli, coupled mechanical and transport analyses in smart composites, time-dependent degradation of polymers and composites, nonlinear analyses of flexible structures, large-scale nonlinear structural analyses, numerical and finite element methods.

#### **NOTABLE AWARDS**

- Faculty Mentoring Award, Mechanicl Engineering Department, 2018
- ASME Fellow 2016
- William Keeler Memorial Award, 2016
- TEES Faculty Fellow 2016
- Cain Faculty Fellow I, 2016-2019
- William Keeler Memorial Award, 2015
- The Dean of Engineering Excellence Award, COE, Texas A&M University, 2015
- Herbert H. Richardson Fellow Award, 2012-2013
- Gulf Oil/Thomas A. Dietz Career Development Professor II, 2011-2014
- 2008 Presidential Early Career Award for Scientists and Engineers (PECASE), awarded in 2009
- US Air Force Office of Scientific Research (AFOSR) Young Investigator Award, 2008
- National Science Foundation (NSF) CAREER Award, 01/2006-12/2010
- Texas A&M Engineering Experiment Station (TEES) Select Young Faculty Award, Texas A&M University, 2006
- Luther Long Award, Georgia Institute of Technology, 2004
- Humpus Fellowship, Indonesia, 1996-1997
- First rank in Civil Engineering, Institute Technology of Bandung, 1997

## PROFESSIONAL MEMBERSHIP

- American Society of Composites (ASC), 2004-present
- American Institute of Aeronautics and Astronautics (AIAA), 2003-2006
- American Society of Mechanical Engineers (ASME), 2006-present

## **COURSES TAUGHT**

#### A. Graduate

MEMA 651: Viscoelastic of Solids and Structures

MEEN 689/657: Design and Modeling of Viscoelastic Structures.

MEEN 689: Linear Elasticity

MEEN 688: Advanced Solid Mechanics

# B. Undergraduate

CVEN 305: Mechanics of Materials

MEEN 221: Statics and Particle Dynamics

MEEN 225: Engineering Mechanics

MEEN 368: Solid Mechanics in Mechanical Design

MEEN 451: Viscoelastic Materials

MEEN 489: Solid Mechanics

#### STUDENT RESEARCH ADVISING

#### A. Doctorate

- Sourabh Sawant, Spring 2005-Fall 2008 (currently at Deep Sea Drilling, Houston)
   Dissertation title: A Multiscale Framework for Thermo-Viscoelastic Analyses of Fiber Metal Laminates. Proposal defense on July 2, 2007 and final defense on September 2008.
- Jeong Sik Kim, Fall 2005-Fall 2009 (currently at Cameron, Houston, TX)
   Dissertation title: A Micromechanical Model for Viscoelastic+Viscoplastic Analyses of Particle Reinforced Composites. Proposal defense on August 29, 2008; final defense on August 27, 2009
- Kamran Khan, Spring 2007-Spring 2011 (King Fahd University of Petroleum and Mineral as assistant professor starting Sept. 2014)
   Dissertation title: A Multi-scale Model for Coupled Heat Conduction and Deformations of Viscoelastic Composites
- 4. Pradeep Gudlur, Spring 2009-Summer 2013 (co-advise with Miladin Radovic, currently at RJ Engineering, Houston)
  - Dissertation title: Experimental and Numerical Studies of Aluminum-Alumina Composites
- Chien Hong Lin, Summer 2009-Spring 2014 (current position: Assistant Professor National Taiwan Ocean University)
   Dissertation title: Micromechanics modeling of nonlinear and time-dependent responses of piezoelectric 1-3, 0-3, and hybrid Composites
- 6. Jaehyeuk Jeon, Spring 2010-Summer 2013 (current position: Riser Specialist at Genesis, Houston)
  Dissertation title: A Viscoelastic-viscoplastic Analysis of Fiber Reinforced Polymer Composites undergoing Mechanical Loading and Temperature Changes
- Hassene Ben Attitalah, Spring 2009--Fall 2014 (co-advise with Z. Ounaies, Aerospace Engr., currently at Penn State since 2011)
   Dissertation title: Characterization and Modeling of Active Fiber Composites
- 8. Amir Sohrabi, Spring 2010- Spring 2015 (current position Cooper Tire)
  Dissertation title: Nonlinear and Rate-dependent Hysteretic Electro-mechanical Responses of Ferroelectric Materials
- 9. Huanlin Zhu, Spring 2012--Fall 2015 (co-advise with KR Rajagopal, currently at Intel Corp.) Dissertation title: *Effect of Prestress on the Mechanical Performance of Composites*
- 10. Vahid Tajeddini, Spring 2011-Summer 2016 (currently at Ford Motor, MI)

  Dissertation title: Analysis of Elastic and Viscoelastic Smart Flexible and Foldable Systems
- 11. Junwei Xing, Fall 2011-Fall 2016 (co-advise with Miladin Radovic, currently at ABAQUS, RI) Dissertation title: Nonlinear Thermo-electro-mechanical Behaviors of BaTiO<sub>3</sub>/Ag Composites
- 12. Sudharsan Parthasarathy, Spring 2012-Fall 2015 (co-advise with KR Rajagopal, the student left PhD program)

13. Hoda Davoodi, Spring 2013-fall 2017

Dissertation title: Modeling Time dependent Behaviors of Polymeric Sandwich Composites at Various Environmental Conditions

14. Yiming Fan, Summer 2014-Summer 2018

Dissertation title: Modeling Moisture Diffusion Behaviors in Polymers and Polymer Composites

15. Zhi Yuan, Fall 2014-Fall2017

Dissertation title: Modeling the Responses of Light-activated Shape Memory Polymers

16. Jian Qu, Summer 2015-Spring 2020

Dissertation title: Modeling and Simulation of Viscoelastic Soft Materials for Soft Robotic Applications

- 17. Ruyue Song, Spring 2016-
- 18. Daniel Steck, Spring 2016-
- 19. Qudama, Spring 2018-
- 20. Omid Zargar, Summer 2018-
- 21. Zaryab Shahid, Fall 2018-
- 22. Aryabhat Damal, Fall 2019-

#### B. Master

- 1. Aravind Nair (MS), Fall 2004-Summer 2006 (currently at Marine Computation Services, Houston, TX). Thesis title: Characterization of Thermo-mechanical and Long-term Behaviors of Multi-layered Composite Materials
- 2. Kamran Khan (MS), Spring 2005- Fall 2006 (continued PhD study at TAMU)

  Thesis title: A Time Integration Scheme for Stress and Temperature Dependent Viscoelastic Behaviors of Isotropic Materials
- 3. Maithri Muddasani (MS), Fall 2006-Summer 2008 (currently at Terex corp., Denison, TX as Mechanical Engineer)
  - Thesis title: Nonlinear Viscoelastic Behaviors of Multi-layered (pultruded) Composites at Various Temperatures and Stresses
- 4. Sneha Shah (MS), Spring 2007-Summer 2008, co-advised with K.R. Rajagopal (currently at Siemens Energy Inc. as Mechanical Integrity Consultant)
  - Thesis title: Coupled Heat Conduction and Deformation in Viscoelastic Composite Cylinders
- 5. Nikhil Joshi (MS), Fall 2006-Summer 2008 (currently at Technip Subsea Engineering Lead Flexible Pipe Department, as Graduate Engineer)

Thesis title: Analyses of Deformation in Viscoelastic Sandwich Composites Subject to Moisture Diffusion

6. Pradeep Gudlur (MS), Spring 2007-Fall 2008 (continued PhD at TAMU)

Thesis title: Thermoelastic Properties of Particle Reinforced Composites at the Micro and Macro Scales

7. Altramese Roberts (MS), Fall 2006-Fall 2009
Thesis title: Viscoelastic Analysis of Sandwich Beams Having Aluminum and Fiber-Reinforced
Polymer Skins with a Polystyrene Foam Core

- 8. Kuo-An Li (MS), Summer 2008-Fall 2009 (current position is at Asus computer)
  Thesis title: *Modeling Time-dependent Responses of Piezoelectric Fiber Composites*
- 9. Arun Ravishankari (MS), Spring 2009- Spring 2011, co-advised with K.R. Rajagopal Thesis title: Finite element analysis of indentation in fiber-reinforced polymer composites
- Ramachandran Kuravi (MS), Spring 2009- Fall 2010, co-advised with K.R. Rajagopal (currently at Aker Solutions)

Thesis title: Controlling Deformation in Linearly Elastic and Viscoelastic Beams due to Temperature and Moisture Changes using Piezoelectric Actuator

- 11. Zeaid Hasan (MS), Fall 2009-Fall 2010, (currently at Boeing, Arizona)

  Thesis title: Controlling Performance of Laminated Composites using Piezoelectric Materials
- 12. Sukanya Doshi (MS), Spring 2011-Fall 2012, co-advise with JN Reddy (currently at Technip)
  Thesis title: Study of Thermo-electro-mechanical Coupling in Functionally Graded Metal-Ceramic Composites
- 13. Valentin Steenken (Master thesis, Bochum University, Germany), Summer 2013-Dec. 2013, co-advise with M. Radovic

Thesis title: Processing and Characterization of Metal Ceramic Composites for Solid Oxide Fuel Cells

- 14. Mrudula Ane (M.Eng, non-thesis), Summer 2008-Spring 2009
  Project title: *Thermal Stress Analyses of Fiber Reinforced Composites*
- 15. Jacob Manuel (M. Eng, non-thesis), Summer 2010, currently at Stress Engineering Services, Inc Project title: *FE Analysis of Sandwich Composite Beam*
- 16. Kyle Murphy (MS), Summer 2012-Fall2014

  Thesis Title: Finite Element Analyses of A Cyclically Loaded Linear Viscoelastic Biodegradable Stent
- 17. Penny Luo (M. Eng, non thesis), Summer 2013-Fall 2014
  Project title: A Mathematical Model for Hygro-thermal Analyses of Concrete Walls

- 18. Ruyue Song (MS), Summer 2014-Fall 2015 (co-advise with Prof. Anthony Palazotto, AFIT)

  Thesis title: Evaluation of Creep and Cyclic Properties of Metals and Polyimide Composites at High
  Temperature
- 19. Maximilian Ly (MS), Fall 2015-Spring 2017, currently at Northrop Grumman
  Thesis title: Analyzing the Effect of Energy Dissipation on Thermo-mechanical Response of
  Viscoelastic Fiber Reinforced Composite using Finite Element Method
- 20. Renzhe Chen (MS), Spring 2017-Spring 2018

Thesis title: Attaining Desired Deformations of Flexible Structures through Mechanical and Non-Mechanical Stimuli

21. Jonathan Rickert (MS), Summer 2018-Fall 2018

Thesis title: Developing A Design Methodology for Reinforcing Crack-like Defects in Longitudinal ERW Weld Seams

22. Mitchell Shockley (MS), Fall 2018-Summer 2019

Thesis title: Modeling and Analysis of the Degradation and Erosion Behaviors of Biodegradable Polymer Implants

23. Kamal Poluri (MS) Spring 2020-

## C. Undergraduate Research

1. Shannon Wagner, Summer 2005 (completed).

Internal paper report and poster presentation title: *Time-temperature Behaviors of Multi-layered Fiber Reinforced Polymers (FRP) Composites.* The poster was also presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS 2005), Atlanta, November 2-5, 2005 and won the best student poster presentation award in the area of Chemical Science.

2 Adam Forsner, Spring 2010-Fall2010

Project title: Thermo-Mechanical Characterization of Al2O3-Al Composites at Elevated Temperatures. Internal paper report and poster presentation have been completed on August 2010 as part of Undergraduate Summer Research Grant (USRG) program at TAMU. The poster presentation won a second prize

- 3. Lars Lueckemeyer (German Exchange Student), Spring 2010 (co-advised with KR. Rajagopal) Project title: Response of Inhomogeneous Elastic Bodies due to Diffusion of a Fluid
- Jonathan Lentz (German Exchange Student), Fall 2010
   Project title: Mechanical and Thermal Behavior of Aluminum-alumina Composites
- 5. Artur Boznek (German Exchange Student), Spring 2012 Project title: *Mechanical Behavior of Aluminum-alumina Composites: Experiment and Finite Element Analyses*

- Dennis Wingender (German Exchange Student), Spring 2015
   Project title: Analyses of Bilayer Beams with Elastic and Viscoelastic Materials
- 7. Coleman Fincher, Summer 2014-Spring 2015
- 8. Berenice Kramer, Spring 2016 (German Exchange Student)
- Christopher Hines, Summer 2016
   Project Title: Simulations for Non-Mechanical Stimuli on Compliant Flexible Structures
   Undergraduate Summer Research Grant (USRG) program at TAMU.
- Coby Turman, Summer 2018-Spring 2019
   Project Title: Using Kerfed Composites to Generate Complex Geometries

### D. RESEARCH ADVISING FOR HIGH SCHOOL TEACHERS

- Elizabeth Rodriguez, Crystal City High School, Crystal City, TX. June 2007.
   Topic: Understanding mechanical behaviors, including elastic, viscoelastic, and inelastic responses, of multi-layered composite and other materials. Creep and quasi-static tests were conducted and the experimental data were fitted using different mathematical functions.
- Miguel Sandoval, Gladys Porter High School, Brownsville, TX. June 2007
   Topic: Understanding viscoelastic responses of polymer based materials at different temperatures.
   Creep tests were conducted and the experimental data were fitted using different mathematical functions.

## **PUBLICATIONS** (\*graduate/undergraduate students)

## A. BOOKS, BOOK CHAPTERS, OR AUTHORITATIVE REFERENCES

- 1. Muliana, A., "A Multi-scale Formulation for Smart Composites with Field Coupling Effects" part of Advances in Mathematical Modeling and Experimental Methods for Materials and Structures. The Jacob Aboudi Volume, Vol. 168, pp. 73-87, 2010.
- 2. Kaminski, M. and Muliana, A., "Computational Methods in Composite Materials and Structures", International Journal for Multiscale Computational Engrg., Preface 2009
- 3. Li\*, K.A. and Muliana, A.H., "Time-dependent Behavior of Active Polymer Matrix Composites", part of Creep and Fatigue in Composites, Ed. RM Guedes, pp. 70-112, Woodhead Publishing 2011
- 4. Sohrabi\*, A and Muliana, AH, "Nonlinear Hysteretic Response of Piezoelectric Ceramics" part of Ferroelectrics: Characterization and Modeling, Ed. Mickael Lallart, Intech 2011
- Doshi\*, S., Sohrabi\*, A, Muliana, AH, and Reddy, JN "Analyses of Multifunctional Layered Composite Beams" part of Mechanics and Design of Smart Composites, Ed. Elhajjar et al., CRC Press Boca Raton, Florida 2013

- El-Hajjar, R, Law, C, and Muliana, AH, "Behavior and Characterization of Magnetostrictive Composites," part of Mechanics and Design of Smart Composites, Ed. Elhajjar et al., CRC Press Boca Raton, Florida 2013
- 7. Elhajjar R, La Saponara V, and Muliana AH, Smart Composites: Mechanics and Design, CRC Press Boca Raton, Florida 2013
- 8. Lin CH and Muliana AH, "Micromechanics Modeling of Hysteretic Responses of Piezoelectric Composites" Creep and Fatigue in Composites, Ed. RM Guedes, 2019
- Davoodi B, Gomez A, Pinto B, Muliana A, and La Saponara V, "Modeling Nonlinear and Time-dependent Behaviors of Polymeric Sandwich Composites at Various Environmental Conditions" Advances in Thick Section Composite and Sandwich Structures, Ed. Lee SW, Springer, 2020

## **B. ARTICLES IN REFEREED JOURNALS**

- Shockley\* M and Muliana A, "Modeling Temporal and Spatial Changes during Hydrolytic Degradation and Erosion in Biodegradable Polymers" Polymer Degradation and Stability, accepted 2020
- Renzhe\* Chen, Coby\* Turman, Mingliang Jiang, Negar Kalantar, Michael Moreno and Anastasia Muliana, "Mechanics of Kerf Patterns for Creating Freeform Structures" Acta Mechanica, accepted 2020
- 3. Song\* R, Tajeddini\* V, and Muliana A, "Modeling and Simulation of Thin-Layered Composites under Non-mechanical Stimuli" Frontier in Materials, Polymeric and Composite Materials, accepted 2020
- Lee S, Zargar\* O, Reiser C, Li Q, Muliana A, Finlayson SA, Gomez F, and Pharr M, "Time-dependent Mechanical Behavior of Sweet Sorghum Stems" Journal of Mechanical Behavior of Biomedical Materials, accepted 2020
- 5. Ly\* M, Khan KA, and Muliana, "Modeling Self-heating under Cyclic Loading in Fiber Reinforced Polymer Composites" Journal of Engineering Materials and Performance, in press 2020
- 6. Yuan\* Z, Muliana A, and Rajagopal KR, "Modeling Deformation Induced Anisotropy of Light-Activated Shape Memory Polymers" Int. J. Nonlinear Mechanics, in press 2020
- 7. Song\* R and Muliana A, "Modeling Mechanical Behaviors of Plant Stems undergoing Microstructural Changes" Mechanics of Materials, 139, 103175, 2019
- 8. Gomez FE, Mullet JE, Muliana AH, Niklas KJ, and Rooney WL "The Genetic Architecture of Biomechanical Traits in Sorghum (Sorghum bicolor L.)" in press Crop Science 2019
- Song\* R, Muliana A, "A Thermodynamically Consistent Model for Viscoelastic Polymers Undergoing Microstructural Changes" International J. Engineering Science, 142, pp. 106-124, 2019

- Benjamin CC, Myneni M, Muliana A, and Rajagopal KR, "Motion of A Finite Composite Cylindrical Annulus Comprised of Nonlinear Elastic Solids subject to Periodic Shear" Int. J. Nonlinear Mechanics, 113, 31-43, 2019
- 11. Fan\* Y, Gomez A, Muliana A, and La Saponara V, "Multi-scale Analysis of Diffusion of Fluid in Sandwich Composites" J. Polymer Composites, 40 (9), 3520-3532, 2019
- 12. Steck\* D, Qu\* J, Kordmahale SB, Tscharnutter D, Muliana A, and Kameoka J, "Mechanical Responses of Ecoflex Silicone Rubber: Compressible and Incompressible Behaviors" Journal of Applied Polymer Science136, 47025, 2019.
- 13. Fan\* Y, Gomez A, Ferraro S, Pinto B, Muliana A, La Saponara V, "Diffusion of Water in Glass Fiber Reinforced Polymer Composites at Different Temperatures" J. Composite Materials, 53, pp. 1097-1110, 2019
- Gomez F, Calvalho G, Shi F, Muliana A, Rooney W, "High Throughput Phenotyping of Morpho-Anatomical Stem Properties using X-Ray Computed Tomography in Sorghum" Plant Methods, 14:59, 2018
- 15. Huang P, Qu\* J, Saha P, Muliana A, and Kameoka J, "Microencapsulation of Beta Cells in Collagen Microdisk via Pneumatically Actuated Soft Micro-mold (c-PASMO)" Biomedical Physics and Engineering Express, 5, 015004, 2018
- Song\* R, Ben Atitallah H, Muliana A, and Ounaies Z, "Hysteretic Electro-Mechanical Coupling Response of PZT Fibers: Constitutive Modeling and Experiments" Ferroelectric, 526 (1), 95-119 2018
- 17. Gomez F, Muliana A, and Rooney W, "Predicting Stem Strength in Diverse Bioenergy Sorghum Genotypes" Crop Science, 58 (2), 739-751, 2018
- Gagani A, Fan\* Y, Muliana A, and Echtermeyer A, "Micromechanical Modeling of Anisotropic Water Diffusion in Glass Fiber Epoxy Reinforced Composites" Journal Composite Materials, 52, 2321-2335, 2018
- Khan K. Muliana A, Wineman A, and Rajagopal K, "On Viscoelastic Beams undergoing Cyclic Loading: Determining the Onset of Structural Instabilities" International Journal of Nonlinear Mechanics, 99, 40-50, 2018
- 20. Bartels S, Bonito A, Muliana A, Nochetto R, "Modeling and Simulation of Thermally Actuated Bilayer Plates," Journal of Computational Physics, 354, pp. 512-528, 2018
- 21. Xing\* J, Muliana A, and Radovic M, "Characterization of Thermal Transport Properties of Ag/BaTiO<sub>3</sub> Composites using Hot Disk: Numerical Simulations" International Journal of Heat and Mass Transport, 116, pp. 599-608, 2018
- 22. Xing\* J, Radovic M, and Muliana A, "Elastic and Dielectric Properties of Active Ag/BaTiO<sub>3</sub> Composites" Experimental Mechanics, 58(4), 645-660, 2018

- 23. Muliana A, Rajagopal KR, Tscharnuter D, Schrittesses B, Saccomandi G, "Determining Material Properties of Natural Rubber using Fewer Material Moduli in virtue of a Novel Constitutive Approach for Elastic Bodies" Rubber Chemical and Technology, 91(2), pp. 375-389, 2018
- Huang PJ, Chou CK, Chen CT, Yamaguchi H, Qu J, Muliana A, Hung MC, and Kameoka J, "Pneumatically Actuated Soft Micro-mold (PASMO) Device for Fabricating Collagen and Matrigel Microparticles" Soft Robotics, 4, pp. 390-399, 2017
- Gomez F, Muliana A, Niklas KJ, and Rooney W, "Identifying Morphological and Mechanical Traits
   Associated with Stem Lodging in Bioenergy Sorghum (Sorghum bicolor)," BioEnergy Research, 10,
   pp. 635-647, 2017
- Fan\* Y, Gomez A, Ferraro S, Pinto B, Muliana A, and La Saponara V, "The Effects of Temperatures and Volumetric Expansion on the Diffusion of Fluids through Solid Polymers" J. Applied Polymer Science, 134(31), 2017
- 27. Sohrabi\* A, Muliana A, and Srinivasa A, "Controlling Deformation in Electro-active Truss Structures with Nonlinear History-dependent Response" Finite Element in Analyses and Design, 129, pp. 42-52, 2017
- 28. Xing\* J, Radovic M, and Muliana A, "A Nonlinear Constitutive Model for Describing Cyclic Mechanical Responses of BaTiO<sub>3</sub>/Ag Composites" Acta Mechanica, 228, pp. 2017-2032, 2017
- Celli P, Gonella S, Tajeddini\* V, Muliana A, Ahmed S, Ounaies Z, "Wave Control Through Soft Microstructural Curling: Bandgap Shifting, Reconfigurable Anisotropy and Switchable Chirality," Smart Materials and Structures, 26(3), 2017
- 30. Tajeddini\* V and Muliana A, "Deformation of Flexible and Foldable Electro-active Composite Structures" Composite Structures, 160, pp. 280-291, 2017
- 31. Yuan\* Z, Muliana A, and Rajagopal KR, "Modeling the Response of Light-activated Shape Memory Polymers" Mathematics Mechanics and Solids, 22, pp. 1116-1143, 2017
- 32. Yuan\* Z, Muliana A, and Rajagopal KR, "Quasi-linear viscoelastic modeling of light-activated shape memory polymers" Journal of Intelligent Material Systems and Structures, 28 (18), 2500-2515, 2017
- 33. Muliana A, Rajagopal KR, Tscharnuter D, Pinter G, "A Nonlinear Viscoelastic Constitutive Model of Polymeric Solids based on Multiple Natural Configuration Theory" International Journal of Solids and Structures, 100, pp. 95-110, 2016
- 34. Song\* R, Muliana A, Palazotto A, "An Empirical Approach to Evaluate Creep Responses in Polymers and Polymeric Composites and Determination of Design Stresses" Composite Structures, 148, pp. 207-223, 2016
- 35. Zhu\* H, Muliana A, and Rajagopal KR, "On the Nonlinear Viscoelastic Deformations of Composites with Prestressed Inclusions" Composite Structures, 149, pp. 279-291, 2016

- 36. Lin\*, CH and Muliana A, "Nonlinear and Rate-dependent Hysteretic Responses of Active Hybrid Composites" Materials Sciences and Applications, 7, pp. 51-72, 2016
- 37. Khan K, Muliana AH, Ben Atitallah H, and Ounaies Z, "Time-dependent and Energy Dissipation Effects on the Electro-Mechanical Response of PZTs" Mechanics of Materials, 102, pp. 74-89, 2016
- 38. Xing\* J, Radovic M, and Muliana A, "Thermal Properties of BaTiO3/Ag Composites at Different Temperatures", Composites Part B, 90, pp. 287-301, 2016
- 39. Song\* R, Muliana A, and Palazotto A, "Analyzing Time- and Temperature Dependent Responses of NARloy-Z" Computational Material Science, 115, pp. 26-40, 2016
- 40. Parthasarathy\* S, Muliana A, and Rajagopal KR, "A Fully Coupled Model for Diffusion-Induced Deformation in Polymers" Acta Mechanica, 227, pp. 837-856, 2016
- 41. Tajeddini\* V and Muliana A, "Nonlinear deformations of beams with piezoelectric patches subjected to electric and mechanical actuations" Composite Structures, 132, pp. 1085-1093, 2015
- 42. Lin\* CH and Muliana AH, "Nonlinear Electro-mechanical Responses of Functionally Graded Piezoelectric Beams," Composites Part B, 72, pp. 53-64, 2015
- 43. Ben-Atitallah\* H, Ounaies Z and Muliana AH, "On the temperature and time dependence of the electro-mechanical properties of flexible active fiber composites" Smart Materials and Structures, 25(4), 045002, 2016
- 44. Davoodi\* B, Muliana A, Tscharnuter D, and Pinter G, "*Analyses of Viscoelastic Solid Polymers undergoing Degradation*" Mechanics of Time-dependent Materials, 19, pp. 397-417, 2015
- 45. Muliana AH, Rajagopal KR, and Tscharnuter, D, "A Nonlinear Integral Model for Describing Responses of Viscoelastic Solids" Int. J. Solids and Structure, 58, pp. 146-156, 2015
- 46. Sohrabi\* A and Muliana AH, "Nonlinear and Time-dependent Behaviors of Piezoelectric Materials and Structures," Int. J. Mechanical Science, 94-94, pp. 1-9, 2015
- 47. Ben-Atitallah H, Ounaies Z and Muliana AH, "A Parametric Study on Flexible Electro-Active Composites: Importance of Geometry and Matrix properties" J. Intelligent Material Systems and Structures, 26, pp. 2386-2394, 2015
- 48. Muliana AH "Large deformations of nonlinear viscoelastic and multi-responsive beams" Int. J. Nonlinear Mechanics, 71, pp. 152-164, 2015
- 49. La Saponara V, Farrugia A, Lestari W, and Muliana A, "Analysis of ultrasonic waveforms from smart sandwich composite structures under creep bending at elevated temperature" J. Intelligent Material Systems and Structures, 26, pp. 810-829, 2015
- 50. Zhu\* H, Muliana A, and KR Rajagopal, "Effect of Prestress on the Mechanical Performance of Composites" ASCE J. Engineering Mechanics, 141, p. 04015011, 2015

- 51. Tajeddini\* V, Ben Attitalah\* H, Muliana A, and Ounaies Z, "Nonlinear viscoelastic behavior of active fiber composites", ASME J. Engineering Materials and Technology, 136, p.021005, 2014
- 52. Gudlur\* P, Muliana A, and Radovic M, "The Effect of Microstructural Morphology on the Elastic, Inelastic, and Degradation Behaviors of Aluminum Alumina Composites" Mechanics Research Communications, 57, pp. 49-56, 2014
- 53. Lin\* CH and Muliana A, "Polarization Switching Responses of 1-3 and 0-3 Active Composites" Composite Structures, 116, pp. 535-551, 2014
- 54. Li P, White K, Lin\* C, Kim D, Muliana A, Krishnamoorti R, Nishimura R, Sue HJ, "*Ultrastrong Epoxy Nanocomposites Containing Self-assembled Synthetic Clay in Smectic Order*" American Chemical Society, Applied Materials & Interfaces, 6, pp. 10188-10195, 2014
- 55. Jeon\* J, Muliana A, and La Saponara V, "Thermal Stress and Deformation Analyses in Fiber Reinforced Polymer Composites undergoing Heat Conduction and Mechanical Loading" Composite Structures, 111, pp. 31-44, 2014
- 56. Muliana A, "Nonlinear Viscoelastic-Degradation Model for Polymeric Based Materials" Int. J. Solids and Structures, 51, pp. 122-132, 2014
- 57. Tajeddini\* V, Lin\* CH, Muliana AH, and Lévesque M, "Average Electro-mechanical Properties and Responses of Active Composites" Computational Material Science, 82, pp. 405-414, 2014
- 58. Lin\* CH and Muliana A, "Micromechanical Models for the Effective Time-dependent and Nonlinear Electro-mechanical Responses of Piezoelectric Composites" J. Intelligent Material Systems and Structures, 25, pp. 1306-1322, 2014
- 59. Gudlur\* P, Boczek\* A, Radovic M, and Muliana A, "On Characterizing the Mechanical Properties of Aluminum Alumina Composites" Material Science and Engineering A, 590, pp. 352–359, 2014
- Gudlur\*, P., Muliana, A., and Radovic, M, "Thermo-mechanical Properties of Aluminum-Alumina Composites based on its Microstructural Characteristics," Composite Part B, 58C, pp. 534-543, 2014
- 61. Reddy, J. N., Doshi\*, S., and Muliana, A., "Theoretical Formulations for Finite Element Models of Functionally Graded Beams with Piezoelectric Layers," Journal of Solid Mechanics, Vol. 3, No. 4, 2013
- 62. Sohrabi\*, A. and Muliana, AH, "Rate-dependent and Electro-mechanical Coupling Response of Ferroelectric Materials: A Finite Element Formulation" Mechanics of Materials (MOM), 62, pp. 44-59, 2013
- 63. Muliana, AH, Rajagopal, KR, and Wineman, A, "A new class of quasi-linear models for describing the non-linear viscoelastic response of materials" Acta Mechanica, 224, pp. 2169-2183, 2013
- 64. Tscharnuter, D and Muliana AH, "Nonlinear Response of Viscoelastic Polyoxymethylene (POM) at Elevated Temperatures" Polymer, 54, pp. 1208-1217, 2013

- 65. Lin\*, CH and Muliana, AH, "Micromechanics Models for the Effective Nonlinear Electro-mechanical Responses of Piezoelectric Composites" Acta Mechanica, 224, pp. 1471–1492, 2013
- 66. Jeon\*, J., Kim\*, J., and Muliana, AH, "Modeling Time-dependent and Inelastic Response of Fiber Reinforced Polymer Composites" Computational Material Science, 70, pp. 37-50, 2013
- 67. Muliana, A., Rajagopal, KR, and Wineman, A, "On a Burgers' Fluid with Pressure Dependent Moduli" Mechanics Time-dependent Materials, 17(2), pp. 147-169, 2013
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- 77. Khan\*, KA, Barello, R., Muliana, AH. and Levesque, M., "Coupled Heat Conduction and Thermal Stress Analyses in Particulate Composites," Mechanics of Materials, 43, pp. 608-625, 2011
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- 95. Khan\*, K. A. and Muliana, A., "A Multi-scale Model for Coupled Heat Conduction and Deformations of Viscoelastic Functionally Graded Materials," Special Issue on 'Blast resistance of Nano-engineered Composites" Composite part B, 40, pp. 511-521, 2009
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# C. CONFERENCE PROCEEDINGS AND OTHER REPORTS

- Davoodi\* B, Gomez A, Pinto B, Muliana A, and La Saponara V, "Modeling Nonlinear and Time-dependent Behaviors of Polymer Sandwich Composites at Various Environmental Conditions" 33rd ASC Technical Conference, University of Washington, September 2018
- Chen R, Jiang M, Kalantar N, Moreno M, Muliana A, "Creating Flexible Structures out of MDF Plates" 33rd ASC Technical Conference, University of Washington, September 2018

- 3. Sohrabi\* A and Muliana A, "Computational Study of Major Loop Hysteresis in Active Fiber Composites" 33<sup>rd</sup> ASC Technical Conference, University of Washington, September 2018
- Song\* R, Muliana A, Palazotto A, "Steady State and Transient Creep Response of High Temperature Alloy," 58th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics and Material Conference, pp. 1363, 2017
- Fan\* Y, Gomez A, Ferraro S, Pinto B, Muliana A, and La Saponara V, "Diffusion Behavior in Sandwich Composites: Modeling and Experiment" 32<sup>nd</sup> ASC Technical Conference, Purdue University, October 2017
- Ly\* M, Khan K, and Muliana A, "Analyzing the Effect of Energy Dissipation on Thermo-mechanical Responses of Viscoelastic Fiber Reinforced Composites using Finite Element Method" 32<sup>nd</sup> ASC Technical Conference, Purdue University, October 2017
- 7. Tajeddini\* V and Muliana A, "Nonlinear Deformations of Smart Plates under Electro-mechanical Actuations," American Society for Composites, 30th Technical Conference (ASC), Sept. 26-28, 2015
- 8. Pires R, Zhu S, Davoodi B, La Saponara V, and Muliana A, "Mechanical Performance of Fiber-reinforced Polymer Composites under Concurrent Hygro-thermo-mechanical Loading" 30<sup>th</sup> Technical Conference (ASC), September 26-28, 2015
- Dridi M.A., Ben Atitallah, H., Ounaies Z., Muliana A, 2015, Characterization and modeling time dependent behavior in PZT fibers and active fiber composites, Proc. SPIE 9432, Behavior and Mechanics of Multifunctional Materials and Composites 2015, 94320B, doi:10.1117/12.2084811
- Sohrabi\* A and Muliana A, "Non Linear Time Dependent Responses of Ferroelectric Materials," 17th
   U. S. National Congress on Theoretical and Applied Mechanics, East Lansing MI, June 15-20, 2014
- Lin\* CH and Muliana A, "Rate-dependent Hysteretic Response of Electro-active Composites: A Micromechanical Analysis" 9th International Conference on Mechanics of Time Dependent Materials, Montreal CA, May 27th to 30th 2014
- Jeon\* J, Farrugia A, Muliana A, La Saponara V, Lestari W, "Understanding Time-dependent Performance of Smart Polymeric Sandwich Composites under Coupled Mechanical and Thermal Stimuli" 9th International Conference on Mechanics of Time Dependent Materials, Montreal CA, May 27th to 30th 2014
- Muliana A, "Nonlinear Viscoelastic-Degradation Models for Polymeric Based Materials" 9th International Conference on Mechanics of Time Dependent Materials, Montreal CA, May 27th to 30th 2014
- 14. Xing\* J, Jang A, Radovic M, and Muliana A, "Thermal properties of BaTiO3/Ag Composites undergoing Phase Transformation due to Temperature Changes" American Society for Composites, 28th Technical Conference (ASC), September 9-11, 2013

- 15. Lin\* CH and Muliana A, "A Micromechanical Model for Analyzing Responses of A Piezoelectric Hybrid Composite" American Society for Composites, 28<sup>th</sup> Technical Conference (ASC), September 9-11, 2013
- Sohrabi\* A and Muliana A, "Nonlinear Time Dependent Finite Element Analysis for Active Composites" American Society for Composites, 28th Technical Conference (ASC), September 9-11, 2013
- 17. Ben Atitallah\*, H., Ounaies, Z., and Muliana, A "Non-uniform electric field and nonlinear piezoelectric behavior in active fiber composites" American Society for Composites, 28<sup>th</sup> Technical Conference (ASC), September 9-11, 2013
- Ben Atitallah\*, H., Ounaies, Z., and Muliana, A "Parametric Study on the geometry and polymer properties in the AFCs" Society of Photo-optical Instrumentation Engineers (SPIE) Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring Proceeding, March 2012
- 19. Tajeddini\* V, Lin\* CH, Muliana A, Levesque M, "The effect of microstructural morphologies on the effective electromechanical properties of piezoelectric particle composites" Proceedings of the ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 9-15, 2012
- 20. Sohrabi\* A and Muliana A, "Finite element analysis for nonlinear time dependent response of piezoelectric materials," Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition, November 9-15, 2012, Houston, Texas, USA
- 21. Sohrabi\* A and Muliana A, "The Time Dependent Behavior of Active Composite Beams", Proceedings of the American Society for Composites 27<sup>th</sup> Technical Conference, October 1-3, 2012 Sheraton Arlington Hotel, Arlington, Texas
- Muliana A "A Time-dependent micromechanical model of Ferroelectric Composites" Proceeding of the Mechanics of Nano, Micro and Macro Composite Structures Politecnico di Torino, 18-20 June 2012
- 23. Khan\* K and Muliana A "A Multiscale Model for Fully Coupled Nonlinear Thermoviscoelastic Analyses of Particulate Composites" Proceeding of the Mechanics of Nano, Micro and Macro Composite Structures Politecnico di Torino, 18-20 June 2012
- 24. Lin\*, CH and Muliana, A. "Analyzing Thermo-electro Mechanical Response of Active Composites" 26<sup>th</sup> ASC and 8<sup>th</sup> Canadian International Conference on Composites (CANCOM), Montreal Canada, September 26-28 2011
- 25. Hasan\*, Z and Muliana, A. "Analysis and Control of Smart Composite Laminates using Piezoelectric Materials" 26th ASC and 8th CANCOM, Montreal Canada, September 26-28 2011
- 26. Ben Atitallah\*, H., Muliana, A., and Ounaies, Z., "Time-dependent Response of Active Composites with Thermal, Electrical, and Mechanical Coupling Effect" SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring Proceeding, March 2011

- 27. Khan\*, K.A, Barello, R., Muliana, A.H., and Lévesque, M., "Coupled Heat Conduction and Thermal Stresses in Particulate Composites," 16<sup>th</sup> US National Congress on Theoretical and Applied Mechanics, June 27 July 2, 2010, State College, Pennsylvania, USA
- 28. Ben Atitallah\*, H., Ounaies, Z., and Muliana, A., "Temperature and Time Effects in the Electro-mechanical Coupling Behavior of Active Fiber Composites" 16<sup>th</sup> US National Congress on Theoretical and Applied Mechanics, June 27 July 2, 2010, State College, Pennsylvania, USA
- 29. Khan\*, K.A, Gudlur\*, P., Barello, R., Muliana, A.H., and Lévesque, M., "Heat Conduction and Thermal Stresses in Particulate Composites," Int. Congress on Thermal Stress, June 1-4, 2009 at the University of Illinois at Urbana-Champaign.
- 30. Joshi\*, N. and Muliana, A.H., "Analyses of Viscoelastic Deformation in Sandwich Composites Subject to Moisture Diffusion," ASME International Mechanical Congress and Exposition, Boston, MA, Oct 31- Nov 6, 2008.
- 31. Kim\*, J.S. and Muliana, A.H., "A Micromechanical Model for the Nonlinear Viscoelastic-Viscoplastic Behaviors of Particle Reinforced Polymeric Composites," 4th International Conference on Advances in Structural Engineering and Mechanics, Jeju, Korea, May 26-28, 2008
- 32. Sawant\*, S., Kim\*, J.S. and Muliana, A.H., "Time-dependent Analyses of Fiber Metal Laminate," 4th International Conference on Advances in Structural Engineering and Mechanics, Jeju, Korea, May 26-28, 2008.
- 33. Muliana, A., Khan\*, K., and Kim\*, J. S., "A Micromechanical Modeling Approach for Analyzing Thermo-viscoelastic Responses of Particle Reinforced Composites," Mechanics of Time-Dependent Materials Conference 2008 (MTDM 2008), Monterey, CA, March 30-April 4, 2008.
- 34. Muliana, A. H. and Khan\*, A. K., "A Micromechanical Modeling Approach for Analyzing Thermo-Mechanical Responses of Functionally Graded Materials," ASME International Mechanical Congress and Exposition, Seattle, WA, Nov 10-16, 2007.
- 35. Sawant\*, S. and Muliana, A., "Nonlinear Viscoelastic Analyses of Glass Reinforced Aluminum Laminate (GLARE)," ASME International Mechanical Congress and Exposition, Seattle, WA, Nov 10-16, 2007.
- 36. Huang, C., Masad, E., Muliana, A., and Bahia, H., "Analysis of Nonlinear Viscoelastic Properties of Asphalt Mixture," Geotechnical Special Publication, n176, Analysis of Asphalt Pavement Materials and Systems: Emerging Methods, pp. 64-72, 2007
- 37. Massad, E., Huang, C. W, Airey, G., and Muliana, A., "Nonlinear Viscoelastic Analyses of Asphalt Binders," International Conference on Advanced Characterization of Pavement and Soil Engineering Materials, Athens, Greece, June 20-22, 2007.
- 38. Kim\*, J. S., Muliana, A. H., and Khan\*, K. A., "A Homogenization Scheme for Nonlinear Viscoelastic Behaviors of Particulate Reinforced Composites," ASME International Mechanical Congress and Exposition, Chicago, IL, Nov 5-10, 2006.

- 39. Sawant\*, S. and Muliana, A. H., "A Numerical Algorithm for Nonlinear Time-stress Dependent Behaviors of Orthotropic Media," ASME International Mechanical Congress and Exposition, Chicago, IL, Nov 5-10, 2006.
- Muliana, A. H., and Haj-Ali, R. M., "A Sublaminate Model for Creep Buckling Analysis of Thick-Section FRP Composite Structures," Proceedings of the 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Austin, TX, April 19-22, 2005
- 41. Muliana, A. H. and Haj-Ali, R. M., "A Nonlinear Sublaminate Model for the Viscoelastic Analysis of Multi-layered FRP Composite Structures," Proceedings of the American Society of Composite/American Standard Testing and Measurement, ASC/ASTM-D30 Joint 19th Annual Technical Conference, Atlanta, GA, October 17-20, 2004
- 42. Haj-Ali, R. M. and Muliana, A. H., "Nonlinear Multi-scale Viscoelastic Analysis of Sandwich Composites," 22nd Southeastern Conference on Theoretical and Applied Mechanics (SECTAM XXII), Tuskegee, AL, August 15-17, 2004
- 43. Muliana, A. H., and Haj-Ali, R. M., "Integrated Micromechanical-Structural Models for Long-term Behavior of FRP Composite Structures," Proceedings of the 45th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Palm Spring, CA, April 19-22, 2004
- 44. Muliana, A. H., and Haj-Ali, R. M., "A Micromechanical Model for the Nonlinear Viscoelastic Behavior of Laminated Composites," Proceedings of the 16th ASCE Engineering Mechanics Conference (EM2003), Seattle, Washington, July, 2003
- 45. Muliana, A. H., and Haj-Ali, R. M., "Three Dimensional Micromechanical Framework for the Nonlinear Viscoelastic Behavior of Pultruded Composite Materials," Compact Disc Proceedings of the 15th ASCE Engineering Mechanics Conference (EM2002), Ed., Smyth A., Columbia University, New York, NY, June 2-5, 6 pages, 2002
- 46. Muliana, A. H., Haj-Ali, R. M., Coates, C. W., and Armanios, E. A., "Failure Prediction of Co-cured Composite Single Lap Joints with Modified Interface," Compact Disc Proceedings of The ASC 16th Technical Conference, Blacksburg, VA, September 10-12, 2001

### D. RESEARCH POSTERS

- 1. Christopher Hines, "Simulations for Non-Mechanical Stimuli on Compliant Flexible Structures" Undergraduate Summer Research Grant (USRG), Texas A&M University, August 2016
- 2. Lin\*CH and Muliana AH, "Micromechanics Modeling of Piezoelectric Composites" Poster Contest at the meeting of MEEN Engineering Day held by Mechanical Engineering Graduate Student Origanization (MEGSO), TAMU April 5<sup>th</sup> 2014. <u>This poster won third prize</u>.
- 3. Tajeddini\* V, Lin\* CH, Muliana A and Levesque M, "Electro-mechanical Responses of Piezoelectric Composites" Pi Tau Sigma's national convention, TAMU Feb. 21-23, 2014. <u>This poster won poster presentation.</u>

- Pradeep Gudlur\*, "An Experimental and Numerical Study of Thermo-mechanical Properties of Al-Al2O3 Composites at Elevated Temperatures" Women Explore Engineering (WEE) and E12 summer camps, TAMU June 10 and 17, 2013
- 5. Jaehyeuk Jeon\*, "A Viscoelastic-viscoplastic Analysis of FRP Composites" WEE and E12 summer camps, TAMU June 10 and 17, 2013
- 6. Pradeep Gudlur\*, Anastasia Muliana and Miladin Radovic, "Thermo-mechanical Properties of Aluminum-alumina Composites based on their Microstructural Characteristics," Student Research Week, Texas A&M University, March 20th 2012
- 7. Pradeep Gudlur\*, Junwei Xing\*, Anastasia Muliana and Miladin Radovic, "Stress-strain behavior of Al-Al2O3 composites" ASM student night poster presentation, Texas A&M University, November 15th 2012
- 8. Muliana, A. "A Multi-scale Model for Active Composites with Field Coupling and Time Effects" AFOSR Grantees Meeting, August 2011
- 9. Adam Forness\* "Al<sub>2</sub>O<sub>3</sub>-Al Composites at Elevated Temperatures" Undergraduate Summer Research Grant (USRG), Texas A&M University, August 2010. <u>This poster won the second prize.</u>
- Kamran Khan\* and Anastasia Muliana, "Micromechanical Model for Analyzing Heat Conduction and Deformations of Particulate Composites," 3rd ASME Micro and Nanotechnology Society-Wide Forum, Nov, 5, 2008, ASME International Mechanical Congress and Exposition, Boston, MA, Oct 31- Nov 6, 2008. This poster won Second Prize.
- Kamran Khan\* and Anastasia Muliana, "Nonlinear Viscoelastic Model of Adhesive Polymers" Polymer Technology and Industrial Consortium (PTIC) Meeting, Department of Mechanical Engineering, Texas A&M University, November 2-3, 2006
- 12. Aravind Nair\*, Shannon Wagner\*, and Anastasia Muliana, "Time-temperature Behaviors of Multi-layered FRP Composites," Polymer Technology and Industrial Consortium (PTIC) Meeting, Department of Mechanical Engineering, Texas A&M University, November 2-3, 2006
- 13. Kamran Khan\* and Anastasia Muliana, "Nonlinear Viscoelastic Model of Adhesive Polymers" Polymer Technology and Industrial Consortium (PTIC) Meeting, Department of Mechanical Engineering, Texas A&M University, April 21, 2006
- 14. Shannon Wagner\* and Anastasia Muliana, "Time-temperature Behaviors of Multi-layered FRP Composites," Undergraduate Summer Research Grant (USRG), Texas A&M University, August 2005. This poster was also presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS 2005), Atlanta, November 2-5, 2005 and won the best student poster presentation award in the area of Chemical Science.
- Anastasia Muliana and Rami Haj-Ali, "Crack Propagation Failure Analysis in FRP-Retrofitted Concrete Beam," Composite Engineering Research Center (CERC) Meeting, Georgia Institute of Technology, 2000

 Anastasia Muliana and Rami Haj-Ali, "Crack Propagation Failure Analysis of Concrete Beams Strengthened with Polymer Composites," Mid-American Earthquake Center (MAEC) Meeting, Georgia Institute of Technology, 2000

### **SERVICE**

#### A. PROFESSIONAL SERVICE

- SPIE Smart Structures + Nondestructive Evaluation Meeting, Symposium Co-chair, Fall 2019-Summer 2021
- 2. Chair of SPIE (Society of Photo-Optical Instrumentation Engineers) Smart Materials and Structures Award Committee, Chair, Fall 2019-present
- 3. Vice Chair of Applied Mechanics Division (AMD) Composites, American Society of Mechanical Engineering (ASME), 2017-2019.
- 4. Chair of Applied Mechanics Division (AMD) Composites, American Society of Mechanical Engineering (ASME), 2019-
- 5. Editorial board Composite Structures, 2016-present
- 6. Associate Editor, ASME J. Engineering Materials and Technology, Spring 2018-
- 7. Symposium organizer: "Multi-Field Studies in Heterogeneous Materials: Experimental, Theoretical and Numerical Approaches" ASME International Mechanical Congress and Exposition, Tampa, FL 2017, co-organizers: Valeria La Saponara (UC Davis), Arun Srinivasa (TAMU)
- 8. Symposium organizer: "Multi-Field Studies in Heterogeneous Materials: Experimental, Theoretical and Numerical Approaches" ASME International Mechanical Congress and Exposition, Phoenix, AZ 2016, co-organizers: Valeria La Saponara (UC Davis), Rani Elhajjar (U. Wisconsin Milwaukee), Arun Srinivasa (TAMU)
- Symposium organizer: "Time-dependent Materials and Their Composites: Experimental, Theoretical and Numerical Studies" ASME International Mechanical Congress and Exposition, Phoenix, AZ 2016, co organizers: Ioannis Chasiotis (UIUC), Daniel Tscharnuter (Polymer Competence Center Leoben GmbH, Austria)
- 10. Poster Track Organizer, ASME International Mechanical Congress and Exposition, Houston TX 2015, co-organizers: Wahyu Lestari (Embry Riddle College)
- 11. Symposium organizer: "Multi-Field Studies in Heterogeneous Materials: Experimental, Theoretical and Numerical Approaches" ASME International Mechanical Congress and Exposition, Houston TX 2015, co-organizers: Valeria La Saponara (UC Davis), Rani Elhajjar (U. Wisconsin Milwaukee), Arun Srinivasa (TAMU)

- 12. Symposium organizer: "Time-dependent Materials and Their Composites: Experimental, Theoretical and Numerical Studies" ASME International Mechanical Congress and Exposition, Houston TX 2015, co organizers: Ioannis Chasiotis (UIUC), Daniel Tscharnuter (Polymer Competence Center Leoben GmbH, Austria)
- 13. Local organizer, Society of Engineering Science (SES) meeting, Texas A&M University, College Station, Texas, October 2015
- 14. Student Poster Symposium organizer, Society of Engineering Science (SES) meeting, Texas A&M University, College Station, Texas, October 2015; co organizers: Zach Graesly (TAMU), Zoya Heidari (UT Austin)
- 15. Symposium organizer: "Multifunctional Materials and Structures" Society Engineering Science (SES) Annual Technical Meeting, Purdue University in West Lafayette, IN on October 1-3, 2014, with Arun Srinivasa (TAMU)
- 16. Symposium organizer: "Multi-Field Studies in Heterogeneous Materials: Experimental, Theoretical and Numerical Approaches" ASME International Mechanical Congress and Exposition, Montreal, Canada 2014, co-organizers: Valeria La Saponara (UC Davis), Rani Elhajjar (U. Wisconsin Milwaukee), Arun Srinivasa (TAMU),
- 17. Symposium organizer: "Time-dependent Materials and Their Composites: Experimental, Theoretical and Numerical Studies" ASME International Mechanical Congress and Exposition, Montreal, Canada 2014, co organizers: Ioannis Chasiotis (UIUC), Martin Lévesque (Ecole Polytechnique de Montreal, Canada), Daniel Tscharnuter (Polymer Competence Center Leoben GmbH, Austria)
- 18. Track organizer: "Virtual Podium" ASME International Mechanical Congress and Exposition, Montreal, CA 2014 with Valeria La Saponara (UC Davis)
- 19. Workshop organizer: "Durability of Polymers and Polymeric Composites: Current Challenges and Future Prospects", March 6<sup>th</sup>-7<sup>th</sup>, 2013 at the Hyatt Hotel, Monterey, CA, USA. Sponsored by NSF; co-organizer Valeria La Saponara (UC Davis)
- 20. Track organizer: "Virtual Podium" ASME International Mechanical Congress and Exposition, San Diego, CA 2013 with Valeria La Saponara (UC Davis)
- 21. Symposium organizer: "Response of Heterogeneous Materials: Multi-field response and time effect" PACAM XII Conference, Houston Texas, May 2013 with Arun Srinivasa and KR Rajagopal (TAMU)
- 22. Symposium organizer: "Multi-Field Studies in Heterogeneous Materials: Experimental, Theoretical and Numerical Approaches," ASME International Mechanical Congress and Exposition, San Diego, CA 2013 with Rani El-Hajjar (UW Milwaukee) and Valeria La Saponara (UC Davis)
- 23. Symposium organizer: "Modeling in Composites with Coupled Mechanical and Non-mechanical Effect," ASME International Mechanical Congress and Exposition, Houston, Texas 2012 with Rani El-Hajjar (UW Milwaukee) and Valeria La Saponara (UC Davis)
- 24. Committee of Visitor (COV) NSF Advanced, Engineering Division, June 2011

- 25. Symposium organizer: "Modeling in Composites with Coupled Mechanical and Non-mechanical Effect," ASME International Mechanical Congress and Exposition, Denver, Colorado 2011, with V. La Saponara, UC Davis and Vikas Tomar, Purdue University, and Rani El-Hajjar, University of Wisconsin Milwaukee
- 26. Symposium organizer: "*Time-dependent Response of Composites*," The second joint US/Canada conference on composites, 26th ASC and 8th CANCOM, Montreal, Canada, September 26-28 2011, with Martin Levesque, Ecole Polytechnique de Montreal.
- 27. Symposium organizer: "Multi-scale Modeling in Composites with Coupled Mechanical and Non-mechanical Effect," ASME International Mechanical Congress and Exposition, Vancouver, Canada, 2010, with V. La Saponara, UC Davis and Vikas Tomar, Purdue University, and Rani El-Hajjar, University of Wisconsin Milwaukee
- 28. Guess editor, special issue publication "Computational Methods in Composite Materials and Structures", International Journal for Multiscale Computational Engineering 2009, with Marcin Kaminski, Tech. University of Lodz, Poland.
- 29. Symposium organizer: "Multi-scale Thermo-mechanical Analyses in Materials," 8th International Congress on Thermal Stress, Urbana Champaign, Illinois, June 1-4, 2009, with Vikas Tomar, University of Notre Dame.
- 30. Symposium organizer: "Mechanics of Composites with Coupled Mechanical and Non-mechanical Effect," ASME International Mechanical Congress and Exposition, Orlando, FL, 2009, with V. La Saponara, UC Davis and Vikas Tomar, University of Notre Dame.
- 31. Symposium organizer: "Mechanics of Composites with Coupled Mechanical and Non-mechanical Effect," ASME International Mechanical Congress and Exposition, Boston, MA, Oct 31- Nov 6, 2008, with V. La Saponara, UC Davis.
- 32. Minisymposium organizer: "Computational Methods in Composite Materials and Structures," for the 8th World Congress on Computational Mechanics (WCCM VIII) and the 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS-5), Venice, Italy, 2008, with R. Haj-Ali, Georgia Tech and Marcin Kaminski, Tech. University of Lodz, Poland.
- 33. Minisymposium organizer and session chair: "Nested Nonlinear Micromechanical and Structural Models," for the 7th World Congress on Computational Mechanics (WCCM VII) Conference, Los Angeles, LA, July, 16-22, 2006, with R. Haj-Ali, Georgia Tech and JN Reddy, Texas A&M.
- 34. Committee of Applied Mechanics Division (AMD) Composites, American Society of Mechanical Engineering (ASME), 2006-present.
- 35. Committee of Materials Division (AMD) Composites, American Society of Mechanical Engineering (ASME), 2006-present
- 36. Committee of Applied Mechanics Division (AMD) Soft Materials, American Society of Mechanical Engineering (ASME), 2013-present

37. Judge for Senior Engineering Project on the International Sustainable World (Energy, Engineering, Environment) Project Olympiad, Houston, Texas, May 3-4, 2008. There were over than 800 participants from 51 countries and 38 states.

#### **B. UNIVERSITY AND COMMUNITY SERVICE**

- 1. PhD committee for (> 40 students)
- 2. PhD Qualifying exam committee, Design and Solid Mechanics: Spring (2005, 2006, 2009, 2010), Fall (2005, 2006, 2007, 2008), Solid Mechanics: Fall 2010, 2011, 2012, Spring 2011, 2013
- 3. Master of Science committee for (>30 students)
- 4. Faculty search committee Department of Mechanical Engineering, Texas A&M University:

Computational Mechanics: 2006, 2007, 2008

Experimental Mechanics: 2009 Energy Systems: 2008-2009 Mechanics: 2010, 2011-2012 Department Head: 2011-2012

Mechanics, Designs and Others: 2012-2013

Mechanobiology, Energy, Robotics and Manufacturing: 2014-2015

Mechanics of Materials, 2016-

- 5. Seminar committee (MEEN 681), Department of Mechanical Engineering Texas A&M University, Spring 2007
- 6. Graduate Studies Committee, Department of Mechanical Engineering, Texas A&M University, 2007, 2008, 2009, 2011, 2012, 2013, 2017
- 7. Honors and Awards Committee, Department of Mechanical Engineering, Texas A&M University 2011-2012
- 8. Climate Ad-hoc Committee, Department of Mechanical Engineering, Texas A&M University, 2012-2015
- 9. Tenure and Promotion, Department of Mechanical Engineering, Texas A&M University, 2013-2015, 2017-2019
- 10. Faculty Mentoring Committee, Department of Mechanical Engineering, Texas A&M University, 2014-
- 11. Strategic Planning Committee, Department of Mechanical Engineering, Texas A&M University, 2016
- 12. Faculty Advisory Committee, Department of Mechanical Engineering, Texas A&M University, 2016-present, Chair in 2018-2019
- 13. Academic Program Review (Chair), Department of Mechanical Engineering, Texas A&M University, 2019-2020

- 13. Subcommittee on Graduate Academic Experience, College of Engineering, Texas A&M University, 2012
- 14. Honors and Awards Committee, College of Engineering, Texas A&M University, 2012-2014
- 15. High Performance Computing Committee, College of Engineering, Texas A&M University, 2013
- 16. Graduate Enhancement Fee Ad-hoc Committee, College of Engineering, TAMU 2017-2019
- 17. Faculty Ombudsperson, College of Engineering, TAMU, 2019-
- 18. Faculty advisor, Indonesian Student Association, Texas A&M University, 2004-2013

## C. REVIEW JOURNALS/BOOK CHAPTERS/CONFERENCE PAPERS/PROJECT PROPOSALS

- Acta Biomaterialia, Acta Mechanica, AIAA Journal, Annals of Biomedical Engineering, Applied Composite Materials, Applied Mathematical Modeling, Applied Mathematics and Computation, ASCE Journal of Engineering Mechanics, ASCE Journal of Materials in Civil Engineering, ASCE Journal of Composites for Constructions, ASME, Journal of Applied Mechanics, ASME, Journal of Engineering Materials Technology, Composite A, Composite B, Composite Science and Technology, Composite Structures, Computational Material Science, Computer Methods in Applied Mechanics and Engr., Corrosion Science, Engineering Fracture Mechanics, eXPRESS Polymer Letters, Engineering Structures, Engineering Computation, European J. Mechanics A, Finite Element in Analyses and Design, International Journal for Multiscale Computational Engineering, International Journal of Computational Methods in Engineering Science and Mechanics, International Journal of Engineering Science, International Journal of Solids and Structures, International Journal of Mechanical Science, International Journal of Numerical Methods in Engineering, Journal of Composite Materials, Journal of Material Science and Technology, Journal of Mechanics and Physics of Solids, Journal of Mechanics of Materials and Structures, Journal of Intelligent Material Systems and Structures, Journal of Polymer Engineering, Journal of Reinforced Plastic and Composites, Journal of Sandwich Structures and Materials, Material Science and Engineering A, Mathematical Problems in Engineering, Mathematics and Mechanics of Solids, Mechanics Research Communications, Mechanics of Materials (MOM), Mechanics of Time-dependent Materials, Mechanics of Advanced Materials and Structures, Polymers, Sensors & Actuators: A. Physical, Structural Engineering and Mechanics, An International Journal, Thin Solid Film,
- NSF, Technology Foundation STW, The Netherlands, Luxemburg National Research Fund (FNR)
  joint US-European materials research, Air Force Office of Scientific Research (AFOSR), Army
  Research Office (ARO), US-Israel Binational Science Foundation.

### **COLLABORATIONS**

- Dr. Chandler Benjamin, Assistant Professor, Texas A&M University
- Dr. Andrea Bonito, Professor at Texas A&M University
- Dr. Theodora Chaspari, Assistant Professor, Texas A&M University
- Dr. Andreas Echtermeyer, Professor at Norwegian University of Science and Technology
- Dr. Rani El-Hajjar, Associate Professor, University of Wisconsin, Milwaukee

- Dr. Scott Finlayson, Associate Professor at Texas A&M University
- Dr. Alan Freed, Professor, Texas A&M University
- Dr. Stefano Gonella, Associate Professor, University of Minnesota
- Dr. Youngjib Ham, Assistant Professor, Texas A&M University
- Dr. Negar Kalantar, Assistant Professor, Texas A&M University
- Dr. Jun Kameoka, Professor at Texas A&M University
- Dr. Maria Koliou, Assistant Professor, Texas A&M University
- Dr. Valeria La-Saponara, Associate Professor at University of California at Davis
- Dr. Martin Levesque, Professor at Ecole Polytechnique de Montreal
- Dr. Hong Liang, Professor at Texas A&M University
- Dr. Matthias Morak, Polymer Competence Center Leoben GmbH, Austria
- Dr. Michael Moreno, Assistant Professor at Texas A&M University
- Dr. Ricardo Nochetto, Professor, University of Maryland
- Dr. Zoubeida Ounaies, Professor at Penn State University
- Dr. Anthony Palazotto, Distinguished Professor at Air Force Institute of Technology
- Dr. Matt Pharr, Assistant Professor, Texas A&M University
- Dr. Gerald Pinter, Professor, Montan Universitat Austria
- Dr. Miladin Radovic, Associate Professor at Texas A&M University
- Dr. K.R. Rajagopal, Distinguished Professor at Texas A&M University
- Dr. JN Reddy, Distinguished Professor at Texas A&M University
- Dr. William Rooney, Professor at Texas A&M University
- Dr. HJ Sue, Professor at Texas A&M University
- Dr. Daniel Tscharnuter, Polymer Competence Center Leoben GmbH, Austria
- Dr. Alan Wineman, Professor, University of Michigan Ann Arbor