Dr. Arturo H. Montoya
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A. Educational Background

5/2012	Ph.D.	**Columbia University**, New York, NY, Civil Engineering and Engineering Mechanics, Dissertation title: "A New Methodology to Estimate the Reliability and Safety of Suspension Bridge Cables", supervised by Dr. Haim Waisman
10/2010	M.Phil.	**Columbia University**, New York, NY, Civil Engineering and Engineering Mechanics.
5/2008	M.S.	**Columbia University**, New York, NY, Civil Engineering and Engineering Mechanics, concentration: Structural Engineering.
5/2007	B.S.	**Columbia University** (New York, NY) **and St. Lawrence University** (Canton, NY), Dual Joint Program: Civil Engineering and Physics.

B. Professional Employment History

9/2018- Present **Associate Professor**, Dual Appointment: Departments of Civil and Environmental Engineering and Mechanical Engineering, The University of Texas at San Antonio

- Conducting engineering research projects funded by state (e.g. Texas Department of Transportation), federal agencies (e.g. Nuclear Regulatory Commission, etc.), and private industry (e.g. CPS Energy).
- Writing research proposals to advance knowledge in engineering.
- Teaching undergraduate and graduate courses in the Civil and Mechanical Engineering Departments (e.g. Advanced Steel Design, Introduction to Timber and Masonry Design, Senior Design, Finite Element Analysis, etc.).
- Supervising MS and PhD students.
- Serving on internal and external educational and research committees.

8/2012-Present **Assistant Professor**, Dual Appointment: Departments of Civil and Environmental Engineering and Mechanical Engineering, The University of Texas at San Antonio

- Computational modeling in civil engineering applications (e.g. bridges, pavements, etc.).

- Developed novel computational tools for solid mechanics and fracture problems.
- Studied the deterioration of materials under corrosive environments.
- Taught undergraduate and graduate courses in the Civil and Mechanical Engineering Departments (e.g. Solid Mechanics, Advanced Steel Design, Introduction to Timber and Masonry Design, Senior Design, Finite Element Analysis, etc.).
- Advised and supervised undergraduate and graduate students
- Served on internal and external educational and research committees

5/2010-5/2012 **Research Assistant,** Department of Civil Engineering and Engineering Mechanics, Columbia University, New York, NY.

- Developed an analytical/computational approach for solving contact problems in large-scale FEM models.
- Developed a multi-scale finite element model for predicting the load that will drive a main suspension bridge cable to failure due to corrosion in its wires.
- Contributed to the development of a corrosion monitoring system for suspension bridge cables on a project sponsored by the Federal Highway Administration.

8/2007-5/2010 **Teaching Assistant**, Department of Civil Engineering and Engineering Mechanics, Columbia University, New York, NY.

- Graduate and Undergraduate courses, including Finite Element Analysis, Uncertainty and Risk in Civil Engineering, and Fluid Mechanics. Duties included conducting office hours, substitute recitations, holding problem-solving sessions, preparing class notes, elaborating homework assignments and solutions, grading, preparing laboratory procedures and teaching laboratory sessions.

6/2006-8/2006 **Intern**, Mueser Rutledge Consulting Engineers, New York, NY

- Office duties, subsurface investigation, foundation design, laboratory testing, and construction inspection.

C. <u>Awards and Honors</u>

9/2019 ***Assistant-Associate Dean's Fellow in Graduate Studies***, nominated and selected to participate in a program designed to develop the future leaders of the College of Engineering at UTSA through participation experience.

5/2019 ***Annual Research Expenditures exceeding $250K in 2018***, Plaque Recognition received at the Spring Faculty Forum of the College of Engineering.

2015-2019 ***College of Engineering Faculty Travel Award,*** to present research findings in national and international conferences.

4/2018 ***NHERI SimCenter Travel Assistantship,*** to attend the 2018 NHERI SimCenter user Workshop at UC Berkeley.

7/2019 ***Cement Council of Texas Travel Assistantship,*** to attend the 2017 Portland Cement Association (PCA) Professor's Workshop.

3/2015 ***ASCE ExCEEd Fellowship Recipient,*** selected and provided assistantship

	to participate in the 2015 ASCE ExCEEd Teaching Workshop to develop teaching skills.
7/2014	***Abe M. Zarem Educator Award***, American Institute of Aeronautics and Astronautics, recognizes the advisor of a graduate student who shows technical excellence in the contributions to the air and space communities.
4/2014	***Second Place, Graduate Technical Paper Division***, Armando Gomez-Farias (A. Montoya- advisor), American Institute of Aeronautics and Astronautics Region IV Student Paper Conference, Albuquerque, New Mexico
6/2013	**Top 3 Papers in ASCE Workshop**, selected as one top 3 papers in the track of Resilience and Smart Structures at the 2013 ASCE International Workshop on Computing in Civil Engineering and given the privilege to present at the general session.
5/2012	***The Mindlin Scholar in Civil Engineering & Engineering Mechanics***, Department of Civil Engineering and Engineering Mechanics at Columbia University in recognition of outstanding promise of a creative career in research and/or practice
6/2011	***Finalist, Best Student Paper in Computational Mechanics Competition***, "A Simplified Contact-Friction Approach for Modeling the Deterioration Mechanism of Suspension Bridge Cables due to Corrosion in its Wires", Engineering Mechanics Institute Conference- Boston
6/2011	***Finalist Poster, Best Student Research Poster Competition***, Engineering Mechanics Institute Conference- Boston, June 2011.
6/2010	***Travel Student Award***, to attend the 16th US National Congress of Theoretical and Applied Mechanics Conference, State College, PA
5/2007	***Henry L. Michel Award in Civil Engineering***, given by the Department of Civil Engineering and Engineering Mechanics at Columbia University for demonstration of outstanding promise of leadership and professional achievement in civil and construction engineering
5/2005	***Outstanding Beginning Student Prize,*** awarded by the department of Modern Languages and Literature of St. Lawrence University for being the best student learning a new language (Italian)
4/2004	***The Priest Scholarship Award,*** awarded by the Dean's Office of St. Lawrence University to acknowledge the sophomore man with the highest academic record, Canton, NY

D. Research/Scholarly/Creative (Activities Summary)

Published Journal Articles-Peer Reviewed

1. Nasouri, R., A. Matamoros, **A. Montoya**, and F. Testik. Vulnerability of Coastal Bridges under Extreme Hurricane Conditions. *Bridge Structures*, In Press, 2019. https://doi.org/10.3233/BRS-190158

2. Aguirre-Mesa, A., D. Ramirez-Tamayo, M. Garcia, **A. Montoya**, and H. Millwater. A Stiffness Derivative Local Hypercomplex-Variable Finite Element Method for Computing of the Energy Release Rate. *Engineering Fracture Mechanics*, In Press, 2019. https://doi.org/10.1016/j.engfracmech.2019.106581

3. Nasouri, R., K. Nguyen, **A. Montoya**, A. Matamoros, C. Bennett, and J. Li. Thermally-Induced Demands due to Hot Dip Galvanization of High Mast Illumination Poles. Part I: Finite Element Model Development, *Journal of Constructional Steel Research*, 162:1-14, 2019. https://doi.org/10.1016/j.jcsr.2019.105705

4. Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya**. Galvanizing-Induced Distortion in Steel Plate Girders, Part II: Effects of Welding and Galvanizing Practices. *Journal of Bridge Engineering*, In Press, 2019. https://doi.org/10.1061/(ASCE)BE.1943-5592.0001444

5. Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya**. Galvanizing-Induced Distortion in Steel Plate Girders, Part I: Effects of Girder Geometry. *Journal of Bridge Engineering*, In Press, 2019. https://doi.org/10.1061/(ASCE)BE.1943-5592.0001445

6. Aristizabal, M, D. Ramirez-Tamayo, M. Garcia, A. Aguirre-Mesa, **A. Montoya**, and H. Millwater. Quaternion and Octonion-based Finite Element Analysis Methods for Computing First Order Derivatives. *Journal of Computational Physics*, In Press, 2019. https://doi.org/10.1016/j.jcp.2019.07.030

7. Wagner, D., M. Garcia, **A. Montoya**, and H. Millwater. A Finite Element-based Adaptive Energy Response Function Method for Curvilinear Progressive Fracture. *International Journal of Fatigue*, 127: 229-245, 2019. https://doi.org/10.1016/j.ijfatigue.2019.05.036

8. Fielder, R., H. Millwater, **A. Montoya** and P. Golden. Efficient Estimate of Residual Stress Variance Using Complex Variable Finite Element Methods. *International Journal of Pressure Vessels and Piping*, 173:101-113, 2019. https://doi.org/10.1016/j.ijpvp.2019.05.004

9. Gholikhani, M., R. Nasouri, S. Tahami, S. Legette, S. Dessouky, and **A. Montoya**. Harvesting Kinetic Energy from Roadway Pavement through an Electromagnetic Speed Bump. *Journal of Applied Energy*, 250: 503-511, 2019. https://doi.org/10.1016/j.apenergy.2019.05.060

10. Nasouri, R., K. Nguyen, **A. Montoya**, A. Matamoros, C. Bennett, and J. Li. Thermally-Induced Demands due to Hot Dip Galvanization of High Mast Illumination Poles. Part II: Effects of Geometrical Properties and Galvanizing Practices. *Journal of Constructional Steel Research*, 159:584-597, 2019. https://doi.org/10.1016/j.jcsr.2019.05.010

11. **Montoya**, **A.**, D. Ramirez, H. Millwater, and M. Kirby. A Complex-Variable Virtual Crack Extension Finite Element Method for Elastic-Plastic Fracture Mechanics. *Engineering Fracture Mechanics*, 202:242-258, 2018. https://doi.org/10.1016/j.engfracmech.2018.09.023

12. Ramirez Tamayo, D., **A. Montoya,** and H. Millwater. Application of the Complex-variable Finite Element Method to Mixed Mode Fracture and Interface Cracks. *AIAA Journal*, 56(11):4632-4637, 2018. https://doi.org/10.2514/1.J057231

13. Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya**. Thermomechanical Modeling of Welding and Galvanizing a Steel Beam Connection Detail to Examine Susceptibility to Cracking. *Materials Performance and Characterization*, *ISSN* 2739-1365, 2018. https://doi.org/10.1520/MPC20170115

14. Ramirez, D., **A. Montoya** and H. Millwater. A Virtual Crack Extension Method for thermoelastic fracture using a complex-variable finite element method. *Engineering Fracture Mechanics.* 192:328-342, 2018. https://doi.org/10.1016/j.engfracmech.2017.12.013

15. Fielder, R., **A. Montoya**, H. Millwater and P. Golden. Residual Stress Sensitivity Analysis Using a Complex Variable Finite Element Method. *International Journal of Mechanical Sciences*, 133, 2017. http://doi.org/10.1016/j.ijmecsci.2017.08.035

16. Roshani, H., P. Jagtap, S. Dessouky, **A. Montoya** and A.T. Papagiannakis. Theoretical and Experimental Evaluation of Two Roadway Piezoelectric-Base Harvesting Prototypes. *ASCE Journal of Materials in Civil* Engineering. 2017. http://dx.doi.org/10.1061/(ASCE)MT.1943-5533.0002112

17. Papagiannakis, A.T., **A. Montoya**, S. Dessouky, J. Helffrich. Development and Evaluation of Piezoelectric Prototypes for Roadway Energy Harvesting. *ASCE Journal of Energy Engineering*, 143(5), 2017. http://dx.doi.org/10.1061/(ASCE)EY.1943-7897.0000467

18. Roshani, H., S. Dessouky, A. T. Papagiannakis, and **A. Montoya**. Experimental and Finite Element Assessment of Three Energy Harvesting Prototypes for Roadways. *Journal of Innovative Infrastructure Solutions*, 2(1):7, 2017. http://dx.doi.org/10.1007/s41062-017-0055-x

19. **Montoya, A.** and H. Millwater. Sensitivity Analysis in Thermoelastic Problems Using the Complex Finite Element Method. *Journal of Thermal Stresses*. 40(3): 302-321, 2017. http://dx.doi.org/10.1080/01495739.2016.1264871

20. Papagiannakis, A.T, S. Dessouky, **A. Montoya** and H. Roshani. Energy Harvesting for Roadways. *Procedia Computer Science*, 83:758-765, 2016. http://dx.doi.org/10.1016/j.procs.2016.04.164

21. Roshani, H., S. Dessouky, **A. Montoya** and A.T. Papagiannakis. Energy Harvesting from Asphalt Pavement Roadways Vehicle-Induced Stresses: A Feasibility Study. *Applied Energy*, 182:210-218, 2016. http://dx.doi.org/10.1016/j.apenergy.2016.08.116

22. Millwater, H., D. Wagner, A. Baines and **A. Montoya**. A Virtual Crack Extension Method to Compute Energy Release Rates Using a Complex Variable Finite Element Method. *Engineering Fracture Mechanics*, 162:95-111, 2016. http://dx.doi.org/10.1016/j.engfracmech.2016.04.002

23. Gomez-Farias, A., **A. Montoya** and H. Millwater. Complex Finite Element Sensitivity Method for Creep Analysis. *International Journal of Pressure Vessels and Piping*, 132-133:27-42, 2015. http://dx.doi.org/10.1016/j.ijpvp.2015.05.006

24. Montoya, A., R. Fielder, A. Gomez-Farias and H. Millwater. Finite-Element Sensitivity for Plasticity Using Complex Variable Methods. *ASCE Journal of Engineering Mechanics*, 141(2):04014118, 2014. http://dx.doi.org/10.1061/(ASCE)EM.1943-7889.0000837

25. Montoya, A., G. Deodatis, R. Betti and H. Waisman. Physics-Based Stochastic Model to Determine the Failure Load of Suspension Bridge Cables. J*ournal of Computing in Civil Engineering*, 29(4): B4014002, 2014. http://dx.doi.org/10.1061/(ASCE)CP.1943-5487.0000393

26. Montoya, A., H. Waisman and R. Betti. A Simplified Contact-Friction Methodology for Modeling Wire Breaks in Parallel Wire Strands. *Computers & Structures*, 100-101:39-53, 2012. http://dx.doi.org/10.1016/j.compstruc.2012.03.003

27. Waisman, H, **A. Montoya**, R. Betti and I.C. Noyan. Load Transfer and Recovery Length in Parallel Wires of Suspension Bridge Cables. *ASCE Journal of Engineering Mechanics*, 137(4):227-237, 2011. http://dx.doi.org/10.1061/(ASCE)EM.1943-7889.0000220

Published Conference Proceedings-Peer Reviewed

1. Nasouri, R., A. Shahriar, A. Matamoros, **A. Montoya** and F. Testik. Evaluating the Hydrodynamic Response of Coastal Bridges during an Extreme Weather Event. *2019 Tran-SET Conference Proceedings.* https://www.matec-conferences.org/articles/matecconf/pdf/2019/20/matecconf_tran-set2019_01002.pdf

2. Ramirez, D., **A. Montoya** and H. Millwater. A New Complex-valued Thermal Fracture Approach for Evaluating the Structural Integrity of Aircraft Structures. AIAA/ASCE/AHS/ASC Structures, *Structural Dynamics, and Materials Conference, AIAA SciTech Forum, (AIAA 2018-0649)*, 2018. https://doi.org/10.2514/6.2018-0649

3. Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li, and **A. Montoya**. Distortion of Steel Plate Girders due to Hot-Dip Galvanizing. *World Steel Bridge Symposium*, 1-15, 2018. https://www.aisc.org/globalassets/nsba/conference-proceedings/2018/2018-wsbs-final-paper---bennett.pdf

4. Nasouri, R, K. Nguyen, **A. Montoya**, A. Matamoros, C. Bennett., and J. Effect of Geometric Configuration on High-Mast Illumination Pole Demands During Galvanizing Process. *Intergalva Conference Proceedings- Berlin, Germany*, 2018. In Press.

5. Roshani, H., S. Dessouky, **A. Montoya,** A.T. Papagiannakis, A. Abbas. Development and Finite Element Analysis of Piezoelectric-Based Prototypes for Harvesting Energy from Roadway Pavement. *Advancement in the Design and Performance of Sustainable Asphalt Pavements. GeoMEast 2017. Sustainable Civil Infrastructures,* 1-13, 2017. https://doi.org/10.1007/978-3-319-61908-8_1

6. Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya.** Sensitivity of Predicted Temperature in a Fillet Weld T-Joint to Parameters Used in Welding Simulation with Prescribed Temperature Approach. *SIMULIA Conference Science in the Age of Experience* 2017. https://www.3ds.com/fileadmin/PRODUCTS/SIMULIA/PDF/scc-papers/2017/temperature-fillet-weld-t-joint-univkansas-nguyen.pdf

7. Roshani, H., S. Dessouky, A.T. Papagiannakis, **A. Montoya,** Feasibility Study on Harvesting Energy from Roadway Infrastructure. *ASCE Geo-Chicago 2016*, 588-597, 2016. http://dx.doi.org/10.1061/9780784480137.056

8. Gomez-Farias, A. and **A. Montoya**. "A Novel Finite Element Sensitivity for Plasticity." *International Astronautical Congress, Toronto, Canada*, 2014. http://www.academia.edu/9232156/A_NOVEL_FINITE_ELEMENT_SENSITIVITY_METHOD_FOR_PLASTICITY

9. **Montoya, A**. and H. Ling. "Experimental Tests on Geocell Reinforced Nevada Sand." *Design and Practice of Geosynthetic Reinforced Soil Structures* 369-376, 2013. http://www.destechpub.com/product/design-and-practice-of-geosynthetic-reinforced-soil-structures/

10. **Montoya, A.,** Betti, R., Deodatis, G. and Waisman, H. "A Stochastic Finite Element

Approach to Determine the Safety of Suspension Bridge Main Cables." *ASCE-International Workshop on Computing in Civil Engineering Proceedings,* pp 1-8, 2013. http://ascelibrary.org/doi/pdf/10.1061/9780784413029.001

Professional Reports

1. Matamoros, A, F. Testik, R. Nasouri, and **A. Montoya**. Coastal Bridges under Hurricane Stresses along the Texas and Louisiana Coast. Project No. 17STTSA02. LSU Digital commons, Publication 29. https://digitalcommons.lsu.edu/transet_pubs/29

2. Dessouky, S., R. Guo, **A. Montoya**, L. Walubita, J. Helffrich, A.T. Papagiannakis and A. Bhalla. Phase 1: Development of Highway Sensing and Energy Conversion (HiSEC) Modules for Generation Power. FHWA/TX-16/0-6871-1. http://library.ctr.utexas.edu/Presto/content/Detail.aspx?ctID=M2UxNzg5YmEtYzMyZS00ZjBlLWIyODctYzljMzQ3ZmVmOWFl&rID=MzU5&sID=MQ==&qrs=VHJ1ZQ==&q=KCop&qcf=M2UxNzg5YmEtYzMyZS00ZjBlLWIyODctYzljMzQ3ZmVmOWFl

Professional Magazine

1. **Montoya, A.,** Betti, R., Deodatis, G. and Waisman, H. (2014). "A Stochastic Finite Element Approach to Determine the Safety of Suspension Bridge Main Cables." *The Structural Engineer. Journal of the Structural Engineers Association of Texas*, pp. 11-22.

Journal Article- Currently under Peer Review

1. **Montoya, A,** P. Jagtap, A.T.Papagiannakis, S. Dessouky, and L. Walubita. A Numerical Study on the Design and Installation of Energy Harvesting Modules Embedded within a Flexible Pavement Structure. *Submitted to the Journal of Transportation Engineering: Part B on 7/2019.*

Professional Reports under Peer Review

1. **Montoya, A,** A. Matamoros, A, F. Testik, R. Nasouri, A. Shariar and A. Majlesi. Structural Vulnerability of Coastal Bridges under Extreme Hurricane Conditions. Project No. 17STTSA04.

Journals under Preparation

1. Nasouri, R., K. Nguyen, A. Matamoros, **A. Montoya**, C. Bennett, and J. Li. Effect of Connection Configuration, Ring Stiffeners, and Pre-heating on High Mast Illumination Pole Demand during Galvanizing. *Journal of Constructional Steel Research.* 95% completed.

2. Simmons, G., C. Bennett, R. Gonzales, B. Ravaji, **A. Montoya** and A. Matamoros.

Improving the Fatigue Performance of Drilled Holes in Steel Bridges through the Use of Mechanical Treatments. *Structure and Infrastructure Engineering: Maintenance, Management, Life-Cycle Design, and Performance,* Status: 98% completed.

3. Gholikhani, M., R. Nasouri, S. Tahami, S. Legette, S. Dessouky, and **A. Montoya**. Comprehensive Study of an Electromagnetic Energy Harvesting Device in Roadway Pavements. *Journal of Applied Energy,* Status: 90% completed.

4. **Montoya**, A., M. Abrar, H. Eslami, and H. Millwater. A Complex-Variable Sensitivity Analysis for Large Deformation Problems. *To be submitted to Engineering Fracture Mechanics*. Status: 50% completed.

Book under Preparation

1. Millwater, H., **A. Montoya**, M. Garcia. "Introduction to the Complex Finite Element Method for First Order Sensitivity Analysis-with source code Examples and Abaqus User Elements"-30% completed.

E. <u>Scholarly Presentations</u>

Oral Presentations- Refereed

Montoya, A. (Author& Presenter), H. Millwater, R. Fielder, and P. Golden. "An Efficient Hypercomplex Finite Element Method for Progressive Fracture", Engineering Mechanics Institute, Pasadena, CA. (June 19, 2019)

Montoya, A. (Author& Presenter), H. Millwater, R. Fielder, and P. Golden. "Fracture Mechanics Analysis of Cracked Structures with Residual Stress Fields Using the Hypercomplex Variable Finite Element Method", Engineering Mechanics Institute, Pasadena, CA. (June 19, 2019)

Nasouri, R., A. Shariar, A., A. Matamoros, **A. Montoya** (Author), and F. Testik. "Evaluating the Hydrodynamic Response of Coastal Bridges during an Extreme Weather Event", 2019 Tran-SET Conference, San Antonio, TX. (April 11, 2019)

Ramirez, D., H. Millwater, and **A. Montoya** (Author), "A Multicomplex Finite Element Approach for Curvilinear Progressive Fracture", World Congress of Computational Mechanics, New York, NY. (July 26, 2018)

Montoya, A. (Author & Presenter), R. Fielder, and H. Millwater, "A Complex Variable Finite Element-Based Approach for Rapid Estimates of Residual Stress Variance", World Congress of Computational Mechanics, New York, NY. (July 25, 2018)

Montoya, A. (Author& Presenter), H. Millwater, R. Fielder, and P. Golden. "Efficient Hypercomplex Finite Element Method for Rapid Uncertainty Quantification in Manufacturing Processes", Engineering Mechanics Institute, Boston, MA. (June 1, 2018)

Ramirez, D., **A. Montoya** (Author), and H. Millwater, "A Multicomplex Finite Element Approach for Thermoelastic Curvilinear Progressive Fracture", Engineering Mechanics Institute, Boston, MA. (May 29, 2018)

Ramirez, D., **A. Montoya** (Author), H. Millwater, "A Multicomplex Finite Element Approach for Thermoelastic Curvilinear Progressive Fracture", Engineering Mechanics Institute, Boston, MA. (May 29, 2018)

Nasouri, R., **A. Montoya** (Author), A. Matamoros, C. Bennett, K. Nguyen and J. Li, "Effect of Geometric Configuration on High Mast Illumination Pole Demands During Galvanizing Procedures", Intergalva Conference, Berlin, Germany. (June 19, 2018)

Nasouri, R., **A. Montoya** (Author), A. Matamoros, C. Bennett, K. Nguyen and J. Li, "Numerical Simulation of Induced Stresses and Strain in the Galvanizing Process of High Mast Illumination Poles", Engineering Mechanics Institute Conference (EMI 2017), San Diego, CA. (June 6, 2017)

Montoya, A. (Author & Presenter), D. Ramirez and H. Millwater. "A Complex Valued Finite Element Method to Compute the Energy Release Rate in Thermoelastic Problems", Engineering Mechanics Institute Conference (EMI 2017), San Diego, CA. (June 5, 2017)

Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya** (Author), "Thermal-mechanical Modeling of Welding and Galvanizing of a Steel Beam Connection Detail to Examine Susceptibility to Cracking", 17th International ASTM/ESIS Symposium on Fatigue and Fracture Mechanics (41st National Symposium on Fatigue and Fracture Mechanics), Toronto, Canada. (May 11, 2017).

Montoya, A. (Presenter), H. Millwater, D. Wagner and M. Garcia. SBA Structures and Materials Annual Review (Metallic Structures), "A new Progressive Crack Growth Modeling Algorithm using Complex variable Finite Element", Falls Church, VA. (July 19, 2016).

Montoya, A. (Author & Presenter) and H. Millwater, "Virtual Crack Extension Method for Elasto-Plastic Analysis using the Complex Finite Element Method", Engineering Mechanics Institute Conference, Nashville, Tennessee. (May 24, 2016).

Montoya, A. (Author & Presenter), H. Millwater and A. Gomez-Farias, "A Complex Finite Element Sensitivity Method for Plasticity and Creep", Engineering Mechanics Institute Conference, Stanford, California. (June 18, 2016).

Montoya, A. (Author & Presenter), H. Millwater and A. Gomez-Farias, A., "A Complex Finite Element Sensitivity Method for Plasticity and Creep", Engineering Mechanics Institute Conference, Stanford, California. (June 18, 2016).

Montoya, A. (Author) and A. Gomez-Farias, "A Novel Finite Element Sensitivity

Method for Plasticity," International Astronautical Conference, International Aeronautics -Canadian Aeronautics and Space Institute, Toronto, Canada. (September 29, 2014).

Montoya, A. (Author) and A. Gomez-Farias "A Novel Finite Element Sensitivity Method for Plasticity," AIAA Region IV Student Conference, American Institute of Aeronautics and Astronautics, Albuquerque, NM. (April 25, 2014)

Montoya, A. (Author) and A. Gomez-Farias, "Finite Element Sensitivity for Plasticity Using Complex Variable Methods," National Conference of Undergrad Research, Council on Undergraduate Research, Lexington, KY. (April 3, 2014).

Montoya, A. (Author & Presenter), and H. Millwater, "Probabilistic Modeling of Residual Stress in Life Prediction of Metallic Materials and Structures," Minority Leaders Program Review for Materials and Manufacturing, Air Force Research Laboratory, Dayton, OH. (September 24, 2013).

Montoya, A. (Author) and R. Fielder, "Finite Element Sensitivity for Plasticity using Complex Variable Methods," Engineering Mechanics Institute, Chicago. (August 8, 2013).

Montoya, A. (Author & Presenter), "A New Methodology To Determine the Reliability of a Suspension Bridge Cable," Engineering Mechanics Institute, Chicago. (August 7, 2013).

Montoya, A. (Author & Presenter), H. Waisman, R. Betti, and G. Deodatis. "A Stochastic Finite Element Approach to Determine the Safety of Suspension Bridge Main Cables," International Workshop on Computing in Civil Engineering, American Society of Civil Engineers. (June 24, 2013).

Montoya, A. (Author & Presenter), "A Novel Approach to Determine the Safety Factor of Suspension Bridge Main Cables," Workshop on Nonlocal Damage and Failure-Peridynamics and Other Nonlocal Models. (March 12, 2013).

Montoya, A. (Author & Presenter), "A Novel Method to Model the Reduction in the Load Carrying Capacity of Multiple Wire Strands due to Wire Breaks Induced by Corrosion," Engineering Mechanics Institute, Boston, MA. (June 2011).

Montoya, A. (Author & Presenter), H. Waisman, R. Betti and I.C. Noyan, "Modeling the inter friction mechanism between parallel wires of suspension bridge cables," Proc., 16th Us National Congress of Theoretical an Applied Mechanics-USNCTAM, State College, PA. (June 2010).

Poster Presentations- Refereed

Gholikani, M, S. Tahami, S. Dessouky, S. Legette, **A. Montoya.** (Author), and L. Walubita. Transportation Research Board, "Innovative Approach to Utilize Speed

Control Bump to Harvest Kinetic energy from Roadway Pavement", Transportation Research Board 2019, (January 15, 2019).

Montoya, A. (Author & Presenter), P. Jagtap, A. T. Papagiannakis, S. Dessouky and L. Walubita. Transportation Research Board, "A Multivariable Parametric Study on the Performance of Piezoelectric-Based Energy Harvesting Systems in Roadways", Transportation Research Board 2018, (January 11, 2018).

Nguyen, K., R. Nasouri, C. Bennett, A. Matamoros, J. Li and **A. Montoya** (Author), "Finite Element Study on a Structural Steel Detail Susceptible to Hot-dip galvanizing cracking", Society for Protective Coatings (SSPC) Poster Session, 2017.

Dessouky, S. Roshani, H. **A. Montoya.** (Author & Presenter), and A. T. Papagiannakis, Transportation Research Board, "Experimental and Theoretical Evaluation of Two Roadway Energy Harvesting Prototypes", Transportation Research Board 2016, (January 11, 2016).

Dessouky, S., Roshani, H., **A. Montoya.** (Author & Presenter), & A. T. Papagiannakis, "Roadway Sensing and Energy Conversion (RySEC) Module For Power Generation", Transportation Research Board 2016, (January 11, 2016).

Islam, M.S and **A. Montoya** (Advisor), 2015 Department of Defense-Allied Nation Technical Corrosion Conference Attendance, "Stress Corrosion Cracking of 4340 Steel Under Immersion and Atmospheric Conditions during Cathodic Polarization", NACE, Pittsburgh, PA. (November 17, 2015).

Deodatis, R. Betti, E. Chatzis, **A. Montoya** (Author & Presenter) and H. Waisman. "Reliability and Safety of Suspension Bridge Cables Using Continuous Health Monitoring Data. Proc." NSF CMMI Research and Innovation Conference, Atlanta, GA, January 2011.

Invited Talks

Montoya, A. "Evaluating the Vulnerability of Coastal Bridges to Hurricane Damage", Structural Engineering Association of Texas (SEAoT) Annual Conference**.** (To be presented on September 5, 2019).

Montoya, A. "Structural Reliability Analysis and Prediction through Novel Computational Techniques", Structural Engineering Seminar: Purdue University**.** (June 3, 2019).

Montoya, A. "Simulating the Hot Dip Galvanizing Process of High Mast Illumination Poles", UTSA Civil Engineering Graduate Seminar**.** (February 8, 2019).

Montoya, A. "UTSA Hybrid Academy: Course Structure, Engaging Content, and the

Learning Experience"**.** (May 19, 2017).

Montoya, A. "UTSA Faculty Workshop: Creating Problem Solving Videos with Office Mix", Office of Information Technology. (April 25, 2017).

Montoya, A., & Vega, R. "UTSA Perspectives on DOE A2e Draft Work Packages", 2014 Sandia Wind Turbine Blade Workshop. (August 28, 2014).

Montoya, A. "A Validated Methodology to Estimate the Reliability and Safety of Suspension Bridge Cables", UT Austin Seminar: Department of Civil Engineering. (February 27, 2013).

Montoya, A. "A Validated Methodology to Estimate the Reliability and Safety of Suspension Bridge Cables", UTSA Seminar: Department of Mechanical Engineering. (November 20, 2012).

F. Granting Activities

Grants – Funded (Total: $4,706,413.00)

Montoya, A. (Institutional Principal Investigator), "Resilient Extra-Terrestrial Habitats Institute (RETHi)" Sponsored by NASA, Leading Institution: Purdue University, Collaborators: University of Connecticut, and Harvard University, Total funds: $15 M, UTSA funds: **$500,000** (September 1, 2019 – August 31, 2024).

Weissmann, J. (Principal), **A. Montoya** (Co-Principal), and A. Weissmann (Co-Principal), "Developing Deterioration Rates of Texas Bridges Using NBI Data" Sponsored by Texas Department of Transportation, **$253,363** (September 1, 2018 – August 31, 2020).

Montoya, A. (Principal), A. Matamoros (Co-Principal), and F. Testik (Co-Principal), "Structural Vulnerability of Coastal Bridges Under Extreme Hurricane Conditions" Sponsored by Transportation Consortium of South Central States, **$50,000, (**March 15, 2018- August, 15, 2019)

Rincon-Troconis, B. (Principal), and **A. Montoya** (Co-Principal), "Corrosion of Corrosion Protective Zramic Coating" Sponsored by Twin Hawks, **$32,165** (August 16, 2018 – October 10, 2018).

Dessouky, S. (Principal) **A. Montoya.** (Co-Principal), A.T. Papagiannakis (Co-Principal), R. Guo (Co-Principal), "A Hybrid Integrated Sensing and Energy Conversion System for Harvesting Mechanical and Thermal Energy from Roadways," Sponsored by CPS Energy, **$602,193** (January 1, 2015 - August 31, 2016).

Montoya, A. (Co-Principal), B. Rincon-Troconis (Co-Principal), H. Millwater

(Principal), and H. Shipley (Co-Principal), "Faculty Development Program at the University of Texas at San Antonio: Probabilistic Risk Assessment of Stress Corrosion Cracking in Nuclear Facilities" Sponsored by The Nuclear Regulatory Commission, **$450,000** (June 30, 2017 – June 29, 2020).

Shipley, H. (Principal), **A. Montoya.** (Co-Principal), "Graduate Fellowship Program in Nuclear Safety: Critical Thinking, Research Skills and Professional Development" Sponsored by The Nuclear Regulatory Commission, **$399,351** (June 30, 2017 – June 29, 2021).

Shipley, H. (Principal), **A. Montoya.** (Co-Principal) and K. Nash (Co-Principal), "Understanding Interactions of Chemical Contaminants to DOE Facility Material using Spectroscopic Techniques" Sponsored by Department of Energy/ Savannah River Nuclear Solutions, **$273,134** (April 1, 2017 - March 31, 2018).

Dessouky, S. (Principal) **A. Montoya.** (Co-Principal), A.T. Papagiannakis (Co-Principal), R. Guo (Co-Principal), "Development of Highway Sensing and Energy Conversion (HISEC) Modules for Generating Power," Sponsored by Texas Department of Transportation, **$1,320,583** (January 1, 2015 - August 31, 2016).

Montoya, A. (Principal), "A Novel Fracture Characterization Approach for Materials Exhibiting Inelastic Behavior Based on the MultiComplex Finite Element Method", Sponsored by VPR-Proposal Enhancement Program, UTSA, **$20,000** (February 1, 2016 - July 31, 2016).

Montoya, A. (Principal), H. Shipley (Co-Principal), S. Dessouky, (Co-Principal) and J. Joseph (Co-Principal), "CEE Course Re-Design Using Active Learning," UTSA, College of Engineering through NSF TRESTLE, Program, **$10,000** (January 2016 – May 2017).

Millwater, H (Principal), **A. Montoya** (Senior Personnel), Wilkerson, A (Senior Personnel), "Three Dimensional Fracture Mechanics Capability for Structures Operating in High Temperature Thermal Environments," Sponsored by US Department of Defense, Federal, **$397,843 (**August 15, 2015-August 14, 2018).

Montoya A. (Principal), "Efficient Structural Health Management and Prognosis through a Novel Fracture Mechanics", Sponsored by The University of Texas at San Antonio, **$20,000** (September 1, 2015- August 2016).

Montoya, A. (Principal) and G. Waldemar (Co-Principal), "Potential Risk of Hydrogen Embrittlement of ZnNi Coated High Strength Steel", Sponsored by Southwest Research Institute, **$66,028.00** (September 1, 2015-May 30, 2016).

Montoya, A. (Principal), V. Maldonado(Co-Principal) and A. Alaeddini. (Co-Principal) "A Novel Pipeline Monitoring System," Sponsored by Flatrock Engineering and Environmental LTD, **$84,272**. (September 1, 2014 - August 31, 2015).

Montoya, A. (Principal), "Development of a Probabilistic Environmental Model to Predict the Deterioration Behavior of Steel Bridge Elements," Sponsored by The University of Texas at San Antonio, UTSA, **$27,500.00.** (September 1, 2013 - August 31, 2014).

Diaz, M. A. (Principal), Chowdhury, A. H. (Co-Principal), and **Montoya, A**. (Co-Principal), "Course Development for a Certificate in Risk and Safety Analysis of Structural Components in Nuclear Facilities", Sponsored by the Nuclear Regulatory Commission, **$199,981**. (September 1, 2012 – June 30, 2015).

G. Teaching Activities

Courses Taught

Graduate

Advanced Statistics in Civil Engineering: CE 5043 (Fall 2012)
Finite Element Analysis I: CE 5023 (Spring 2013, Fall 2014, Fall 2015, Fall 2017, Fall 2018)
Nonlinear Finite Element Analysis: CE 5713/ME 5013 (Spring 2014, Spring 2015, Spring 2017, Spring 2019)
Processes and Ethics in Thesis Development: CE 5001 (Fall 2015)

Undergraduate

Mechanics of Solids: CE 3103 (Fall 2013, Fall 2014)
Introduction to Timber and Masonry Design: CE 4253 (Fall 2016, Fall 2017, Fall 2018)
Advanced Steel Design: CE 4103 (Spring 2016, Spring 2018)
Civil Engineering Senior Design, Study Abroad Program, CE 4813 (Fall 2016, Fall 2018)

Independent Study

Graduate, CE 6953, Mehdi Najarian (Spring 2019)
Graduate, CE 6953, Kelsey Canham, Nuresh Maknojia, Jorge Medina (Summer 2018)
Graduate, CE 6953, Benjamin Slater (Summer 2017)
Graduate, CE 6953, Felix Munoz (Summer 2017)
Graduate, CE 6953, Abdolreza Nasouri (Fall 2014)
Undergraduate, CE 4913, Armando Gomez-Farias (Fall 2013)

Thesis Dissertation

Committee Chair

Doctoral Thesis Committee Chair, "Modeling and Performance of High Mass Illumination Poles", Civil and Environmental Engineering Dept., In Progress, (Expected Date of Completion: July, 2019).
Advised: Reza Nasouri

Doctoral Thesis Committee Co-Chair, "Progressive Crack Growth Algorithm for High Temperature Environments", Mechanical Engineering Dept., In Progress, (Expected Date of Completion: December, 2020).

Advised: Daniel Ramirez

Doctoral Thesis Committee Chair, "Risk Assessment and Management of Bridge Structures with Fatigue Damage", Civil Engineering Dept., In Progress, (Expected Date of Completion: May, 2021).
Advised: Mehdi Najarian

Doctoral Thesis Committee Chair, "Numerical Analysis and Resiliency of Extra-terrestrial Habitats", Mechanical Engineering Dept., In Progress, (Expected Date of Completion: May, 2021).
Advised: Adnan Shahriar

Doctoral Thesis Committee Co-Chair, "Structural Vulnerability of Coastal Bridges", Mechanical Engineering Dept., In Progress, (Expected Date of Completion: May, 2022).
Advised: Seyed Arsalan Majlesi

Master's Thesis Committee Chair, "Finite Element Analysis of Embedded Pavement Components Used to Mitigate Heat Urban Island Effect", Mechanical Engineering Dept., In Progress, (July, 2019).
Advised: Sarah Legette

Master's Thesis Committee Chair, "Finite Element Sensitivity for Large Deformation Problems Using the Complex Variable Finite Element Method", Mechanical Engineering Dept., Completed, (December, 2018).
Advised: Minhajul Abrar

Master's Thesis Committee Chair, "Modeling and Performance Analysis of Flexible Pavement Structure with an Embedded Energy Harvesting Module", Mechanical Engineering Dept., Completed, (December, 2016).
Advised: Pranav Jagtap

Master's Thesis Committee Chair, "Potential Risk of Hydrogen Embrittlement of Zn-Ni Coated High Strength Steel", Mechanical Engineering Dept., Completed, (September 20, 2016).
Advised: Md Saimon Islam

Master's Thesis Committee Chair, "Sensitivity Techniques for Nonlinear Finite Element Method", Civil and Environmental Engineering Dept., Completed, (December 20, 2013).
Advised: Randal Fielder

Master's Thesis Committee Chair, "A Numerical Analysis for Load Transfer Mechanism in Grouted Post-tensioned Tendons", Civil and Environmental Engineering Dept., Completed, (August 15, 2013).
Advised: Sirajus Salekin

Committee Member - UTSA

Doctoral Thesis Committee Member, "Removal of Inorganic Scalants from RO Membranes Using Localized Gas Bubble Nucleation", Civil Engineering Dept., Ongoing
Advised: Srikanto Paul

Doctoral Thesis Committee Member, "Adsorption of Arsenic to Zeolite Embedded Nano-TiO_2/MoS_2: Effect of Particle Size, Solid Concentration and Other Metals and Ion", Civil Engineering Dept., Ongoing
Advised: Dipendra Wagle

Doctoral Thesis Committee Member, "Synthesis, Characterization and Application of Semiconductor Nano-Composite Materials for Water Pollutant Removal", Civil Engineering Dept., Ongoing
Advised: Ali Balati

Doctoral Thesis Committee Member, "A Novel Spatiotemporal Statistical Quality Control Scheme using 3D Point Cloud Data", Mechanical Engineering Dept., Ongoing
Advised: Sue Stankus

Doctoral Thesis Committee Member, "Simulation-Based Method for the Optimization of Multi-Criteria Stochastic Models", Mechanical Engineering Dept., Completed (May, 2017)
Advised: Hernan Chavez

Doctoral Thesis Committee Member, "Quantitative Analysis of Digitized Images with Applications to Prostate Cancer", Electrical Engineering Dept., Completed (May, 2015)
Advised: Clara Mosquera

Doctoral Thesis Committee Member, "The role of interfacial interactions on mechanical response of nanostructured materials", Mechanical Engineering Dept., Completed. (July, 2016)
Advised: Liqiang Lin

Doctoral Thesis Committee Member, "Numerical Analysis of Entrainment in Density Currents over Sloping Bottoms" Civil and Environmental Engineering Dept., Completed. (December, 2015)
Advised: Manjura Nayamatullah

Doctoral Thesis Committee Chair, "SWAT Model Development for Cibolo and Dry Comal Creek Basin: 1992-2010", Civil and Environmental Eng. Dept., In

Progress, (Expected Date of Completion: December, 2017).
Advised: Tim Sullivan

Master Thesis Committee Member, “Effect of Longitudinal Reinforcement on Shear Strength of Reinforced Concrete Beams and Slabs”, Civil Engineering Dept., Completed (May, 2017)
Advised: Jayender Reddy

Master Thesis Committee Member, “An Evaluation of Using Void Box For Slab-on-Grade Foundation on Expansive Clay”, Civil Engineering Dept., Completed (May, 2017)
Advised: Gausul Hasan

Master's Thesis Committee Member, "Residual Stress Analysis of Thick-Walled Spherical Pressure Vessels Using a Complex Variable Finite Element Method", Mechanical Engineering Department, Completed. (December, 2017).
Advised: Randal Fielder

Master's Thesis Committee Member, "High Performance Implementation of Probabilistic Damage Tolerance Analysis.” Mechanical Engineering Department, Completed. (August, 2017)
Advised: Nathan Crosby

Master's Thesis Committee Member, “The Effect of Heavy Metal Immobilization Agents on the Strength of Fly Ash Treated Soils and the Long Term Stability of the Agents”, Civil and Environmental Engineering Dept., Completed, (December 2014).
Advised: Shahid Rehman

Master's Thesis Committee Member, “Calculation of Strain Energy Release Rates Using a Complex Variable Finite Element Method”, Mechanical Engineering Dept., Completed, (November 2014).
Advised: Andrew Baines

Master's Thesis Committee Member, “Sensitivity Analysis of Turbine Engine Sustainment”, Mechanical Engineering Dept., Completed, (August 2014).
Advised: Eliseo Iglesias

Master's Thesis Committee Member, “The Effects of Fiber Size on the Mechanical Properties of Fly Ash Stabilized High Plasticity Clay Soil”, Civil and Environmental Engineering Dept., Completed, (May 2014).
Advised: Sanjoy Das Gupta

Honors Thesis, “Feasibility of Mobile Applications in Reinforced Concrete Design”, Civil and Environmental Engineering Dept., Completed, (December, 2013).
Advised: Armando Gomez-Farias

Master's Thesis Committee Member, “The Effect of Upward and Downward Movement on the Behavior of MSE Wall”, Civil and Environmental Engineering Dept., (August 2, 2013).
Advised: Rafat Sadat

Master's Thesis Committee Member, “Modeling of Laterally Loaded Drilled Shaft within an MSE Wall under Cycling Loading”, Completed, Civil and Environmental Engineering Dept., (August 2, 2013).
Advised: Saidur Rahman

Master's Thesis Committee Member, “Comparison of Concrete Volumes in Moment, Shear Wall and X-Braced RC Frames for Different Wind Speeds”, Civil and Environmental Engineering Dept., Completed, (April 25, 2013).
Advised: Sesha Kandaala

Master's Thesis Committee Member, "Strut-and-Tie Method in Footing Design." Civil and Environmental Engineering Dept., Completed, (December 4, 2012).
Advised: Atchyut Sappa

Master's Thesis Committee Member, “Strain Rate and Thermal Effects in Polyuereas”, Civil and Environmental Engineering Dept., Completed, (November 1, 2012 - December 4, 2012).
Advised: Lawrence Nelson

Committee Member – External

Doctoral Thesis Committee Member, “Simulation-Based Method for the Optimization of Multi-Criteria Stochastic Models”, Civil Engineering Dept., In Progress
Advised: Kien Nguyen
External Institution: Kansas University

Doctoral Thesis Committee Member, “Thermoporelasticity in Wellbore Stability”, Petroleum and Geosystems Dept., In Progress
Advised: Arjang Gandomkar
External Institution: The University of Texas at Austin

Doctoral Thesis Committee Member, “Structural Performance Evaluation of Reinforced Concrete Safety for Use on Highways”, Civil Engineering Dept., Completed, (May, 2016)
Advised: Paulo Cesar de Oliveira Quiroz
External Institution: School of Engineering of São Carlos, University of São Paulo, São Carlos

Other Instructional Activities

Guest Lecturer

Steel Design of Nuclear Structures, CE 5713, Fall 2013, 8 Lectures
Guest Lecture, Corrosion Engineering, ME 4953, Spring 2015, 2 Lectures

H. Service Activities

Department Service

6/2019-present	Committee Member, Civil and Environmental Department Chair Search
2018-2019	Committee Member, Annual Evaluation Committee
Fall 2016 & Fall 2018	Faculty Mentor, Study Abroad Program at Urbino, Italy
1/2018-present	Faculty Mentor, Engineer without Borders
1/2018-present	Committee Member, F&A Committee Member
9/ 2015-3/2016	Committee Member, Environmental Faculty Search
9/2014-present	Committee Member, Environmental Science and Engineering Doctoral Committee
9/2013-present	Committee Member, Graduate Admission Committee
10/2012	Department Representative, Digital Measures Training Session

College Service

9/2018-present	Committee Member, College Awards Nomination Committee
6/2018-present	Committee Member, College Branding Committee
5/2019-present	Committee Member, Endowed Chair in Mechanics Search
9/2016- present	Center Core Leadership Team, Executive Committee, Center of Simulation, Visualization and Real Time Prediction (SiVIRT)
2017	Interview Faculty Candidates for UTSA's Chemical Engineering Program
8/2016-present	Committee Member, College of Engineering Research Committee
12/2012-present	Marshall Commencement Attendee (5 total)
5/2013	Banner Marshall
12/2012	College Marshall

University Service

6/2019	UTSA Representative at the 2019 NSF Border Solutions Alliance, Urban-Rural Resilience Track.
2014-present	Student Organization, Advisor, Advent Project
2013	Attendee, Award Ceremony, Honors College Graduation, UTSA
2013	Faculty Center photo shoot
2013	Thesis Evaluator, Honor Research Symposium, UTSA
2013	Second Year Faculty Guest, New Faculty Orientation

2013	Judge, ExxonMobil Texas Science & Engineering Fair

Professional Service

8/2017-present	Reviewer, Sensors Journal, Special Issue "Sensor Networks for Smart Roads"
8/2017-present	Reviewer, International Journal of Magnetics and Electromagnetism
3/2017	Grant Proposal Reviewer, National Science Foundation
2/2017	Book Reviewer, Pearson, Finite Element Analysis Theory and Applications using ABAQUS
2015-present	Reviewer, Journal Article, Journal of Bridge Engineering
2014	Associate Member, ACI Committee 477, Finite Element Analysis of Reinforced Concrete Structures Joint ACI-ASCE.
2013-present	Member, Structural Engineering Association of Texas (SEAOT), San Antonio Chapter
2014-present	Reviewer, Journal Article, Engineering Structures
2013-present	Reviewer, Journal Article, Journal of Nanomechanics and Micromechanics
2013-present	Reviewer, Journal Article, Journal of Computing in Civil Engineering

Consulting

2012	Naturesweet Company, San Antonio, TX

I. <u>Faculty Development Activities Attended</u>

2018	Workshop, NHERI SimCenter user Workshop, Berkeley, California.
2017	Workshop, 2017 Portland Cement Association Professor's Workshop, Skokie, Illinois.
2017	Workshop, 2017 Visual Analytic for Command, Control, and Interoperability Environments, Prairie View A&M University, Prairie, Texas.
2016	Workshop, 2016 NSF CAREER Proposal Writing Workshop, St. Louis, Missouri
2016	Workshop, Modeling Fracture and Failure with Abaqus, West Lafayette, Indiana
2015	Workshop, Write Winning Grant Proposals – A One-day Seminar, Faculty Center, UTSA
2015	Workshop, Writing Successful Grants – Beginners Workshop, Faculty Center, UTSA
2015	Workshop, ASCE ExCEEd Teaching Workshop, West Point, New York
2015	Workshop, Scripting and Advanced Scripting in Abaqus, Simulia, West Lafayette, Indiana
2012	Workshop, College of Engineering (COE) Teaching Workshop, San Antonio, Texas
2012	Workshop, 2012 San Antonio Wood Solutions Fair, Architectural WoodWork Institute, San Antonio, Texas