Curriculum Vitae

NAME	POSITION TITLE
Dwayne McDaniel, Ph.D., P.E.	**Principal Scientist**

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Florida	B.S.	1991	Aerospace Engineering (High Honors)
University of Florida	M. S.	1993	Engineering Mechanics
University of Florida	Ph.D.	2000	Engineering Mechanics
State of Florida (#62404)	P.E.	2005	Mechanical Engineering

A. Positions and Honors

Positions and Employment

2000 - 2001 Associate Adjunct Professor, University of Florida, Aerospace, Engineering Mechanics and Engineering Science Department
Responsibilities included the modeling and stability analysis of switched, electrically shunted piezoelectric systems for the purpose of vibration and control. (Funded by ONR)

2001 - 2006 Engineer, Exponent Failure Analysis Associates, Miami
Responsibilities included performing component failure analysis, structural/mechanical analysis and safety assessments for systems that include industrial equipment, hydraulic systems, aerodynamic systems, and automotive systems.

2005 - 2006 Adjunct Professor, University of Miami, Department of Mechanical and Aerospace Engineering
Courses taught included Mechanical Vibrations, Introduction to Aerospace Structures and Advanced Mechanics of Materials.

2006 - 2008 Research Scientist, Florida International University, Applied Research Center

2008 - 2016 Senior Research Scientist, Florida International University, Applied Research Center

2016 - Present Principal Scientist, Florida International University, Applied Research Center
Responsibilities include designing and directing applied research in mechanical, aviation, and aerospace applications for the federal government and the private sector and representing FIU-ARC in business relationships. Conducts research as the Principal Investigator for governmental agencies including ONR and the FAA. Conducts research and directs tasks for the DOE-EM as the project lead for high-level waste (~$1M/year).

2012 - Present Adjunct Professor, Florida International University, Mechanical and Materials Engineering
Courses taught include Measurements and Instrumentation Lab, Engineering Statics, Applied Mechanics, Dynamics, Fracture Mechanics, Analysis of Engineering Systems

2014 - Present Graduate Faculty, Florida International University, Mechanical and Materials Engineering

Other Experience, Professional Membership and Service

1996	AFOSR Summer Research Fellow, Kirtland AFB
1991-2000	Graduate Research and Teaching Assistant, University of Florida
2010	Paper reviewer - American Controls Conference
2015	Session Chair, McNair Scholars Conference 2015
	Member - AIAA, ASME, SAMPE

Honors

1992, 1993, 1996	AIAA's Most Helpful Teaching Assistant Award
2000	Jefferson Goblet Award, Best Graduate Student Paper Award, 41st Structures, Structural Dynamics and Materials Conference

Patents

Provisional Patent submitted to FIU – "Rapid and Wireless Screening and Health Monitoring of Materials and Structures"

B. Research Support

Ongoing Research Support

DoE – NE (Co-PI) 10/16-9/17 $60K

Mobile Manipulation and Survey System for H-Canyon and other Applications across the DOE Complex

DoE - NETL (PI) 9/14-8/17 $250K

Development of Reduced Order Model for Reacting Gas-Solids Flow Using Proper Orthogonal Decomposition

FAA - JAMS (PI) 8/17-8/18 $75K

Effect of Surface Contamination on Composite Bond Integrity and Durability

Completed Research Support

DoD - ONR (PI) 3/15- 5/17 $350K
Development of a Novel Health Monitoring System for Adhesively Bonded Composite Joints Using Electro-Magnetic Nanoparticles

FAA - JAMS (PI) 8/13-7/17 $300K: $75K ('13-'14), $75K ('14-'15), $75K ('15-'16), $75K ('16-'17)

Effect of Surface Contamination on Composite Bond Integrity and Durability

DoD - SAIC (PI) 7/12-12/12 $25K

Modeling of Non-Explosive Reactive Armor

DoD - ARO (PI) 9/08-5/12 $771K
Aerospace Composites Research Program

FAA - JAMS (PI) 9/07-8/13 $344K: $75K (‘07-‘08), $34K (‘09-‘10), $85K (‘10-‘11), $75K (‘11-’12), $75K (’12-’13)
Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture

DoD - SAIC (PI) 6/11-2/12 $25K
Non-Explosive Reactive Armor Analysis

FAA - AACE (PI) 4/08-9/08 $96K
Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture

FAA - PARTNER (PI) 2/06-9/06 $75K
Determination of Trends & Indicators of Population Encroachment

FAA - PARTNER (PI) 2/06-4/06 $35K
NoiseQuest

NOAA - AOML (PI) 4/06-7/06 $5K
CREWS Analysis and Modeling

UDC (PI) 4/06-6/09 $32K
CellTrack Analysis

C. Peer-Reviewed Journal Publications

1. A. Kurdila, G. Webb, N. Fitz-Coy and D. McDaniel, “Lie Algebraic Control for the Stabilization of Nonlinear Multibody System Dynamic Simulation ", *Nonlinear Dynamics* Vol. 20 (1999) pp. 55–84.
2. D. McDaniel and A. Kurdila, “Modal Scheduling and Switching Systems”, *Journal of Aerospace Engineering* Vol. 17 No. 146-153 (2004) 1490-1504.
3. X. Zhou, J. Zhou, Z. Wang, D. McDaniel, W. Zhang and R. Burton, “Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture – Solid-State Electrochemical Sensor Study", *ECS Transactions*, 19 (22) 7-18 (2009).
4. S. Gokaltun, D. McDaniel, A. Awwad and J. Varona, “Pipeline unplugging experiments with the fluidic Wave-Action Technology”, *Engineering Science and Technology, an International Journal*, 17 (2014) 73-84.
5. H. Fekrmandi, M. Unal, S. Neva, I. Tansel, D. McDaniel, “A Novel Approach for Classification of Loads on Plate Structures using Artificial Neural Networks”, *Measurement,* Vol. 82, March 2016, 37-45.
6. S.Tashakori, A. Baghalian, M. Unal, , H. Fekrmandi, V. Senyurek, D. McDaniel, I. Tansel, “Contact and non-contact approaches in load monitoring applications using surface response to excitation method”, *Measurement*, Vol. 89, July 2016, 197-203.
7. A. Baghalian, S.Tashakori, H. Fekrmandi, M. Unal, V. Senyurek, D. McDaniel, I.Tansel, “Detection of Axisymmetric and Non-Axisymmetric Defects in Pipes Using the Sure Response to Excitation (SuRE) Method”, *Measurement*, (Submitted 4/16).

8. V. Musaramthota, B. Boesl, N. Munroe, D. McDaniel, “Multi-scale Fracture of Adhesively Bonded Composite Joints with Undesirable Bonding Conditions”, Journal of *Composite Materials*, (submitted 3/17).
9. S. Reddy, B. Freno, P. Cizmas, S. Gokaltun, D. McDaniel, G. Dulikravich, “Constrained Reduced-Order Models Based on Proper Orthogonal Decomposition”, *Computer Methods in Applied Mechanics and Engineering,* Vol. 321, 1 July 2017, 18-34.
10. A. Baghalian, S.Tashakori, V. Senyurek, M. Unal, D. McDaniel, I.Tansel, “Detection of Cracks with Comprehensive Heterodyne Effect Based Inspection (CHEBI) Method”, *Ultrasonics*, (submitted 12/16 accepted 3/17).
11. A. Baharanchi, S. Gokaltun, D. McDaniel “A Dissipation-Based Method for Improving the Accuracy of Computational Fluid Dynamics Simulations of High Level Non-Newtonian Wastes”, *Nuclear Engineering and Design,* submitted 1/17.
12. D. Watring, J. Coria, K. Yang, P. Wang, B. Boesl, S. Khizroev, D. McDaniel, “Multifunctional MENs doped adhesives: Variation in magnetic signal with environmental exposure”, Co*mposites Science Technology* (submitted 1/17).
13. A. Baghalian, S. Tashakori, D. McDaniel, I. Tansel, “Localization of Multiple Defects Using Compact Phased Array Method”, *Journal of Sound and Vibration* (submitted 4/17).
14. S. Tashakori, A. Baghalian, V. Senuyrek, M. UNAL, D. McDaniel, I. Tansel, “Implementation of Heterodyning Effect for Monitoring the Health of Adhesively Bonded and Fastened Composite Joints”, *Applied Ocean Research*, (submitted 6/17).
15. A. Baghalian, S. Tashakori, J. Soto, D. McDaniel, I. Tansel, “Broad Band Frequency Excitation for Inclusive Quantification of Internal and External Defects in Pipes Using the Surface Response to Excitation (SuRE) Method”, *Journal of Applied Research and Technology*, (submitted 7/17).
16. A. Baghalian, V. Senuyrek, S. Tashakori, M. UNAL,, D. McDaniel, I. Tansel, “Development of Comprehensive Heterodyne Effect Based Inspection (CHEBI) Method for Detection of Cracks”, *NDT&E International*, (submitted 7/17).
17. A. Baghalian, S. Tashakori, V. Senuyrek, M. UNAL,, D. McDaniel, I. Tansel, “Development of Talking Structures using a Novel Sensor-free Structural Health Monitoring Method”, Journal of Sound and Vibration, (submitted 7/17).

D. Conference Proceedings

1. N. Fitz-Coy, A. Chaterjee and D. McDaniel, “Actuator Placement in Multi-Degree-of Freedom Vibration Simulators,” Proceedings of 63rd Shock and Vibration Symposium, October 1992.
2. N. Fitz-Coy and D. McDaniel, “Design, Analysis, and Numerical Simulation of Multi-Axis Vibration Simulators,” Proceedings of 64th Shock and Vibration Symposium, October 1993.
3. N. Fitz-Coy and D. McDaniel, “High Fidelity Virtual Simulation of Articulated Multiflexible Body Systems,” Proceedings of 68th Shock and Vibration Symposium, October 1997.
4. D. McDaniel, N. Fitz-Coy, A. Kurdila and M. Hale, “Constraint Stabilization in Nonlinear Dynamics via Control Theoretic Methods,” Proceedings of 41st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, April 2000.
5. A. Kurdila, W. Clark, W. Wang and D. McDaniel, “Stability of a Class of Piezoelectric State Switching Methods”, Proceedings of the Symposium from the 2000 ASME International Mechanical Engineering Congress and Exposition, Orlando, FL, (Nov. 2000) pp. 509-517.

6. D. McDaniel, S. Gokaltun, A. Awwad, R. Srivastava, D. Roelant and J. Varona, “Qualification of Innovative Waste Pipeline Unplugging Technologies”, Proceedings of the Waste Management Symposia 2008, Phoenix, AZ, February 2008.
7. D. McDaniel, A. Awwad, J. Varona, R. Srivastava and D. Roelant, “Design and Testing of a Solid-Liquid Interface Monitor for High-Level Waste Tanks”, Proceedings of the Waste Management Symposia 2008, Phoenix, AZ, February 2008.
8. S. Gokaltun, D. McDaniel, D. Roelant, J. Varona, R. Patel, A. Awwad, ”Evaluation of Innovative High-Level Waste Pipeline Unplugging Technologies”, Proceedings of the Waste Management Symposia 2009, Phoenix, AZ, March 2009.
9. S. Gokaltun, D. McDaniel, J. Varona, R. Patel, A. Awwad, D. Roelant, “Full-Scale Testing of Pipeline Unplugging Technologies - NuVision’s Fluidic Wave-Action Technology”, Proceedings of the Waste Management Symposia 2009, Phoenix, AZ, March 2009.
10. X. Zhou, D. McDaniel, and R. Burton, “Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture”, Proceedings of the 2009 Joint Advanced Materials Structures Center of Excellence 5th Annual Technical Meeting, Wichita, KA, July 21-22, 2009.
11. J. Varona, A. Awwad, D. McDaniel, D. Roelant, J. Crespo, R. Rosales, “Remote Monitors for High Level Waste (HLW)”, Proceedings of the Waste Management Symposia 2010, Phoenix, AZ, March 2010.
12. S. Gokaltun and D. McDaniel, “Multiple-Relaxation-Time Lattice Boltzmann Method for Multiphase Flows with High Density and Viscosity Ratios”, Proceedings of the Waste Management Symposia 2010, Phoenix, AZ, March 2010.
13. S. Gokaltun, T. Pribanic, J. Varona, D. McDaniel, A. Awwad and D. Roelant, “Evaluation and Development of Innovative High-Level Waste Pipeline Unplugging Technologies”, Proceedings of the Waste Management Symposia, Phoenix, AZ, March 2010.
14. R. Patel, G. Tachiev, V. Sharma, N. Yadav, D. McDaniel and D. Roelant, “Gas Retention and Release Experiments with Low Yield Stress Fluids”, Proceedings of the Waste Management Symposia 2010, Phoenix, AZ, March 2010.
15. D. Persaud, D. McDaniel, R. Guduru, T. Pribanic, R. Burton and X. Zhou, “Experimental Validation of Analytical Chemistry Methods for Detecting Contaminants on Composite Surfaces”, International SAMPE Symposium and Exhibition (Proceedings), Seattle, WA, May 17-20, 2010.
16. T. Pribanic, K. Wu, D. McDaniel, R. Burton, “Crack Development in Cyclically Loaded Pressurized Cylindrical Carbon Fiber Shell Structures”, International SAMPE Symposium and Exhibition (Proceedings), Seattle, WA, May 17-20, 2010.
17. D. McDaniel, R. Guduru, T. Pribanic, R. Burton, X. Zhou, Z. Wang and J. Zhou, “Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture”, Proceedings of the 2010 Joint Advanced Materials Structures Center of Excellence 6th Annual Technical Meeting, Seattle, WA, May 19-20, 2010.
18. S. Gokaltun and D. McDaniel, “Multiple-Relaxation-Time Lattice Boltzmann Method for Multiphase Flows with High Density and Viscosity Ratios”, Proceedings of the Waste Management Symposia 2011, Phoenix, AZ, March 2011.
19. R. Patel, G. Tachiev, N. Yadav, D. McDaniel, and D. Roelant, “Gas Retention and Release Experiments with Low Yield Stress Fluids”, Proceedings of the Waste Management Symposia 2011, Phoenix, AZ, March 2011.

20. R. Guduru, D. Carvajal, Y. Katsenovich, L. Lagos, D. McDaniel, and C. Li, "Investigation of Effect of Uranium Microbial Surface Using Atomic Force Microscopy", Proceedings the of Waste Management Symposia 2011, Phoenix, AZ, March 2011.
21. D. McDaniel, T. Pribanic, R. Guduru, X. Zhou and Z. Wang, "Effect of Surface Contamination on Composite Bond Integrity and Durability", Proceedings of the 2011 Joint Advanced Materials Structures Center of Excellence 7th Annual Technical Meeting, San Diego, CA, April 20-21, 2011.
22. D. McDaniel, T. Pribanic, R. Guduru, L. Elaadil, X. Zhou and Z. Wang, "Experimental Validation of Analytical Chemistry Methods to Evaluate the Effects of Peel-Plies on Bonded Composite Surfaces", International SAMPE Symposium and Exhibition (Proceedings), Long Beach, CA, May 23-26, 2011.
23. S. Gokaltun and D. McDaniel, "Three dimensional simulations of multiphase flows using a lattice Boltzmann method suitable for high density ratios", Proceedings of the Waste Management Symposia 2012, Phoenix, AZ, February 2012.
24. T. Pribanic, A. Awwad, J. Crespo, D. McDaniel, J. Varona, S. Gokaltun and D. Roelant, "Design Improvements and Analysis of Innovative High-Level Waste Pipeline Unplugging Technologies", Proceedings of the Waste Management Symposia 2012, Phoenix, AZ, February 2012.
25. T. Pribanic, D. McDaniel, V. Musaramthota, X. Zhou, J. Zhou and S. Cai, "Effect of Surface Contamination on Composite Bond Integrity and Durability", Proceedings of the 2012 Joint Advanced Materials Structures Center of Excellence 8th Annual Technical Meeting, Baltimore, MD, April 5, 2012.
26. T. Pribanic, D. McDaniel, V Musaramthota, L. Sanchez, N. Munroe, X. Zhou, J. Zhou and S. Cai, "Development of a Durability Test Procedure for Adhesively Bonded Composite Joints", International SAMPE Symposium and Exhibition (Proceedings), Baltimore, MD, May 21-24, 2012.
27. T. Pribanic, A. Awwad, J. Varona, D. McDaniel, S.Gokaltun and J. Crespo, "Design Optimization of Innovative High-Level Waste Pipeline Unplugging Technologies", Proceedings of the Waste Management Symposia 2013, Phoenix, AZ, February 24-28, 2013.
28. V. Musaramthota, T. Pribanic, D. McDaniel, X. Zhou, J. Zhou and Z. Wang, S. Cai, "Effect of Surface Contamination on Composite Bond Integrity and Durability", Proceedings of the 2013 Joint Advanced Materials Structures Center of Excellence 9th Annual Technical Meeting, Seattle, WA, April 9-10, 2013.
29. V. Musaramthota, T. Pribanic, D. McDaniel, N. Munroe, X. Zhou, J. Zhou and S. Cai, "A Study on the Contamination Effects and Durability Assessment of Adhesively Bonded Composite Joints", International SAMPE Symposium and Exhibition (Proceedings), Wichita, Kansas, Oct 22-24, 2013.
30. R. Patel, G Tachiev, D. McDaniel and D. Castillo, "Computational Fluid Dynamics Modeling of High Level Waste Plug Formation (14359)", Proceedings of the Waste Management Symposia 2014, Phoenix, AZ, March 2014.
31. A. Awwad, T. Pribanic, J. Crespo, D. McDaniel and S. Gokaltun, "Experimental Testing of Innovative High Level Waste Pipeline Unplugging Technologies (14601)", Proceedings of the Waste Management Symposia 2014, Phoenix, AZ, March 2014.
32. V. Musaramthota, T. Pribanic, D. McDaniel and X. Zhou, "Effect of Surface Contamination on Composite Bond Integrity and Durability", Proceedings of the 2014 FAA Joint Advanced Materials Structures Center of Excellence 10th Annual Technical Meeting, Seattle, WA, March 25-26, 2014.

33. R. Patel, S. Gokaltun, D. McDaniel, “Computational Fluid Dynamics Modeling of High Level Waste Plug Formation,” Proceedings of the Waste Management Symposia 2015, Phoenix, AZ, March, 15-19, 2015.

34. D. McDaniel, J. Arniella, B. Castillo, D. Washenfelder and J. Engeman, “Analysis of Erosion/Corrosion Data for High-Level Waste Pipelines at Hanford, “Proceedings of the Waste Management Symposia 2015, Phoenix, AZ, March, 15-19, 2015.

35. V. Musaramthota, T. Pribanic, D. McDaniel and X. Zhou, “Effect of Surface Contamination on Composite Bond Integrity and Durability”, Proceedings of the 2015 FAA Joint Advanced Materials Structures Center of Excellence 11th Annual Technical Meeting, Baltimore, MD, March 31- April 1, 2015.

36. R. Sheffield, D. McDaniel, S. Tosunoglu, “Development of a Prototype Miniature Motorized Inspection Tool for Hanford DOE Site Tank Bottoms”, 2015 Florida Conference on Recent Advances in Robotics, Melbourne, Florida, May 14-15, 2015.

37. A. Abbasi, M. Edrei, S. Gokaltun and D. McDaniel, “Improving the Accuracy of Computational Fluid Dynamics Simulations of Nuclear Waste Mixing using Direct Numerical Simulations,” Proceedings of the Waste Management Symposia 2016, Phoenix, AZ, March, 6-10, 2016.

38. A. Abrahao, H. Fekrmandi, E. Gocke, R. Sheffield, and D. McDaniel, “Development of Inspection Tools for the AY-102 Double-Shell Tank at the Hanford DOE Site”, Proceedings of the Waste Management Symposia 2016, Phoenix, AZ, March, 6-10, 2016.

39. H. Fekrmandi, R. Sheffield, D. McDaniel, “Validation of the Miniature Inspection Tool for the AY-102 Double-Shell Tank at the Hanford DOE Site“, Florida Conference on Recent Advances in Robotics, Miami, FL, May 12-13, 2016.

40. A. Abrahao, S. Zalongo, G. Yllanes, J.Viera, L. Lagos, D. McDaniel, “Remotely Operated Multi-Tracked Robot for Visual Inspection in D&D Activities”, Florida Conference on Recent Advances in Robotics, Miami, FL, May 12-13, 2016.

41. V. Musaramthota, D. McDaniel and B. Boesl, “Fracture Behavior on Adhesively Bonded Composite Joints with Undesirable Bonding Conditions: A Multiscale Approach”, SAMPE 2016, Long Beach, CA, May 23-26, 2016.

42. K. Yang, D. Watring, J. Coria, P. Wang, B. Boesl, S. Khizroev and D. McDaniel, “ Assessment of Fracture Properties of MENs Doped Multifunctional Adhesives,“ SAMPE 2016, Long Beach, CA, May 23-26, 2016.

43. A.Baghalian, S. Tashakori, H. Fekrmandi, M. Unal, V. Senyurek, D. McDaniel and I. Tansel, “Implementation of the Surface Response to Excitation Method for pipes”, Society of Experimental Mechanics 2015 Annual Conference and Exposition on Experimental and Applied Mechanics, Orlando, FL, June 6-9, 2016.

44. S. Tashakori, A.Baghalian, M. Unal, V. Senyurek, H. Fekrmandi, D. McDaniel and I.Tansel, “Load Monitoring Using Surface Response to Excitation Method”, Society of Experimental Mechanics 2015 Annual Conference and Exposition on Experimental and Applied Mechanics, Orlando, FL, June 6-9, 2016.

45. D. Watring, K. Zhou, J. Coria, B. Boesl, K. S. Khizroev and D. McDaniel, “Development of a Novel Health Monitoring System for Adhesively Bonded Composite Joints Using Magneto-Electric Nanoparticles”, 12th International Conference on Durability of Composite Systems (DURACOSYS), Arlington, TX, June 12-15, 2016.

46. H. Fekrmandi, R. Sheffield, M. DiBono and D. McDaniel, “Development of a Miniature Inspection Tool for the AY-102 Double-Shell Tank at the Hanford DOE Site”, ANS Decommissioning and Remote Systems 2016 Conference, Pittsburgh, PA, July 31- August 4, 2016.

47. A. Abrahao, E. Gokce and D. McDaniel, “Development of a Peristaltic Crawler for the Inspection of the High Level Waste Tanks at Hanford,” ANS Decommissioning and Remote Systems 2016 Conference, Pittsburgh, PA, July 31- August 4, 2016.
48. D. Watring, K. Yang, J. Coria, B. Boesl, D. McDaniel and S. Khizroev, “Development of a Novel Health Monitoring System for Adhesively Bonded Composite Joints Using Magneto-Electric Nanoparticles,” 31st ASC Technical Conference, Williamsburg, VA, September 19-22, 2016.
49. A. Aravelli, D. McDaniel, A. Abrahao, A. Awwad, C. Davila, “Thermal Measurement and Modeling of Nuclear Waste in the Double Shell Tanks at Hanford Nuclear Waste Site Using Miniature Sensors,” International Microelectronics Assembly and Packaging Society 2016, Pasadena, CA, October 11-13, 2016.
50. A. Baharanchi, S. Gokaltun, D. McDaniel, “A Dissipation-Based Method for Improving the Accuracy of Computational Fluid Dynamics Simulations of High Level Non-Newtonian Waste”, Proceedings of the Waste Management Symposia 2016, Phoenix, AZ, March 5-9, 2017.
51. A. Awwad, D. McDaniel, J. Rivera, “Evaluation of Nonmetallic Components in the Hanford Waste Transfer System”, Proceedings of the Waste Management Symposia 2016, Phoenix, AZ, March 5-9, 2017.
52. A. Abrahao, D. McDaniel, R. Sheffield, M. DiBono, Y. Tan, “Development and Testing of Robotic Inspection Tools for the High-Level Waste Double Shell Tanks at Hanford”, Proceedings of the Waste Management Symposia 2016, Phoenix, AZ, March 5-9, 2017.

E. Selected Presentations and Reports

1. N. Fitz-Coy and D. McDaniel, “A Six Degree-of-Freedom Vibration Simulator Design and Analysis,” Final Report prepared for the U.S. Army Test Command (Dynamic Test Branch of the Mechanical Test Division, Redstone Technical Test Center), December 1992.
2. A. Kurdila, N. Fitz-Coy and D. McDaniel, “Characterization of Hysteresis Effects in Micro-SMA Valves,” 13th U.S. National Congress of Applied Mechanics, Gainesville, FL, June 1998.
3. L. Swanger and D. McDaniel, “Investigation of the Failure of MNS Control Room Fan “B” Bearing,” Final Report, February 2002.
4. L. Swanger and D. McDaniel, Expert Report regarding U.S. Patent 6,071,062, Pods vs. Porta, August 2004.
5. X. Zhou, R. Srivastava, R. Burton and D. McDaniel, “Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture”, The Joint Advanced Materials Structures Center of Excellence 2nd Annual Technical Meeting, Seattle, WA, June 20-22, 2006.
6. K. Li, G. Eiff, D. McDaniel and J. Laffitte, “Land Use Management and Airport Controls, Trends and indicators of incompatible land use”, FAA PARTNER Center of Excellence Report No.: PARTNER-COE-2008-001, December 2007.
7. X. Zhou, W. Zhang, D. McDaniel, R. Srivastava and R. Burton, “Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture”, The Joint Advanced Materials Structures Center of Excellence 3rd Annual Technical Meeting, Atlantic City, NJ, July 10-12, 2007.
8. D. McDaniel, A. Awwad, J. Varona, R. Srivastava and D. Roelant, “Pipeline Unplugging Technology Demonstration”, Savannah River/Hanford/Idaho Technical Exchange, Atlanta, GA, October 2007.
9. X. Zhou, D. McDaniel, W. Zhang, and R. Burton, “Identification and Validation of Analytical

Chemistry Methods for Detecting Composite Surface Contamination and Moisture", The Joint Advanced Materials Structures Center of Excellence 4th Annual Technical Meeting, Seattle, WA, June 17-19, 2008.

10. D. McDaniel, and D. Roelant, "Pipeline Plugging and Prevention", Nuclear Safety Research & Development--National Technical Exchange, Washington DC, February, 2009.
11. S. Gokaltun, D. McDaniel, D. Roelant, J. Varona, T. Pribanic and A. Awwad, "Evaluation of Innovative High-Level Waste Pipeline Unplugging Technologies", Waste Processing Technical Exchange, Denver, CO, May 2009.
12. D. McDaniel, D. Roelant, J. Varona, and A. Awwad, "Remote Automated Monitors for High Level Waste", Waste Processing Technical Exchange, Denver, CO, May 2009.
13. X. Zhou, D. McDaniel and R. Burton, "A Review of Bonding Pretreatment Procedures and Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture", DOT/FAA/AR-10/11, United States, Department of Transportation Federal Aviation Administration, Springfield, Virginia, 2010.
14. T. Pribanic, S. Gokaltun, D. McDaniel, D. Roelant, J. Varona and A. Awwad, "Design and Development of Innovative High-Level Waste Pipeline Unplugging Technologies", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
15. J. Varona, A. Awwad, D. McDaniel and D. Roelant, "In-Tank Solids Monitor", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
16. R. Patel, G. Tachiev, N. Yadav, D. McDaniel, and D. Roelant, "Experimental Studies for Gas Release of Non-Newtonian Fluids", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
17. S. Gokaltun and D. McDaniel, "Lattice Boltzmann Method for Multiphase Flows", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
18. S. Gokaltun, T. Pribanic, J. Varona, D. McDaniel, A. Awwad and D. Roelant, "Evaluation and Development of Innovative High-Level Waste Pipeline Unplugging Technologies", Waste Management Symposia 2011, Phoenix, AZ, March 2011.
19. J. Varona, D. McDaniel and D. Roelant, "In-situ HLW Tank Instrumentation Evaluation", Waste Management Symposia 2012, Phoenix, AZ, February 2012.
20. T. Pribanic, D. McDaniel, and L. Lagos, "A Remote Pipeline Crawler for Unplugging and Inspection Operations", 2nd Annual D&D Supply Chain Conference, November 2012.
21. S. Gokaltun, D. McDaniel and D. Roelant, "Implementation of Surface Wetting Effects in Computational Fluid Dynamics Simulations Using the Lattice Boltzmann Method", Waste Management Symposia 2013, Phoenix, AZ, February 24-28, 2013.
22. V. Musaramthota, T. Pribanic, D. McDaniel and X. Zhou, "Adhesively Bonded Composite Joints: An investigation of Contamination Effects on Durability", The Minerals, Metals and Materials Society (TMS 2014) Annual Meeting and Exhibition, San Diego, CA, Feb 16-20, 2014.
23. V. Musaramthota, A. Datye, R. Dua, R. Rokicki, S. Ramaswamy, D. McDaniel and N. Munroe, "Surface Responses of Ti Alloys for Orthopedic Implant Materials after Anodization Technique", Biointerface 2014, Redwood City, CA, October 6-8, 2014.
24. V. Musaramthota, D. McDaniel, T. Pribanic, N. Munroe and X. Zhou, "Understanding the Role of Contamination on Adhesively Bonded Composite Joints to Evaluate Durability: A Comparative Assessment", Material Science & Technology (MS&T 2014), Pittsburgh, PA, October 12-16, 2014.

25. V. Musaramthota, R. Dua, R. Rokicki, S. Ramaswamy, D. McDaniel and N. Munroe, "Next Generation Surface Modification Techniques on Ti alloys for Orthopedic Implant Materials", Material Science & Technology (MS&T 2014), Pittsburgh, PA, October 12-16, 2014.
26. D. McDaniel, "CMH-17: Perspectives on the Addition of Adhesive Bonding Content," CMH-17 Technical Meeting, Salt Lake City, Utah, March 2015.
27. D. McDaniel, B. Boesl, S. Khizroev, "Development of a Novel Health Monitoring System for Adhesively Bonded Composite Joints Using Magneto-Electric Nanoparticles," CMH-17 Technical Meeting, Wichita , Kansas, October 2015.
28. D. McDaniel, B Boesl, V. Musaramthota, S. Tashakori, "Effect of Surface Contamination on Composite Bond Integrity and Durability", AMTAS Technical Meeting, Seattle, Washington, 11/15.
29. D. McDaniel, L. Lagos, H. Fekrmandi, A. Abrahao, R. Sheffield, and E. Gokce," Robotic Technology Research at Florida International University for the Department of Energy - Environmental Management", International Workshop on the Use of Robotic Technologies at Nuclear Facilities, February 2-4, 2016, Gaithersburg, MD.
30. A. Awwad, J. Rivera, D. McDaniel, J. Conley, A. Fernandez, "Evaluation of Nonmetallic Components in the Hanford Waste Transfer System," Waste Management Symposia 2016, Phoenix, AZ, March, 6-10, 2016.
31. D. McDaniel and L. Lagos, "Development of Inspection Tools for the AY-102 Double-Shell Tank at the Hanford DOE Site", Tank Closure Forum, DOE-EM HQ, March 16, 2016.
32. D. McDaniel, B Boesl, V. Musaramthota, S. Tashakori, "Effect of Surface Contamination on Composite Bond Integrity and Durability", JAMS Technical Review Meeting, Grapevine, Texas, March 21-24, 2016.
33. D. McDaniel, "High-Level Waste Research Efforts at FIU in Support of DOE-EM and WRPS", WRPS Technology Coordination Meeting, Richland, WA, June 14-15, 2016.
34. D. McDaniel, B Boesl, V. Musaramthota, S. Tashakori, "Effect of Surface Contamination on Composite Bond Integrity and Durability", AMTAS Technical Meeting, Seattle, Washington, 10/16.
35. D. Watring, D. McDaniel, B Boesl, S. Tashakori, "Effect of Surface Contamination on Composite Bond Integrity and Durability", JAMS Technical Review Meeting, Salt Lake City, Utah, March 21-22, 2017.
36. D. McDaniel, "High-Level Waste Research Efforts at FIU in Support of DOE-EM and WRPS", WRPS Technology Coordination Meeting, Richland, WA, May 16-17, 2017.
37. D. McDaniel, A. Abrahao, Y. Tan, "Robotic Inspection Toll Development for Double Shell Tanks at Hanford", RCNET Workshop & Professional Development, Indian River State College, July 13-14, 2017.

F. Educational Activities

Courses Taught at Florida International University

Course Number	Course Title	Term
EGN 3311	Statics	Fall 2012
EML3301L	Instrumentation Lab	Fall 2012
EGM 3503	Applied Mechanics	Spring 2013

EGN 3321	Dynamics	Summer 2013
EGM 3503	Applied Mechanics	Fall 2013
EGM 6570	Fracture Mechanics	Fall 2013
EGM 3503	Applied Mechanics	Spring 2014
EGM 3311	Analysis of Eng. Systems	Summer 2014
EGM 3311	Analysis of Eng. Systems	Fall 2014
EGM 3311	Analysis of Eng. Systems	Spring 2015
EGM 3311	Analysis of Eng. Systems	Summer 2015
EGM 3311	Analysis of Eng. Systems	Fall 2015
EGM 3311	Analysis of Eng. Systems	Spring 2016 (2)
EGM 3311	Analysis of Eng. Systems	Summer 2016
EGM 3311	Analysis of Eng. Systems	Fall 2016
EGM 3311	Analysis of Eng. Systems	Spring 2017 (2)
EGM 3311	Analysis of Eng. Systems	Summer 2017

Courses Taught at the University of Miami

Course Number	Course Title	Term
MAE 502	Vibrations	Fall 2005
MAE 470/507	Introduction to Aerospace Structures/Advanced Mechanics of Solids	Spring 2006

Graduate Committee Member

Rakesh Guduru	Master's Thesis	2008 - 2011
Edgard Espinosa	Master's Thesis	2009 - 2011
Vishal Musaramthota	Ph.D. Dissertation	2010 - 2016
Kao Yang	Master's Thesis	2014 – 2016
Mackenson Telusma	Master's Thesis	2015 – 2016
Dillon Watring	Master's Thesis	2015 - 2017
Amin Baghalian	Ph.D. Dissertation	2015 - Present
Shervin Tashakori	Ph.D. Dissertation	2015 - Present
Anthony Abrahao	Ph.D. Dissertation	2015 - Present
Maximiliano Edrei	Master's Thesis	2015 - Present
Janhavi Chitale	Ph.D. Dissertation	2016 - Present
Sebastian Zanlongo	Ph.D. Dissertation	2016 - Present

Student Support

Tushar Sawant Funding Source: FAA	Non-Thesis Masters	2006
Anand Kundar Funding Source: FAA	Non-Thesis Masters	2006
Keon John Funding Source: FAA	Non-Thesis Masters	2006
Matthew Toro Funding Source: FAA	Undergraduate Research	2006
Damian Lloyd Funding Source: NOAA	Undergraduate Research	2006 - 2007
Kevin Lamott Funding Source: FAA and ARO	Undergraduate Research	2008 - 2009
Gregory Burrow II Funding Source: ARO	Undergraduate Research	2009 - 2010
Janet Reyes Funding Source: ARO	Undergraduate Research	2009
Rakesh Guduru Funding Source: FAA	Master's Thesis	2008 - 2011
Lachen Elaadil Funding Source: ARO	Postgraduate Research	2010 - 2011
Vishal Musaramthota Funding Source: FAA	Ph.D. Dissertation	2010 - 2016
Lazaro Sanchez Funding Source: ARO and DOD/SAIC	Postgraduate Research	2011- 2012
Shervin Tashakori Funding Source: FAA	Ph.D. Dissertation	2015 - 2017
Jorge Coria Funding Source: ONR	Undergraduate Research	2015 - 2016
Dillon Watring Funding Source: ONR	Undergrad Re. & Master's Thesis	2015 - 2017
Mackenson Telusma Funding Source: DOE NETL/DOE NEUP	Non-Thesis Masters, Ph.D. Dis.	2015 - Present
Sohail Reddy Funding Source: DOE NETL	Master's Thesis	2015
Janhavi Chitale Funding Source: DOE NETL	Ph.D. Dissertation	2016 - Present
Daniela Gil Funding Source: ONR	Undergraduate Research	2016 - 2017
Jose Rojas Funding Source: FAA	Undergraduate Research	2017
Gabriela Gutierrez-Duran	Undergraduate Research	2017 - Present

Funding Source: FAA

Hillal Ibiyemi	Undergraduate Research	2017

Funding Source: FAA