CURRICULUM VITAE
OF
DR. DWAYNE MCDANIEL, MECHANICAL AND MATERIALS ENGINEERING

EDUCATION/TRAINING

Degree	Institution	Field	Year
Ph.D.	University of Florida	Engineering Mechanics	1994-2000
M.S.	University of Florida	Engineering Mechanics	1991-1993
B.S.	University of Florida	Aerospace Engineering	1986-1991
P.E.	State of Florida (#62404)	Mechanical Engineering	2005-Present

ACADEMIC EXPERIENCE

Rank	Institution	Field	Dates
Associate Professor	Florida Int. University	Mechanical & Materials Eng.	2019-Present
Graduate Program Director	Florida Int. University	Mechanical & Materials Eng.	2021-Present
Principal Scientist (Sr. Re. Sc., Re. Sc.)	Florida Int. University	Applied Research Center	2006-2019
Adjunct Professor	Florida Int. University	Mechanical & Materials Eng.	2012-2019

PART-TIME ACADEMIC EXPERIENCE

Rank	Institution	Field	Dates
Adjunct Professor	University of Miami	Mech. & Aero. Eng.	2005-2006
Associate Adjunct Professor	University of Florida	Aero. Eng. Mech. & Eng. Sc.	2001-2001

NON-ACADEMIC EXPERIENCE

Place of Employment	Title	Dates
Exponent Failure Analysis Associates	Engineer	2001-2006

PUBLICATIONS IN DISCIPLINE

Refereed Articles (Bold indicates Graduate Student Mentored as Chair/Co-chair or Project Manager, IF – Impact Factor)

1. **P. Mahyawansi**, S. Zanje, A. Sharifi, D. McDaniel, A. Leon, "Experimental Investigation of Storm Sewer Geyser Using a Field-Scale Setup", *Physics of Fluids*, Vol 36, Issue 5 (2024); https://doi.org/10.1063/5.0199012 *IF 4.60*
2. **A. Awwad**, D. McDaniel, L. Lagos, J. Rivera, B. Tansel, "Effect of ion penetration on the aging of EPDM components used in caustic liquid transfer lines by microscopic analysis", *Journal of Pressure Vessels and Piping*, Vol 209 (2024); https://doi.org/10.1016/j.ijpvp.2024.105173 *IF 2.56*
3. M. Presa-Reyes, **P. Mahyawansi, B. Hu**, D. McDaniel, S. Chen, "DCC-DNN: A Deep Neural Network Model to Predict the Drag Coefficients of Spherical and Non-Spherical Particles Aided by Empirical Correlations", *Powder Technology*, Vol 435 (2024); https://doi.org/10.1016/j.powtec.2024.119388 *IF 5.62*
4. Z. Yin, Y. Saadati, **B. Hu**, A. Leon, M. H. Amini, D. McDaniel, "Fast High Fidelity Flood Inundation Map Generation by Super Resolution Techniques", *Journal of Hydroinformatics*, Volume 62, (2024); https://doi.org/10.1080/00221686.2024.2305353 *IF 3.05*

5. **P. Mahyawansi**, S. Zanje, A. Sharifi, D. McDaniel, A. Leon, "Experimental and Numerical Investigation of a Small Scale Storm Sewer Geyser", *Journal of Hydraulic Research* (2024), https://doi.org/10.1080/00221686.2024.2305353 *IF 2.57*

6. **B. Hu**, Z. Yin, A. Hamrani, A. Leon, D. McDaniel, "Super-Resolution-Assisted Rapid High-Fidelity CFD Modeling of Data Centers", *Building and Environment* (2024), https://doi.org/10.1016/j.buildenv.2023.111036 IF 7.87

7. **B. Hu**, D. McDaniel, "Applying Physics-Informed Neural Networks to Solve Navier-Stokes Equations for Laminar Flow Around a Particle", *Mathematical and Computational Applications* (2023), 28(5), 102; https://doi.org/10.3390/mca28050102 *IF 1.9*

8. A. Hamrani, A. Agarwal, A. Allouhi, D. McDaniel, F. Bouarab, A. Akbrazadeh, "Applying Machine Learning to Wire Arc Additive Manufacturing: A Systematic Data-Driven Literature Review", *Journal of Intelligent Manufacturing* (2023); http://dx.doi.org/10.1007/s10845-023-02171-8 *IF 6.38*

9. **G. Seisdedos**, E. Viamontes, E. Salazar, M. Ontiveros, C. Pantea, E. Davis, T. Rockward, D. McDaniel, B. Boesl, "Assessment and Non-Destructive Evaluation of the Influence of Residual Solvent on a Two-Part Epoxy Based Adhesive Using Ultrasonics", *Applied Sciences* (2023); https://doi.org/10.3390/app13063883 *IF 2.84*

10. **A. Awwad**, D. McDaniel, L. Lagos, J. Rivera, B. Tansel, "Effect of solution concentration on ethylene propylene diene monomer (EPDM) nonmetallic components used in caustic liquid waste transfer lines", *Engineering Failure Analysis* (2023); https://doi.org/10.1016/j.engfailanal.2022.107007 *IF 3.73*

11. J. Dubon, **G. Seisdedos**, D. Watring, M. Pajon, S. Khizroev, D. McDaniel, B. Boesl, "Multifunctional MENs doped adhesives: Bond quality evaluation and variations in magnetic signal with environmental exposure", *Applied Sciences* (2022); https://doi.org/10.3390/app12168238 *IF 2.84*

12. **C. Lara,** J. Villamil, A. Abrahao, A. Aravelli, G. Daldegan, **S. Sarker**, D. Martinez, D. McDaniel, "Development of an Innovative Inspection Tool for Superheater Tubes in Fossil Energy Power Plants", *Materials Evaluation*, Volume 79, Issue 7 (2021), pp. 728-738; DOI: 10.32548/2021.ME-04212 *IF 1.0*

13. **A. Awwad**, D. McDaniel, L. Lagos, B. Tansel, "Effect of temperature and aging duration on ethylene propylene diene monomer (EPDM) nonmetallic components used in caustic liquid waste transfer line", *Engineering Failure Analysis*, 128(4):105633 (2021); https://doi.org/10.1016/j.engfailanal.2021.105633 *IF 3.73*

14. **P. Wang**, E. Zhang, D. Toledo, I. Smith, B. Navarrete, N. Furman, A. Hernandez, **M. Telusma**, D. McDaniel, P. Liang, S. Khizroev, "Colossal Magnetoelectric Effect in Coreshell Magnetoelectric Nanoparticles", *Nano Letters*, Vol. 20 No. 8 (2020) pp. 5765–5772; DOI: 10.1021/acs.nanolett.0c01588 *IF 10.8*

15. **P. Wang**, D. Toledo, E. Zhang, M. Telusma, D. McDaniel, P. Liang, S. Khizroev, "Scanning Probe Microscopy Study of Cobalt Ferrite - Barium Titanate Coreshell Magnetoelectric Nanoparticles", *Journal of Magnetism and Magnetic Materials*, Vol. 516 No. 15 (2020) pp. 1-9; https://doi.org/10.1016/j.jmmm.2020.167329 *IF 2.7*

16. S. Farhangdoust, S. Tahakori, D. McDaniel, I. Tansel, A. Baghalian, A. Mehrabi, "Damage Detection of 3D Printed Mold Using the Surface Response to Excitation Method", *Structural Engineering and Mechanics*, Vol. 75, Num 3, August 10, 2020, pgs 369-376;

DOI:10.12989/sem.2020.75.3.369 *IF 3.0*

17. S. Tashakori, A. Baghalian, V. Senuyrek, S. Farhangdoust, D. McDaniel, I. Tansel, "Composites bond inspection using heterodyne effect and SuRE methods", *Shock and Vibration,* Vol. 2018, Article ID 1361932.
18. A. Baghalian, S. Tashakori, V. Senuyrek, M. Unal, D. McDaniel, I. Tansel, "Development of Comprehensive Heterodyne Effect Based Inspection (CHEBI) Method for Inclusive Monitoring of Cracks", *Measurement,* Volume 128, November 2018, Pages 89-95
19. 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,* Vol. 332, June 2018, pgs. 307-318.
20. A. Baghalian, V. Senuyrek, S. Tashakori, D. McDaniel, I. Tansel, "A Novel Nonlinear Acoustic Health Monitoring Approach for Detecting Loose Bolts", *Journal of Nondestructive Evaluation,* 2018 37:24.
21. 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,* Vol.72, March 2018, 51-59.
22. V. Senyurek, A. Baghalian, S. Tashakori, D. McDaniel, I. Tansel, "Localization of Multiple Defects Using Compact Phased Array Method", *Journal of Sound and Vibration,* Vol. 413, January 2018, 383-394.
23. A. Baghalian, S. Tashakori, V. Senuyrek, D. McDaniel, H. Fekrmandi, I. Tansel, "Non-Contact Quantification of Longitudinal and Circumferential Defects in Pipes using the Surface Response to Excitation (SuRE) Method", *International Journal of Prognostics and Health Management,* Vol.8, No.2, p.8, August 2017.
24. 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.
25. 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.
26. 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.
27. S. Gokaltun, D. McDaniel, A. Awwad and J. Varona, "Pipeline unplugging experiments with the fluidic Wave-Action Technology", *Engineering Science and Technology,* 17 (2014) 73-84.
28. 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).
29. D. McDaniel and A. Kurdila, "Modal Scheduling and Switching Systems", *Journal of Aerospace Engineering* Vol. 17 No. 146-153 (2004) 1490-1504.

30. 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.

Proceedings (Bold indicates Graduate Student Mentored as Chair/Co-chair or Project Manager)

1. L. Lagos, **A. Abrahao, M. Telusma**, D. McDaniel, **M. Escobar**, C. Rios, "Robotic and Sensor Technologies for Nuclear Decommissioning of Department of Energy Sites", DEM 2024 - International Conference on Decommissioning Challenges, Avignon, France, May 27-29, 2024.
2. D. Reid, P. Griffin, K. Boomer, L. Lagos, **J. Natividad**, D. McDaniel, **M. Telusma**, "Plug and Play Robotics for the Hanford Mission: Advancing Waste Management Through Collaborative Technology Development", Proceedings of the Waste Management Symposia 2024, Phoenix, AZ, March 11 – March 15, 2024.
3. D. McDaniel, M. Boan, L. Lagos, **D. Baptiste**, "Electrochemical Performance of an Epoxy/Polyurea Coating System for the Protection of Degraded Concrete Infrastructures at DOE-EM Sites", Proceedings of the Waste Management Symposia 2024, Phoenix, AZ, March 11 – March 15, 2024.
4. A. Aravelli, D. McDaniel, L. Lagos, **B Pineda**, B. Wiersma, "Pipeline Integrity Assessment in High Level Waste Transfer Systems – Experimental and Computational Fluid Dynamics (CFD) Based Approaches", Proceedings of the Waste Management Symposia 2024, Phoenix, AZ, March 11 – March 15, 2024.
5. **B. Cintas**, **A. Abrahao**, D. McDaniel, L. Lagos, D. Reid, K. Boomer, "Development of Long-term Surveillance Unmanned Ground Vehicles for Nuclear Facilities Inspections", Proceedings of the Waste Management Symposia 2024, Phoenix, AZ, March 11 – March 15, 2024.
6. **A. Abrahao,** L. Lagos, D. McDaniel, **M. Telusma**, "New Technologies to Reduce the 3Ds (dangerous, dull, dirty) in Decommissioning Projects", International Conference on Nuclear Decommissioning: Addressing the Past and Ensuring the Future, Vienna, Austria, May 15-19, 2023.
7. M. Boan, **N. Espinal**, S. Tashakori, L. Lagos, D. McDaniel, "Evaluation of Coatings for the Protection of the HCAEX tunnel Concrete Walls at Savannah River", Proceedings of the Waste Management Symposia 2023, Phoenix, AZ, February 26 – March 2, 2023.
8. **A. Abrahao**, L. Lagos, D. McDaniel, **M. Telusma**, "New Technologies to Reduce the 3Ds (dangerous, dull, dirty) in Decommissioning Projects", International Conference on Nuclear Decommissioning: Addressing the Past and Ensuring the Future, Vienna, Austria, May 15-19, 2023.
9. **M. Telusma**, D. McDaniel, L. Lagos, R. Velasquez, **N. Espinal,** "Prototyping and Testing of a Wall Crawling Mobile Platform for Damage Mitigation of H-Canyon's Concrete Walls", Proceedings of the Waste Management Symposia 2023, Phoenix, AZ, February 26 – March 2, 2023.
10. A. Aravelli, D. Sinnott, R. Piloto, D. McDaniel, L. Lagos, B. Wiersma, "Simulant Based Particle Erosion and Chemical Corrosion in HLW Pipe Components", Proceedings of the Waste Management Symposia 2023, Phoenix, AZ, February 26 – March 2, 2023.

11. J**. Adams, A. Abrahao**, D. Reid, D. McDaniel, L. Lagos, "Development of Semi-Autonomous Robotic Manipulator for Off-Riser Sampling of Tank Waste", Proceedings of the Waste Management Symposia 2023, Phoenix, AZ, February 26 – March 2, 2023.
12. **B. Cintas**, D. McDaniel, A. Aravelli, **D. Sinnott**, M. Poirier, "Engineering-Scale Evaluation of Flushing Requirements for High-Level Liquid Waste at Savannah River and Hanford Sites", Proceedings of the Waste Management Symposia 2023, Phoenix, AZ, February 26 – March 2, 2023.
13. **B. Cintas**, D. McDaniel, A. Aravelli, S. Tashakori, **D. Sinnott**, M. Poirier, "Evaluation of Pipeline Flushing Requirements for High-Level Waste at Hanford and Savannah River", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
14. M. Boan, **A. Litzinger**, L. Lagos, D. McDaniel, "Development and Evaluation of Aged Concrete Surfaces for the Study of Coatings for the HCAEX Tunnel at Savannah River", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
15. **A. Awwad**, D. McDaniel, J. Rivera, L. Lagos, "Effects of Sodium Hydroxide, Temperature, and Exposure Duration on Hose-In-Hose Transfer Lines used in the Hanford Waste Transfer System", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
16. **J. Adams**, T. Tran, **A. Abrahao**, A. Pappas, D. McDaniel, L. Lagos, "Radiological Surveillance of Hanford Tank Farm Using an Autonomous Mobile Platform", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
17. A. Aravelli, R. Piloto, **D. Sinnott,** D. McDaniel, L. Lagos, B. Wiersma, "Effect of Caustic Simulant Flow on the Corrosion Characteristics of Waste Transfer Components", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
18. **M. Telusma**, **J. Natividad**, D. McDaniel, L. Lagos, "High Fidelity Simulation of an Omni-Directional Wall Crawling Mobile Platform for Use Inside the H-Canyon Tunnel", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
19. **S. Story,** D. Martin, S. Tashakori, D. McDaniel, G. Soon, L. Lagos, "Development and Deployment of the Miniature Rover for Inspection of Hanford's Double Shell Tank (DST)", Proceedings of the Waste Management Symposia 2022, Phoenix, AZ, March 6-10, 2022.
20. J. Dubon, **G. Seisdedos**, M. Ontiveros, B. Boesl, D. McDaniel, "Non-Destructive Evaluation of Mechanical Damage of Adhesives Using Magneto-Electric Nanoparticles", ASC 36th Annual Technical VIRTUAL Conference. September 19 - 22, 2021.
21. **M. Telusma**, **J. Natividad**, L. Lagos, D. McDaniel, "Development of an Omnidirectional Wall Crawling Mobile Platform Designed to Aid in the Repair of H-Canyon's Concrete Walls", Proceedings of the Waste Management Symposia 2021, Phoenix, AZ, March 7-12, 2021.
22. D. Martin, S. Tashakori, L. Lagos, D. McDaniel, "Development and Testing of a Miniature Inspection Tool for Hanford DST's", Proceedings of the Waste Management Symposia 2021, Phoenix, AZ, March 7-12, 2021.
23. M. Boan, R. Ocampo, L. Lagos, D. McDaniel, "Accelerated Aging of Concrete for the Study of Coatings to Protect the Aged Walls of the HCAEX Tunnel at Savannah River", Proceedings of the Waste Management Symposia 2021, Phoenix, AZ, March 7-12, 2021.
24. **B. Cintas**, **A. Saha**, S. Tashakori, M. Poirier, D. McDaniel, "Development of Methods for In-line Monitoring of Yield Stress During the Transfer of Radioactive Waste", Proceedings of the Waste Management Symposia 2021, Phoenix, AZ, March 7-12, 2021.

25. **M. Telusma, J. Natividad**, D. McDaniel, L. Lagos, "Development of an Omni-Directional Wall Coating Platform Using Thrust-Based Adhesion Mechanism at H-Canyon Exhaust Tunnel", 2021 ANS Winter Meeting and Technology Expo, Washington DC, November 30 – December 3, 2021.
26. **A. Abrahao**, **J. Estrada**, L. Lagos, D. McDaniel, "Development of a Marsupial Robotic Crawler for the Inspection of High-Level Waste Double-Shell Tank Secondary Liners", 2021 ANS Winter Meeting and Technology Expo, Washington DC, November 30 – December 3, 2021.
27. S. Tashakori, D. Martin, **S. Story**, **M. Telusma, A. Abrahao,** D. McDaniel, L. Lagos, "Design of a Miniature Rover for the Inspection of High-Level Waste Double-Shell Tanks", 2021 ANS Winter Meeting and Technology Expo, Washington DC, November 30 – December 3, 2021.
28. **G. Seisdedos,** B. Hernandez, J. Dubon, M. Ontiveros, B. Boesl, D. McDaniel, "Bond Quality Evaluation Using Adhesive Doped with Magneto-Electric Nanoparticles", ASC 36th Annual Technical VIRTUAL Conference. September 19 - 22, 2021.
29. **A. Awwad**, J. Rivera, D. McDaniel, "Accelerated Aging and Evaluation of Hose-In-Hose Transfer Lines in the Hanford Waste Transfer System - 20312", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
30. M. Boan, A. Abreu, L. Lagos, D. McDaniel, "Aging of Concrete for the Evaluation of Repair Materials to Protect the Walls of the HCAEX Tunnel at Savannah River – 20301", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
31. A. Baharanchi, **E. Nina**, D. McDaniel, M. Poirier, "Development of a Testbed for Pipeline Flushing-20425", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
32. A. Baharanchi, **A. Saha**, **B. Cintas**, D. McDaniel, M. Poirier, "Development of Methods for In-line Monitoring of Yield Stress During the Transfer of Radioactive Waste - 20435", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
33. A. Aravelli, D. McDaniel, M. Thompson, K. Imrich, B. Wiersma, "Erosion-Corrosion Detection in Carbon Steel Pipe Loops using SRNLs Thickness and Mass Loss Measurement Coupons – 20464", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
34. **A. Abrahao**, S. Tashakori, C. Excellent, P. Uriarte, D. Martin, L. Lagos, D. McDaniel, "Inspection Tools for Hanford Tanks and Waste Transport Systems - 204", Proceedings of the Waste Management Symposia 2020, Phoenix, AZ, March 8-12, 2020.
35. A. Abrahao, T. Aucott, A. Alrashide, J. Adams, S. Zanlango, D. McDaniel, L. Lagos "Autonomous Radiation Mapping and Quantification using an Unmanned Ground Vehicle" ANS Winter Meeting & Expo, Washington, DC, November 17-21, 2019.
36. M. Thompson, A. Aravelli, D. McDaniel, M. Krutsch, M. McNeilly, K. Imrich, B. Wiersma, "Advanced Fiber Optic and Ultrasonic Sensor Systems for Structural Health Monitoring of Pipes in Nuclear Waste Sites", 52nd International Symposium on Microelectronics (iMAPS), Boston, MA, September 30 - October 3, 2019.
37. S. Zanlongo, L. Bobadilla, D. McDaniel, Y. Tan, "Development of Informative Path Planning for Inspection of the Hanford Tank Farm", International Conference on Robotics and Automation, Montreal, Canada, May 20-24, 2019.
38. B Hernandez, G. Gutierrez-Duran, J. Dubon, M. Pajon, J. Rojas, B. Boesl, D. McDaniel, "Effect of Surface Contamination with Mitigation Methods on Adhesive Composite Bond Integrity and Durability", SAMPE Conference Proceedings, Charlotte, NC, May 20-23, 2019.

39. A. Abrahao, C. Excellent, M. Losada, L. Lagos, D. McDaniel, "Development of Robotic Crawlers for Inspection of Radioactive Waste Tanks and Transfer Lines - 19573", Proceedings of the Waste Management Symposia 2019, Phoenix, AZ, March 3-7, 2019.
40. Y. Tan, M. Dibono, L. Lagos, D. McDaniel, "Development of a Semi-autonomous Miniature Rover for Inspection of Double Shell Tank Floors - 19625", Proceedings of the Waste Management Symposia 2019, Phoenix, AZ, March 3-7, 2019.
41. D. McDaniel, L. Lagos, A. Abrahao, "Robotic Systems for Environmental Management Applications", 2018 ANS Winter Meeting and Nuclear Technology Expo, Orlando, Florida, November 11-15, 2018.
42. M. Pajon, P. Wang, J, Dubon, F. Rojas, B. Hernandez, D. McDaniel, S. Khizroev, B. Boesl, "Multifunctional MENs Doped Adhesives for Bond Quality Evaluation", ASC 33rd Annual Technical Conference, Seattle, WA, September 24-26, 2018.
43. A. Aravelli, D. McDaniel, C. Davila, "Real-time Erosion-Corrosion Detection in Waste Transfer Pipelines using Guided Wave Ultrasonic Sensors", Proceedings of the Waste Management Symposia 2018, Phoenix, AZ, March 18-22, 2018.
44. A. Awwad, D. McDaniel, J. Rivera, "Extensive Aging and Evaluation of Nonmetallic Components in the Waste Transfer System at Hanford", Proceedings of the Waste Management Symposia 2018, Phoenix, AZ, March 18-22, 2018.
45. M. DiBono, A. Abrahao, D. McDaniel, L. Lagos, Y. Tan, "Engineering Scale Testing of Robotic Inspection Tools for Double Shell Tanks at Hanford", Proceedings of the Waste Management Symposia 2018, Phoenix, AZ, March 18-22, 2018.
46. 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 2017, Phoenix, AZ, March 5-9, 2017.
47. A. Awwad, D. McDaniel, J. Rivera, "Evaluation of Nonmetallic Components in the Hanford Waste Transfer System", Proceedings of the Waste Management Symposia 2017, Phoenix, AZ, March 5-9, 2017.
48. 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 2017, Phoenix, AZ, March 5-9, 2017.
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. 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.
51. 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.

52. 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.
53. 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.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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, Marc, 6-10, 2016.
60. 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.
61. 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.
62. 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.
63. 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.
64. 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.

65. R. Patel, G Tachiev, D. McDaniel and D. Castillo, "Computational Fluid Dynamics Modeling of HighLevel Waste Plug Formation (14359)", Proceedings of the Waste Management Symposia 2014, Phoenix, AZ, March 2014.

66. 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.

67. 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.

68. 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.

69. 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.

70. 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.

71. 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.

72. 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.

73. 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.

74. 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.

75. 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.

76. 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.

77. 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.

78. 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.

79. 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.

80. 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.

81. 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.

82. 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.

83. 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.

84. 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.

85. 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.

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87. 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.

88. 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.

89. 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.

90. 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.
91. 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.
92. 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.
93. 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.
94. N. Fitz-Coy and D. McDaniel, "High Fidelity Virtual Simulation of Articulated Multiflexible Body Systems," Proceedings of 68th Shock and Vibration Symposium, October 1997.
95. 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.
96. 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.

Government Reports

1. 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.
2. 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.

Presented Papers and Lectures (Bold indicates Graduate Student Mentored as Chair/Co-chair or Project Manager)

1. **A. Chodankar**, D. McDaniel, M. Sukop, M. Poirier, "Sedimentation Modelling using Lattice Boltzmann Method in Newtonian and Non-Newtonian Fluids", Discrete Simulation for Fluid Dynamics, Albuquerque, NM, 7/17-20/23.
2. D. McDaniel and G. Soon, "Use of Robotics in Nuclear Applications", DOE/FIU Tech Talks, April 20, 2021.
3. D. McDaniel, "Robotic and Sensor Systems for Infrastructure Inspection", ASME Power Conference and Nuclear Forum, Drone and Robotics Seminar, Virtual, August 4-5, 2020.
4. L. Lagos and D. McDaniel, "Robotics R&D for legacy nuclear waste", ANS Nuclear News, Volume 62, Number 13, December 2019.
5. D. McDaniel, B Boesl, **B. Hernandez,** "Effect of Surface Contamination on Composite Bond Integrity and Durability ", AMTAS Technical Meeting, Seattle, Washington, 11/19.

6. D. McDaniel, “Robotics Technologies for Tanks, D&D and other Applications”, Interregional Workshop on Optimization of Technology Selection for Decommissioning of Large and Small Nuclear Installations, IAEA, September 12, 2019.
7. D. McDaniel, “Inspection Tools for Hanford Tanks and Waste Transport Systems Tank Closure Forum, DOE-EM, September 10, 2019.
8. D. McDaniel, “Robotic and Sensor Systems for Infrastructure Inspection”, ASME Power Conference and Nuclear Forum, Drone and Robotics Seminar, Salt Lake City, UT, July 18, 2019.
9. D. McDaniel, Hanford and Savannah River Coordination Meeting, Hanford, WA, March 18, 2019.
10. B. Hernandez, D. McDaniel, B. Boesl, “Effect of Surface Contamination on Composite Bond Integrity and Durability”, JAMS Technical Review Meeting, Charlotte, NC, May 20-23, 2019.
11. D. McDaniel, B Boesl, B. Hernandez, “Effect of Surface Contamination on Composite Bond Integrity and Durability”, AMTAS Technical Meeting, Seattle, Washington, 11/18.
12. D. McDaniel, A. Aravalli, A. Abrahao, “Development of a Pipe Crawler Inspection Tool for Fossil Energy Power Plants”, 2018 UCR-HBCU Joint Kickoff Meeting, DOE-NETL, Pittsburg, PA September 21, 2018.
13. D. McDaniel, “Development of Robotic Inspection Tools for Applications in High-Level Waste Processing”, Florida Conference on Recent Advances in Robotics, Orlando, FL, 5/18.
14. D. McDaniel, B. Boesl, G. Gutierrez, “Effect of Surface Contamination on Composite Bond Integrity and Durability “, JAMS Technical Review Meeting, Long Beach, CA, May 23-24, 2018.
15. D. McDaniel, “Capabilities at FIU”, National Laboratory Coordination Meeting, Hanford, WA, 5/18.
16. D. McDaniel, B Boesl, G. Gutierrez, “Effect of Surface Contamination on Composite Bond Integrity and Durability “, AMTAS Technical Meeting, Seattle, Washington, 10/17.
17. D. McDaniel, “Tank and Pipeline Integrity”, Tank Integrity Workshop, SRNL, Aiken, SC, 9/17.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.

23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. D. McDaniel, “CMH-17: Perspectives on the Addition of Adhesive Bonding Content,” CMH-17 Technical Meeting, Salt Lake City, Utah, March 2015.
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. J. Varona, D. McDaniel and D. Roelant, “In-situ HLW Tank Instrumentation Evaluation”, Waste Management Symposia 2012, Phoenix, AZ, February 2012.

37. 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.
38. 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.
39. J. Varona, A. Awwad, D. McDaniel and D. Roelant, "In-Tank Solids Monitor", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
40. 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.
41. S. Gokaltun and D. McDaniel, "Lattice Boltzmann Method for Multiphase Flows", Waste Processing Technical Exchange, Atlanta, GA, November 2010.
42. 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.
43. D. McDaniel, D. Roelant, J. Varona, and A. Awwad, "Remote Automated Monitors for High Level Waste", Waste Processing Technical Exchange, Denver, CO, May 2009.
44. 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.
45. D. McDaniel, and D. Roelant, "Pipeline Plugging and Prevention", Nuclear Safety Research & Development--National Technical Exchange, Washington DC, February 2009.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.

WORKS IN PROGRESS

1. A. Hamrani, **M. Rayhan**, **M. Telusma**, D. McDaniel, L. Lagos, "Smart Quadruped Robotics: A Systematic Review of Design, Control, and AI Innovations", *Advanced Robotics,* (In Review)
2. **A. Chodankar**, M. Poirier, J.Dekarske, D. Dapelo, D. McDaniel, M. Sukop, "Sedimentation Modeling using Lattice Boltzmann Method in Newtonian Fluids", (In Review).
3. **A. Saha**, M. Poirier, D. McDaniel, "Development of Methods for Real Time In-line Monitoring of Yield Stress Using Pressure Drop and Liquid Rise Method During the Transfer of Radioactive Waste", (In Revision)
4. **P. Mahyawansi**, S. R. Zanje, A. Sharifi, D. McDaniel, and A. S. Leon, "Experimental investigation of a storm sewer geyser using a large-scale setup," *Physics of Fluids,* (In Preparation)
5. **P. Mahyawansi**, D. McDaniel, and A. S. Leon, "A Novel Hypothesis of Violent Storm Sewer geyser," *Nature*, (In Preparation)
6. **M. Rayhan**, T. Dolmetsch, S. Langan, A. Agarwal, D. McDaniel, "Towards Automating Robotic W-DED Process: A Framework for Monitoring, Visualization and Dynamic Adjustment of Contact Tip to Work Distance", (In Preparation)
7. **A. Chodankar**, M. Poirier, J.Dekarske, D. Dapelo, D. McDaniel, M. Sukop, "Sedimentation Modeling using Lattice Boltzmann Method in Power Law Fluids", (In Preparation)

FUNDED RESEARCH

As of 2019, sub awards were not provided at FIU, so the total amount of funding is attributed to the PI. Projects with PI and Co-PIs were conducted jointly between the PI and Co-PIs. Funding as a Co-PI typically provided salary support.

Research as PI

$600,000 (Notification of intent to Award 3/2024) 3 years: Est. Start Apr. 2024 - Apr. 2027
Dwayne McDaniel (PI)
Real-Time In-Line Monitoring (RTIM) for Hanford Tank Waste Treatment
Battelle Savannah River Alliance LLC

$350,000 (Notification of intent to Award 3/2024) 3 years: Est. Start Apr. 2024 - Apr. 2027
Dwayne McDaniel (PI)
Integrity Monitoring and Assessment, Prediction, Repair, and Corrosion Control of the Hanford Storage Tanks
Battelle Savannah River Alliance LLC

$280,000 1 year: Est. Start Mar. 2024 - Mar. 2025
Dwayne McDaniel (PI), Michael Sukop (Co-PI)
Impact of Particles on Ion Exchange Columns through Computational and Experimental Analysis (Phase 2)
Battelle Savannah River Alliance LLC

$500,000 4 years: Est. Start Aug. 2020 - July. 2024
Dwayne McDaniel (PI) – Original PI (Lin) passed away in June 2022

Development and Evaluation of a General Drag Model for CFD Simulation of Gas-Solid Flows via Physics-Informed Deep Machine Learning
U.S. Department of Energy

$256,000 1 year: Est. Start Feb. 2023 - Feb. 2024
Dwayne McDaniel (PI), Michael Sukop (Co-PI)
Impact of Particles on Ion Exchange Columns through Computational and Experimental Analysis (Phase 1)
Battelle Savannah River Alliance LLC

$493,000 Equipment, 1 Year: Est. Start Aug. 2022 - July 2023
Dwayne McDaniel (PI), Leonel Lagos (Co-PI), Andrew Green (Co-PI), Elias Alwan (Co-PI), Ou Bai (Co-PI), Leonardo Bobadilla (Co-PI)
Heterogeneous Robotic Systems for Mission Support
U.S. Department of Defense

$225,000 1 Year: Est. Start Jan. 2020 - Jan. 2021
Dwayne McDaniel (PI), Ahmadreza Abbasi Baharanchi (Co-PI)
Development of Methods for In-line Monitoring of Yield Stress during the Transfer of Radioactive Waste (Phase 2)
Savannah River Nuclear Solutions

$225,000 1 Year: Est. Start Jan. 2019 - Jan. 2020
Dwayne McDaniel (PI), Ahmadreza Abbasi Baharanchi (Co-PI)
Development of Methods for In-line Monitoring of Yield Stress during the Transfer of Radioactive Waste (Phase 1)
Savannah River Nuclear Solutions

$16,000 9 Months: Est. Start Feb. 2020 - Oct. 2020
Dwayne McDaniel (PI), Leonel Lagos (Co-PI), Mackenson Telusma (Co-PI)
CUI Industry Challenge
Quasset

$1,650 8 months: Est. Start Sept. 2022 - Apr. 2023
Dwayne McDaniel (PI)
Senior Design Rassor Arm Axis Position
University of Central Florida

$1,650 4 months: Est. Start Jan. 2022 - Apr. 2022
Dwayne McDaniel (PI)
Senior Design- NASA Human Exploration Rover Challenge
University of Central Florida

$398,333 (Transferred $307,000 to MME) 3 years: Est. Start Sept. 2018 - Aug. 2021
Dwayne McDaniel (PI), Aparna Aravelli (Co-PI), Anthony Abrahao (Co-PI)
Development of a Pipe Crawler Inspection Tool for Fossil Energy Power Plants
U.S. Department of Energy

$528,926 (**Transferred $264,000 to MME**) 3 years: Est. Start Oct. 2017 - Oct. 2020
Dwayne McDaniel (PI), Benjamin Boesl (Co-PI), Sakhrat Khizroev (Co-PI)
Multifunctional MENs Doped Adhesives for Bond Quality Evaluation
Office of Naval Research

<u>Research as Co-PI</u>

$336,000 (Notification of intent to Award 3/2024) 3 years: Est. Start Apr. 2024 - Apr. 2027
Aparna Aravelli (PI), **Dwayne McDaniel (Co-PI)**
Real-time Liquid/Slurry Waste Sampling & Analysis: With User Interface for Comprehensive Data
Battelle Memorial Institute

$900,000 (Notification of intent to Award 3/2024) 3 years: Est. Start Apr. 2024 - Apr. 2027
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI),** Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Digitally Optimized Autonomous Robot System for Hanford Waste Tank Handling
Idaho National Laboratory U.S. DOE

$280,000 1 Year: Est. Start Mar. 2024 - Mar. 2025
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI)**, Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Real-time Mercury Characterization for DOE Legacy Facilities Decommissioning Using Mobile Robotic Platforms
Battelle Savannah River Alliance, LLC

$240,000 1 Year: Est. Start Mar. 2024 - Mar. 2025
Aparna Aravelli (PI), **Dwayne McDaniel (Co-PI)**, Leonel Lagos (Co-PI)
Sensor Technologies for Degradation Assessment in Buried Pipe-in-pipe Waste Transfer Lines
Battelle Savannah River Alliance, LLC

$20,000,000 5 Years: Est. Start Sept. 2020 - Sept. 2025
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI),** Joseph Sinicrope (Co-PI), Yelena Kastenovich (Co-PI), Himanshu Upadhyay (Co-PI)
Florida International University's Continued Research Support for the Department of Energy's Office of Environmental Management
U.S. Department of Energy

$240,000 1 Year: Est. Start Feb. 2023 - Feb. 2024
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI)**, Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Development of Robotic Remote Systems with Plug-and-Play Interchangeable Components for Inspection and Repairs of DOE Facilities and Repositories
Battelle Savannah River Alliance, LLC

$39,000 6 Months: Est. Start Nov. 2021 - May 2022
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI)**
Research and Development support to Savannah River National Laboratory during their Network of National Lab Study on the Potential Acceleration of Treatment of Radioactive Waste Stored at DOE's Hanford Site
Savannah River Nuclear Solutions

<u>Pending Support</u>

$60,000 6 Months: Est. Start Sept. 2024 - Feb. 2025
Dwayne McDaniel (PI)
Robotic Solution Evaluation for Vacuum System Repair
Solvus

$2,000,000 2 Years: Est. Start Sept. 2023 - Sept. 2025
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI)**, Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)

Development of an Advanced Non-Destructive Examination Aerial Inspection System for Long-Term Surveillance of Concrete Structures and Repositories Across the DOE Complex
U.S. Department of Energy

$350,000 3 Years: Est Oct. 2016 - Aug. 2019
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI)**
Robust and Remote Radiation Hardened Robotic System for Tunnel Inspection
University of Texas at Austin

$250,000 3 Years: Est Sept. 2014 - Sept. 2017
Dwayne McDaniel (PI), George Dulikravich (Co-PI)
Development of Reduced Order Model for Reacting Gas-Solid Flow using Proper Orthogonal Decomposition
U.S. Department of Energy

$450,000 6 Years: Est. Aug. 2013 - Aug. 2019
Dwayne McDaniel (PI), Benjamin Boesl (Co-PI)
Effect of Surface Contamination on Composite Bond Integrity and Durability
Federal Aviation Administration

$25,000 6 Months: Est. Aug. 2013 - Aug. 2019
Dwayne McDaniel (PI)
Modeling of Non-Explosive Reactive Armor
SAIC

$771,000 3 Years: Est. Aug. 2008 - May 2012
Dwayne McDaniel (PI), Kuang-hsi Wu (Co-PI)
Aerospace Composites Research Program
Department of Defense – Army Research Office

$344,000 6 Years: Est. Sept. 2007 - Aug. 2013
Dwayne McDaniel (PI), Xiangyang Zhou (Co-PI University of Miami)
Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture
Federal Aviation Administration

$25,000 6 Months: Est. June 2011 - Feb. 2012
Dwayne McDaniel (PI)
Non-Explosive Reactive Armor Analysis
SAIC

$96,000 5 Months: Est. Apr. 2008 - Sept. 2008
Dwayne McDaniel (PI)
Identification and Validation of Analytical Chemistry Methods for Detecting Composite Surface Contamination and Moisture
Federal Aviation Administration

$75,000 7 Months: Est. Feb. 2006 - Aug. 2006
Dwayne McDaniel (PI)
Determination of Trends & Indicators of Population Encroachment
Federal Aviation Administration

$35,000 2 Months: Est. Feb. 2006 - Apr. 2006

Dwayne McDaniel (PI)
NoiseQuest
Federal Aviation Administration

$5,000 3 Months: Est. Apr. 2006 - July 2006
Dwayne McDaniel (PI)
CREWS Analysis and Modeling
NOAA – AOML

$32,000 3 Years: Est Apr. 2006 - June 2009
Dwayne McDaniel (PI)
CellTrack Analysis
UDC

PROPOSALS SUBMITTED BUT NOT FUNDED

$350,000 1 Year: Est. Start Aug. 2023 - Aug. 2024
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI),** Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Integration and Field Deployment of a Robotic Remote System with Plug-and-play Interchangeable Components for Inspection and Repairs of DOE Facilities
Battelle Savannah River Alliance LLC

$900,000 3 Year: Est. Start Jan. 2024 - Dec. 2026
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI),** Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Non-destructive Storage Tank Integrity Monitoring and Prediction: Autonomous Robot-Radar Technology Approach
Los Alamos National Laboratory-U.S. Department of Energy

$1,420,000 3 Year: Est. Start Jan. 2024 - Dec. 2026
Leonel Lagos (PI), **Dwayne McDaniel (Co-PI),** Anthony Abrahao (Co-PI), Mackenson Telusma (Co-PI)
Heavy Contact Robotic Repair Platform for Tank Farm Maintenance
Argonne National Laboratory-U.S. Department of Energy

$1,050,000 3 Year: Est. Start Jan. 2024 - Dec. 2026
Dwayne McDaniel (PI), Aparna Aravelli (Co-PI)
M-Star Lattice-Boltzmann Computation Fluid Dynamics Modeling of Mixing during Waste Retrieval and Pretreatment Processes
Battelle Savannah River Alliance LLC

$109,803 11 Months: Est. Start Feb. 2023 - Dec 2023
Dwayne McDaniel (PI), Benjamin Boesl (Co-PI)
REBAR - Reengineered Exoplanet Bindings and Reinforcement
NASA

$109,803 11 Months: Est. Start Feb. 2023 - Dec 2023
Dwayne McDaniel (PI), Benjamin Boesl (Co-PI)
REBAR - Reengineered Exoplanet Bindings and Reinforcement
NASA

$800,000 4 Years: Est. Start Sept. 2022 - Aug. 2026
Dwayne McDaniel (PI), Leonel Lagos (Co-PI), Elias Alwan (Co-PI), Ou Bai (Co-PI), Leonardo Bobadilla (Co-PI), Rachid Hamrani (Co-PI)
Cobots and Multi-Robot Systems for the Support of Military Operations
U.S. Department of Defense

$500,000 3 Years: Sept. 2022 - Aug. 2025
Dwayne McDaniel (PI), Arvind Agarwal (Co-PI), Aparna Aravelli (Co-PI), Cheng Zhang (Co-PI)
Development of an in-situ Robotic Cold Spray Repair System
U.S. Department of Energy

$225,000 1 Year: Est. Start Jan. 2021 - Jan. 2022
Dwayne McDaniel (PI), Shervin Tashakori (Co-PI)
Development of Methods for In-line Monitoring of Yield Stress during the Transfer of Radioactive Waste (Phase 3)
Savannah River Nuclear Solutions

$75,000 1 Year: Est. Aug. 2020 - Aug. 2021
Dwayne McDaniel (PI), Benjamin Boesl (Co-PI)
Evaluation of Peel Tests Verses Shear Tests for Adhesively Bonded Systems
Federal Aviation Administration

$120,000 4 Years: Est. Sept. 2017 - Aug. 2020
Dwayne McDaniel (PI), Yew-Teck Tan (Co-PI)
Amphibious Unmanned Air-Cushion Vehicle for Littoral Operations
Office of Navel Research

$250,000 3 Years: Est. Aug. 2017 - Aug. 2020
Dwayne McDaniel (PI), Aparna Aravelli (Co-PI)
Theoretical and Experimental Evaluation of Fog Catching Methods to Reduce Water Usage in Cooling Towers
DOE NETL

$600,000 2 Years: Est. Aug. 2017 - Aug. 2019
Yew-Teck Tan (PI), **Dwayne McDaniel (Co-PI),** Leonel Lagos (Co-PI)
Adaptive Radiation Monitoring and Rapid Safety Assessment with Unmanned Aerial Vehicles
DOE NEUP

$750,000 3 Years: Est. Aug. 2013 - Aug. 2016
Arindam Chowdhury (PI), **Dwayne McDaniel (Co-PI),** Leonel Lagos (Co-PI), Ioannis Zissis (Co-PI), Peter Irwin (Co-PI), Nezih Pala (Co-PI)
Diversifying the STEM Workforce and Reducing BOS Cost to Achieve Competitive Solar Technologies
DOE EERE

$122,338 3 Years: Est. Aug. 2012 - Aug. 2015
Dwayne McDaniel (PI)
Collaborative Research: Development of an Electrochemical Wave for On-Board Monitoring of Adhesive Bond Degradation in Aerospace Structures
National Science Foundation

PATENTS AND PATENT APPLICATIONS

US Patent Application US-20220291106-A1 “Real Time Monitoring of Non-Newtonian Fluids”,

filed March 8, 2022, published September 15, 2022. Inventors: **Dwayne McDaniel**, Ahmadreza Abbasi Baharanchi, Michael Poirier, Shervin Tashakori.

US Patent 11,630,025 "Robotic Inspection Device", issued April 18, 2023. Inventors: **Dwayne McDaniel,** Mackenson Telusma and Leonel Lagos.

US Patent 10,557 763 "Rapid and Wireless Screening and Health Monitoring of Materials and Structures", issued February 11, 2020. Inventors: Sakhrat Khizroev, Rakesh Guduru, **Dwayne McDaniel.**

US Patent 10,234,347 "Rapid and Wireless Screening and Health Monitoring of Materials and Structures", issued March 19, 2019. Inventors: Sakhrat Khizroev, Rakesh Guduru, **Dwayne McDaniel.**

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

2024	FIU Top Scholar Awardee for Mentoring 2023-2024
2024	Best Poster Presentation for Track 5, Waste Management Symposia 2024, "Electrochemical Performance of an Epoxy/Polyurea Coating System for the Protection of Degraded Concrete Infrastructures at DOE-EM Sites"
2022	"Superior" paper at the WM2022 Conference, Paper #22317 "Radiological Surveillance of Hanford Tank Farm Using an Autonomous Mobile Platform" presented in Session #067 Nuclear and Industrial Robotics, Remote Systems and Emerging Technology (9.2)
2020	ASME Best Poster/Paper Award at the WM2020 Conference, for Paper # 20301 "Aging of Concrete for the Evaluation of Repair Materials to Protect the Walls of the HCAEX Tunnel at Savannah River"
2000	Jefferson Goblet Award, Best Graduate Student Paper Award, 41st Structures, Structural Dynamics and Materials Conference
1992,1993,1996	AIAA's Most Helpful Teaching Assistant Award

Supervised Students Competitive Awards

2024	Best Graduate Student Poster for MSIPP at the Waste Management Symposia 2024, Modeling Particle Deposition & Resuspension Dynamics in an Ion-Exchange Columns Using Lattice Boltzmann Methods **(Student Mentored - Abhijeet Chodankar)**
2024	Best Graduate Student Poster for the MME Graduate Research Day **(Student Mentored – Abhijeet Chodankar)**
2023	2nd Place Student Presentation, 2023 FECM/NETL Spring R&D Project Review Meeting, **(Student Mentored - Pratik Mahyawansi)**
2022	MME Best Undergraduate Student Poster Winner **(Student Mentored - Julie Vilamil)**
2019	SAMPE 2019 Poster Presentation – 1st Place **(Student Mentored – Dillon Watring)**

OFFICES HELD IN PROFESSIONAL SOCIETIES

2023 - Present	FIU's Panther Robotics Faculty Advisor
2015 - 2023	Member - American Society of Mechanical Engineers

2019 - 2023	ASME Crawler/Ground Robotics for Inspection Committee
2009 - 2016	Member - Society for the Advancement of Material and Process Engineering
1994 - 2002	Member - American Institute of Aeronautics and Astronautics

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Journal Paper Reviewer

Composite Structures (2018, 2021)
ASME Journal of Heat Transfer (2018, 2019)
Robotics (2020)
Advances in Concrete Construction (2021)
Materials Evaluation (2021)
Machines (2021)
Applied Sciences (2021)
Journal of Intelligent Material Systems and Structures (2021)
IEEE Robotics and Automations (2022)
Measurement (2022)
Journal of Marine Science and Engineering (2 - 2023)
Electronics (2023)

Conference Paper Reviewer

ICRA (2020)

Special Editor

Co-Editor for *Applied Sciences* Special Issues (2021-Present)

Book Chapter Reviewed

Control Systems by Nise, ZYversion under development (2021)

TEACHING EXPERIENCE

(SPOT – Student Perception of Teaching Survey: 5 Excellent, 4 Very Good, 3 Good, 2 Fair, 1 Poor)

Undergraduate Courses

Introduction to Astrodynamics, Fall 2023, 13 Students (Co-Listed) – **SPOT 4.58**
Automatic Control, Spring 2023, 4 Students (Co-Listed) – **SPOT 4.68**: Fall 2020, 22 Students (Co-Listed) – **SPOT 4.75**
Dynamics, Fall 2021, 45 Students – **SPOT 4.17**
Modeling and Control of Robots, Spring 2021, 56 Students (Co-Listed) – **SPOT 4.68**: Spring 2020, 42 Students (Co-Listed) – **SPOT 4.44**: Fall 2019, 76 Students (Co-Listed) – **SPOT 4.32**
Ethics Design Project Org, Fall 2019, 86 Students – **SPOT 4.48**

Graduate Courses

Mechanical Vibrations, Spring 2024, 10 Students – **SPOT 4.73**: Fall 2021, 23 Students – **SPOT 4.67**
Advanced Astrodynamics, Fall 2023, 7 Students (Co-Listed) – **SPOT 4.98**
Digital Control of Mechanical Systems, Spring 2023 15 Students (Co-Listed) – **SPOT 4.67**: Fall 2020, 12 Students (Co-Listed) – **SPOT 4.67**
Control Technology for Robotic, Fall 2022, 15 Students – **SPOT 4.80**: Spring 2021, 6 Students (Co-Listed) – **SPOT 4.76**: Spring 2020, 4 Students (Co-Listed) – **SPOT 4.48**: Fall 2019, 8 Students (Co-Listed) – **SPOT 4.91**

Senior Design Supervision

Fall 2019/Spring 2020 – Advised 6 Teams in Senior Design 1 and 2
Fall 2020/Spring 2021 – Advised 1 Team in Senior Design 2
Fall 2021/Spring 2022 – Advised 1 Team in Senior Design 1 and Senior Design 2

Undergraduate Courses (Prior to Fall of 2019)
Analysis of Engineering Systems, Sum 2019, Fall 2018, Spring 2018, Fall 2017 (2 Sections), Sum 2017, Spring 2017 (2 Sections), Fall 2016, Sum 2016, Spring 2016 (2 Sections), Fall 2015, Sum 2015, Spring 2015, Fall 2014, Sum 2014
Modeling and Control of Robots, Spring 2019, Fall 2018 (Co-Listed)
Applied Mechanics, Spring 2014, Fall 2013
Dynamics, Sum 2013
Instrumentation Lab, Fall 2012
Statics, Fall 2012

Graduate Courses (Prior to Fall of 2019)
Control Technology for Robotic, Fall 2018 (Co-Listed)
Fracture Mechanics, Fall 2013

ADVISING

Graduates

PhD

2024 Abhijeet Chodankar, Mechanical Engineering (Expected to Graduate Summer 2024)
Thesis: Particle Dynamics in Nuclear Waste Flows Using Lattice Boltzmann Methods

2024 Pratik Mahyawansi, Mechanical Engineering (Co-Major Professor with Arturo Leon)
Thesis: Experimental and Numerical Study of a Storm Sewer Violent Geyser

2023 Beichao Hu, Mechanical Engineering (Major Professor)
Thesis: Rapid High-Fidelity Thermal Modeling of Data Centers Using Computational Fluid Dynamics and Neural Networks

2023 Gonzalo Seisdeidos, Material Engineering (Co-Major Professor with Benjamin Boesl)
Thesis: Non-destructive Evaluation of Polymeric Materials Using Ultrasonics and Magneto-Electric Nanoparticles

MS

2021 Caique Lara, Mechanical Engineering
Thesis: Development of a Miniature Pipe Crawler for Application in Fossil Energy Power Plants

2020 Jason Soto, Mechanical Engineering
Thesis: Design of a Robotic Inspection Platform for Structural Health Monitoring

Undergraduate

Kimberly Valencia, Mariana Ontiveros, Brendon Cintas, Julie Villamil, Rolando Milian, Christopher Soto, Gabriel Rodriguez, Jeanine Shraim, Mauricio Pajon, Dillon Watring, Jorge Coria, Lazaro Sanchez, Janet Reyes, Gregory Burrow II, Kevin Lamott, Damian Lloyd, Matthew Toro

Current Students (dates are projected final defense)

PhD

2026 Manuel Escobar (Co-Major Professor with Lagos)
2026 Gabrial Cerioni (Co-Major Professor with Lagos)
2026 Brendon Cintas (Co-Major Professor with Lagos)
2025 Fuad Hassan (Co-Major Professor with Hamrani)
2025 Joel Adams (Co-Major Professor with Lagos)

2025 Munim Rayhan (Major Professor)
2025 Sharif Sarker (Major Professor)
2024 Anthony Abrahao (Co-Major Professor with Lagos)
2025 Anirban Saha (Major Professor)
2024 Mackenson Telusma (Co-Major Professor with Lagos)

DEPARTMENTAL AND UNIVERSITY SERVICE

2024 - Present	College of Engineering Strategic Planning Committee Member
2023	McNair Poster Competition Judge
2022 - Present	Graduate Program Director
2020 - 2022	Co-Graduate Program Director
2022 - Present	MME Graduate Program Committee Chair
2019 - Present	MME Graduate Program Committee
2022 - Present	Judge for the GSAW Scholarly Forum graduate student poster presentations
2022	Student Mentor for NASA Rover Competitions
2021	Student Mentor for NASA Payload
2021	McNair Summer Mentor - Julie Villamil
2020	FIU Undergraduate Research Judge
2021	McNair Poster Competition Judge

Search Committee Member

2021-2022	Civil Engineering Faculty Search Committee Member - Robotics for Infrastructure (2 positions)
2020-2021	MME Faculty Search Committee Member - Machine Learning/Mechanical Design
2019-2020	MME Faculty Search Committee Member - Computational Mechanics

PhD Committee Member

Graduates

Sumit Zanji	Civil Engineering
Sohail Reddy	Mechanical Engineering
Amer Awwad	Civil Engineering
Ping Wang	Electrical Engineering
Janhavi Chitale	Mechanical Engineering
Sebastian Zanlongo	Computer Science
Shervin Tashakori	Mechanical Engineering
Amin Baghalian	Mechanical Engineering
Vishal Musaramthota	Materials Engineering

Current

Preyojon Dey	Mechanical Engineering
Abdulmueen Alrashide	Electrical Engineering
Sandeep Ramteke	Mechanical Engineering
Abbas Sharifi	Civil Engineering
Ann Blanchard	Mechanical Engineering
Blanca Palacios	Materials Engineering
Paulo Padrao Lopes	Computer Science
Maria Sotolongo	Mechanical Engineering

Cesar Rojas	Computer Science
Chaohao Lin	Electrical Engineering
Jiayi Ding	Civil Engineering

MS Committee Member

Graduates

Sebastian Story	Mechanical Engineering
Josue Estrada	Mechanical Engineering
Kayla Etienne	Mechanical Engineering

Current

Hiba Khalil	Mechanical Engineering
Phillip Moore	Mechanical Engineering
Joseph Coverston	Mechanical Engineering
Dillon Watring	Mechanical Engineering
Maximiliano Edrei	Mechanical Engineering
Kao Yang	Materials Engineering

FUNDING SUPPORT FOR STUDENTS AND POST DOCTORIAL ASSOCIATES

Current

Abhijeet Chodankar	Ph.D. Dissertation	MSIPP
Anirban Saha	Ph.D. Dissertation	MSIPP
Sharif Sarker	Ph.D. Dissertation	NETL, MSIPP
Kimberly Valencia	Undergraduate Research	NETL

Previous

Beichao Hu	Ph.D. Dissertation	NETL
Pratik Mahyawansi	Ph.D. Dissertation	NETL
Mariana Ontiveros	Undergraduate Research	ONR
Shervin Tashakori	Post Doctorial Associate	SRNS
Caique Lara	Master's Thesis	NETL
Reza Abbasi Baharanchi	Post Doctorial Associate	SRNS
Brendon Cintas	Undergraduate Research	SRNS
Guilherme Daldegan	Non-Thesis Masters	DOE-FE
Julie Villamil	Undergraduate Research	DOE-FE
Gonzalo Seisdeidos	Ph.D. Dissertation	FAA/ONR
Rolando Milian	Undergraduate Research	ONR
Christopher Soto	Undergraduate Research	ONR
Gabriel Rodriguez	Undergraduate Research	ONR
Jeanine Shraim	Undergraduate Research	ONR
Mauricio Pajon	Undergraduate Research	ONR
Ping Wang	Ph.D. Dissertation	ONR
Anthony Abrahao	Ph.D. Dissertation	DOE-FE
Mackenson Telusma	Masters and Ph.D.	NETL, NEUP, Quasset
Dillon Watring	Undergrad Re. & MS	ONR
Jorge Coria	Undergraduate Research	ONR
Shervin Tashakori	Ph.D. Dissertation	FAA
Lazaro Sanchez	Undergraduate Research	ARO, DOD/SAIC
Vishal Musaramthota	Ph.D. Dissertation	FAA

Lachen Elaadil	Masters ARO	
Rakesh Guduru	Master's Thesis	FAA
Janet Reyes	Undergraduate Research	ARO
Gregory Burrow II	Undergraduate Research	ARO
Kevin Lamott	Undergraduate Research	FAA, ARO
Damian Lloyd	Undergraduate Research	NOAA
Tushar Sawant	Non-Thesis Masters	FAA
Anand Kundar	Non-Thesis Masters	FAA
Keon John	Non-Thesis Masters	FAA
Matthew Toro	Undergraduate Research	FAA

COMMUNITY OUTREACH

4/2024	Robotics Lab Demo (School - Colonial Christian)
3/2024	Robotics Lab Demo (School - Carrollton High School)
2/2024	Robotics Lab Demo (School - Lauderhill 6-12 STEM Academy)
2/2024	FIU STEAM Weather Day - Robotics Demo
10/2023	Robotics Lab Demo (School – Robert Morgan, Coral Park, Hialeah Gardens)
7/2023	Breakthrough Miami Summer Camp – Robotic Demo
2/2023	Engineering Expo - Robotics Demo
10/2022	Robotics Lab Demo (School - Miami Coral Park, Hialeah Gardens)
4/2022	Robotics Lab Demo (School - Kendal Christian)
11/2021	Robotics Lab Demo (School - Hialeah Gardens)
11/2021	Robotics Lab Demo (School – MCA Academy)
7/2021	Breakthrough Miami Career Day, Robotics Lab Demo (Schools - Gulliver and Miami Country Day)
7/2021	Breakthrough Miami Career Day, Robotics Lab Demo (School - Palmer Trinity)
2/2020	Engineering Expo - Robotics Demo
1/2020	FIU STEAM and Weather Day - Robotics Demo
11/2019	Junior Achievement of Greater Miami - Robotics Demo
2/2019	Engineering Expo - Robotics Demo