Tenure and Promotion Curriculum Vitae

Dr. Leonel E. Lagos, Moss Department of Construction Management

EDUCATION/TRAINING

Degree	Institution	Field	Year
Ph.D.	Florida International University	Civil Engineering	2007
M.S.	Florida International University	Mechanical Engineering	1996
B.S.	University of Florida	Aerospace Engineering	1991
PMP (#575547)	Project Management Institute	Project Mgmt. Professional	2006

FULL-TIME ACADEMIC EXPERIENCE **Dates**

Institution	Rank	Department	Dates
Florida International University	Associate Professor	Moss Department of Construction Management	2022 – Present

PART-TIME ACADEMIC EXPERIENCE

Institution	Rank	Department	Dates
Florida International University	Adjunct Professor	Biomedical Engineering	2020 – Present
Florida International University	Adjunct Professor	Mechanical Engineering	2016-2020

NON-ACADEMIC EMPLOYMENT

1991 – 1993

Institution	Rank	Discipline	Dates
Florida Department of Transportation	Field Engineer	Civil Engineering	1991 – 1993

EMPLOYMENT RECORD AT FIU

Position	Department	Field	Year
Associate Professor	Moss Department of Construction Management	Construction Management	2022 – Present
Director of Research	Applied Research Center	Research	2012 – Present
Adjunct Professor	BME and MEE	Applied Mechanics	2016 – Present
Associate Director	Applied Research Center	Project Mgmt. Professional	2008 – 2012
Senior Research Scientist	Applied Research Center	Research	2003 – 2008
Research Scientist	Applied Research Center	Research	2001 – 2003
Field/Test Engineer	Applied Research Center	Research	1996 – 2001
Graduate Research Assistant	Applied Research Center	Research	1993 – 1996

PEER-REVIEWED JOURNAL PUBLICATIONS

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

1. **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 2.6, citations: 0**
2. Wainwright, H. M., Powell, B. A., Hoover, M. E., Ayoub, A., Atz, M., Benson, C., Borrelli R., Djokic D., Eddy-Dilek C., Ermakova D., Hayes R., Higley K., Krahn S., Lagos L., Landsberger S., Leggett C., Regalbuto M., Roy W., Shuller-Nickles L., & Ewing, R. C., *"Nuclear Waste Educator's Workshop: What and How Do We Teach About Nuclear Waste?,"* Journal of Environmental Radioactivity, (2023), 270, 107288, https://www.sciencedirect.com/science/article/pii/S0265931X23001819. **IF: 2.37, citations: 1**
3. **Aldyaflah, I. M.**, Zhao, W., Upadhyay, H., & Lagos, L. *"The Design and Implementation of a Secure Datastore Based on Ethereum Smart Contract,"* Applied Sciences, (2023), 13(9), 5282. https://www.mdpi.com/2076-3417/13/9/5282 **IF: 2.84, citations: 4**
4. Zhao, W., **Aldyaflah, I. M.**, Gangwani, P., Joshi, S., Upadhyay, H., Lagos, L. *"A Blockchain-Facilitated Secure Sensing Data Processing and Logging System,"* IEEE Access, (2023), 11, 21712-21728, https://ieeexplore.ieee.org/document/10058513. **IF: 3.9, citations: 14**
5. **Soni, J.**, Prabakar, N., Upadhyay, H., & Lagos, L. "MLE-NET: A Multi-Layered Ensemble Approach for an Enhanced Anomaly Detection," International Journal for Computers & Their Applications, (2023), 30(1), 5-13, https://isca-hq.org/Documents/Journal/Archive/2023/2023volume3001/Final%20March%202023%20Journal%20Issue.pdf. **IF: .15, citations:**
6. **Awwad, A.**, McDaniel, D., Lagos, L., Rivera, J., & Tansel, B. *"Effect of Solution Concentration on Ethylene Propylene Diene Monomer (EPDM) Nonmetallic Components Used in Caustic Liquid Waste Transfer Lines,"* Engineering Failure Analysis, 145, 107007. https://www.sciencedirect.com/science/article/abs/pii/S1350630722009748. **IF: 3.73, citations: 2**
7. **Gangwani, P.**, Joshi, S., Upadhyay, H., & Lagos, L. (2023). *"IoT Device Identity Management and Blockchain for Security and Data Integrity,"* International Journal of Computer Applications, (2023), 184(42), 49-55. https://www.ijcaonline.org/archives/volume184/number42/32593-2023922529 **IF: 3.17, citations: 4**
8. Aldyaflah, I.M., Zhao, W., 1, Upadhyay, H., Lagos, L. *"The Design and Implementation of a Secure Datastore Based on Ethereum Smart Contract,"* Applied Science, (2023), 13, 5282 (1-29). https://www.mdpi.com/2076-3417/13/9/5282. **IF: 2.84, citations: 5**
9. M. Dinis, B. Abelshausen, D. Oughton, E. Amaral, H. Monken Fernandes, K. Nanba, L. Alencar de Aguiar, L. Lagos, M. Ramalho Franklin, *"Erasmus Mundus Joint Master Degree in Decommissioning and Environmental Remediation (MINDER)",* ASME International Conference on Environmental Remediation and Radioactive Waste Management, (2023), Stuttgart, Germany, October 3 – 6, 2023, https://doi.org/10.1115/ICEM2023-111005 IF: **Citations: 1**
10. **Meray, A** (PhD). O., Sturla, S., Siddiquee, M. R., Serata, R., Uhlemann, S., Gonzalez-Raymat, H., Denham M., Upadhyay H., Lagos L., Eddy-Dilek C. & Wainwright, H. M, *"Pylenm: A machine learning framework for long-term groundwater contamination monitoring strategies,"* Environmental Science & Technology, (2022), 56(9), 5973-5983. https://pubs.acs.org/doi/10.1021/acs.est.1c07440. **IP: 11.4, citations: 13**
11. **Bhardwaj, T**, Reyes, C., Upadhyay, H., Sharma, S., Lagos, L., "Cloudlet-enabled wireless body area networks (WBANs): a systematic review, architecture, and research directions for QoS Improvement," International Journal of System Assurance Engineering and Management

(2022), 13(4):1531–1555, https://link.springer.com/content/pdf/10.1007/s13198-021-01508-x.pdf **IP: 2.02, citations: 12**

--PRIOR TO JOINING MOSS DEPARTMENT OF CONSTRUCTION MANAGEMENT AT FIU --

1. M.A. Abd, R Paul, A Aravelli, O Bai, L Lagos, M Lin, ED Engeberg. *"Hierarchical tactile sensation integration from prosthetic fingertips enables multi-texture surface recognition,"* Sensors, (2021), https://pubmed.ncbi.nlm.nih.gov/34202796/ **IF: 3.58, citations: 23**
2. **Awwad, A.**, McDaniel, D., Lagos, L., Rivera, J., & Tansel, B. "Effect of temperature and aging duration on ethylene propylene diene monomer (EPDM) nonmetallic components used in caustic liquid waste transfer lines," Engineering Failure Analysis, (2021), 128, 105633. https://doi.org/10.1016/j.engfailanal.2021.105633 **IF: 3.73, citations: 2**
3. **Gangwani, P.**, Perez-Pons, A., Bhardwaj, T., Upadhyay, H., Joshi, S., Lagos, L. *"Securing Environmental IoT Data Using Masked Authentication Messaging Protocol in a DAG-Based Blockchain: IOTA Tangle,"* Future Internet, (2021),13 (12), 312. https://www.osti.gov/biblio/1834423 **IF: 4.33, citations: 49**
4. **Gohel, H.**, Upadhyay, H., Lagos, L., Cooper, K., Sanzetenea, A. *"Predictive maintenance architecture development for nuclear infrastructure using machine learning,"* Nuclear Engineering and Technology, (2021) 52,1436e1442. https://koreascience.kr/article/JAKO202020941304637.pdf **IF: 2.70, citations: 118**
5. **Peddoju, S.K**., Upadhyay, H., Lagos, L. (2020). *"File integrity monitoring tools: Issues, challenges, and solutions,"* Concurrency and Computation: Practice and Experience, (2020), 32, 22, e5825. https://onlinelibrary.wiley.com/doi/10.1002/cpe.5825 **IF: 2.57, citations: 6**
6. **R. Ramon, T. Yi, C. Nataros, C. Garcia**, A. Aravelli, L. Lagos, O. Bai, *"Robotic exoskeleton design and system control for Glovebox operators in nuclear facilities,"* IEEE/SICE International Symposium on System Integration (SII), 2020, 509-512, https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9026202 **citations: 2**
7. **R. Ramon, C. Nataros, T. Yi**, L. Lagos, A. Aravelli, O. Bai, *"Hotcell worker assistive robotic Exoskeletion design and control,"* IEEE International Symposium on Measurements and Control in robotics, (2019). https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8955692 **Citations: 7**
8. C. Ades, I. Gonzalez, M. AlSaidi, M. Nojoumian, O. Bai, A. Aravelli, L. Lagos, E. Engeberg, *"Robotic finger force sensor fabrication and evaluation through a glove," Proceedings. Florida Conference on Recent Advances in Robotics,"* NIH Public Access (2018), **Citations: 4**
9. Katsenovich, Y., Cardona, C., Szecsody, J., Lagos, L., Tang, W., *"Assessment of calcium addition on the removal of U(VI) in the alkaline conditions created by NH3 gas,"* Applied Geochemistry, (2018), https://www.sciencedirect.com/science/article/pii/S0883292718300544 **IF: 3.4, Citations: 7**
10. S. Joshi, H. Upadhyay, L. Lagos, N. Akkipeddi, V. Guerra, *"Machine learning approach for malware detection using random forest classifier on process list data structure," Proceedings of the 2nd International Conference on Information System and Data Mining, (2018),* 98-102, https://dl.acm.org/doi/pdf/10.1145/3206098.3206113 **Citations: 35**
11. H. Upadhyay, H. Gohel, A. Pons, L. Lagos, *"Windows virtualization architecture for cyber threats detection,"* 2018, 1st International Conference on Data Intelligence and Security (ICDIS), https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8367749 **Citations: 6**
12. Hardik A Gohel, Himanshu Upadhyay, Alexander Pons, Leonel E Lagos, *"Design of virtualization framework to detect cyber threats in linux environment,"* IEEE 4th International Conference on Cyber Security and Cloud Computing (CSCloud), 2017, 316-320, https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7987216 **Citations: 5**
13. P. Jiang, Y. Li, G. Liu, G. Yang, L. Lagos, Y. Yin, B. Gu, G. Jiang, Y. Cai, *"Evaluating the role of re-adsorption of dissolved Hg2+ during cinnabar dissolution using isotope tracer technique,"* Journal of Hazardous Materials, 2016, 466-475, https://www.sciencedirect.com/science/article/pii/S0304389416305295 **IF: 14.2 Citations: 18**

14. Yelena P Katsenovich, Claudia Cardona, Robert Lapierre, Jim Szecsody, Leonel E, *"The effect of Si and Al concentrations on the removal of U (VI) in the alkaline conditions created by NH3 gas,"* Applied geochemistry, 2016, (73), 109-117, https://www.sciencedirect.com/science/article/pii/S0883292716301846?via%3Dihub, **Citations: 5**
15. Paola M Sepulveda-Medina, Yelena P Katsenovich, Dawn M Wellman, Leonel E Lagos, *"The effect of bicarbonate on the microbial dissolution of autunite mineral in the presence of gram-positive bacteria,"* Journal of Environmental Radioactivity, 2015, (144), 77-85, Elsevier, https://www.sciencedirect.com/science/article/pii/S0265931X15000661 **IF: 2.67 Citations: 5**
16. Paola Sepulveda-Medina, Yelena Katsenovich, Vishal Musaramthota, Michelle Lee, Brady Lee, Rupak Dua, Leonel Lagos, *"The effect of uranium on bacterial viability and cell surface morphology using atomic force microscopy in the presence of bicarbonate ions,"* Research in Microbiology, (2015), (166), 5, 419-427, **IF: 2.60 Citations: 15**
17. L. Lagos, H. Upadhyay, P. Shoffner, *"D&D Knowledge Management Information Tool: A Web Based System Developed to Share D&D Knowledge Worldwide,"* International Conference on Radioactive Waste Management and Environmental, American Society of Mechanical Engineers (2013). Brussels, Belgium, **Citations: 2**
18. **R. Gudavalli**, Y. Katsenovich, D. Wellman, **M. Idarraga**, L. Lagos, B. Tansel, *"Comparison of the kinetic rate law parameters for the dissolution of natural and synthetic autunite in the presence of aqueous bicarbonate ions,"* Chemical Geology, (2013), (351) 299-309, Elsevier, **IF: 4.07 Citations: 18**
19. **R. Gudavalli**, Y. Katsenovich, D. Wellman, L. Lagos, B. Tansel, *"Quantification of kinetic rate law parameters of uranium release from sodium autunite as a function of aqueous bicarbonate concentrations,"* Environmental Chemistry (2013), (10), 6, 474-485, **IF: 4.30, citations: 11**
20. **S. Munavalli**, N. Pissinou, L. Lagos, X. Jin, *"Structural damage detection of nuclear reactor sites using sensor networks,"* Sensors, IEEE (2013), (1-4), **IF: 4.30, citations: 3**
21. **D. Carvajal**, Y. Katsenovich, L. Lagos, *"The effects of aqueous bicarbonate and calcium ions on uranium biosorption by Arthrobacter G975 strain,"* Chemical Geology (2012). 330, 51-59, https://www.sciencedirect.com/science/article/abs/pii/S0009254112003774?via%3Dihub **IF: 4.07 Citations: 36**
22. Y. Katsenovich, **D. Carvajal**, D. Wellman, L. Lagos, *"Enhanced U (VI) release from autunite mineral by aerobic Arthrobacter sp. in the presence of aqueous Bicarbonate."* Chemical Geology, (2012), 308, 1-9, https://www.sciencedirect.com/science/article/pii/S0009254112001350 **IF: 4.07 Citations: 24**
23. R. Banerjee, Y. Katsenovich, L. Lagos, M. Senn, M. Naja, V. Balsamo, K. Pannell, C-Z. Li, *"Functional magnetic nanoshells integrated nanosensor for trace analysis of environmental uranium contamination,"* Electrochimica Acta (2010), 55, 27, 7897-7902, https://www.sciencedirect.com/science/article/pii/S0013468610007516 **IF: 6.90 Citations: 29**
24. R. Banerjee, Y. Katsenovich, L. Lagos, M. McIintosh, X. Zhang, C-Z Li, *"Nanomedicine: magnetic nanoparticles and their biomedical applications,"* Current medicinal chemistry, (2010). 17, 27, 3120-3141, **IF: 4.10 Citations: 29**
25. R Banerjee, Y Katsenovich, L Lagos, M McIintosh, X Zhang, CZ Li, *"Nanomedicine: magnetic nanoparticles and their biomedical applications."* Current medicinal chemistry (2010). 17 (27), 3120-3141, **IF: 4.10 Citations: 182**
26. L Lagos, J Varona, A Zidan, R Gudavalli, Kuang-His Wu, *"Preliminary experimental analysis of soil stabilizers for contamination control,"* International Conference on Nuclear Engineering (2006), 42460, 543-548, **citations: 5**
27. L. Lagos, W Li, MA Ebadian, TL White, RG Grubb, D Foster, *"Heat transfer within a concrete slab with a finite microwave heating source,"* International journal of heat and mass transfer, 1995), 38, 5, 887-897, https://www.sciencedirect.com/science/article/pii/001793109400200F **IF: 5.2 citations: 54**

CONFERENCE PROCEEDINGS

Bold indicates Graduate Student Mentored as Chair/Co-chair or Program/Project Manager

1. 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.
2. 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.
3. M. Dinis, D. Oughton, H. Monken-Fernandes, L. Alencar de Agilar, L. Lagos, M. Ramalho-Franklin, W. Schoroeyers, Education and Training in Decommissioning and Environmental Remediation – the Development of MINDER Master Program, Waste Management Symposia, Phoenix, AZ, March 2024.
4. W. Quintero, H. Upadhyay, S. Joshi, L. Lagos, Waste Information Management System with 2023-24 Waste Streams, Waste Management Symposia, Phoenix, AZ, March 2024.
5. H. Upadhyay, J. Soni, W. Quintero, S. Joshi, L. Lagos, Artificial Intelligence Based Nuclear Decommissioning Document Summarization, Waste Management Symposia, Phoenix, AZ, March 2024.
6. **M. Sotolongo**, A. Abrahao, L. Lagos, Design and Development of Sensor Package for Structural Inspection at the Waste Isolation Pilot Plant (WIPP), Waste Management Symposia, Phoenix, AZ, March 2024.
7. J. Soni, H. Wainwright, H. Upadhyay, Z. Xu, L. Lagos, ALTEMIS: Long Term Ground Water Monitoring Using LSTM Algorithm for Anomaly Detection, Waste Management Symposia, Phoenix, AZ, March 2024.
8. P. Hazenberg, **A. Litzinger**, H. Aziz, Z. Xu, B. Looney, H. Gonzalez Raymat, H. Wainwright, C. Eddy-Dilek, R. Gudavalli, L. Lagos, A. Lawrence, Stability of Existing Contamination within the Savannah River Site’s Braided River Network as Impacted by Heavy Precipitation and Changes in Climate, Waste Management Symposia, Phoenix, AZ, March 2024.
9. 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.
10. **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.
11. **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.
12. 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.
13. **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.
14. **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.

15. 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.
16. **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.
17. M. Dinis, B. Abelshausen, D. Oughton, E. Amaral, H. Monken Fernandes, K. Nanba, L. Alencar de Aguiar, L. Lagos, M. Ramalho Franklin, Erasmus Mundus Joint Master Degree in Decommissioning and Environmental Remediation (MINDER), Waste Management Symposia, 2023, Phoenix, AZ, February 26 – March 2, 2023.

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18. 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.
19. **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.
20. **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.
21. 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.
22. **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.
23. **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.
24. **Doughman M.,** Katsenovich Y., Lagos L., O’Shea K., Emerson H., Freedman V., Szecsody J., Qafoku N., Poster: Impact of Major Groundwater Components on the Adsorption of Uranium (VI) to Hanford Formation Sediment; at the Waste Management Symposia 2022. March 6-10, 2022, Phoenix, AZ.
25. **Meray A.,** Upadhyay, H., Lagos, L., Siddiquee, M. and H. Wainwright. Poster: AI Approach to Predict Tritium Concentrations Using Specific Conductance as a Proxy Variable at the SRS FArea. Waste Management 2022 Conference, Phoenix, AZ, March 2022.
26. **Meray A.,** Upadhyay, H., Lagos, L., Siddiquee, M. and H. Wainwright. Oral: pyLEnM: An Open Source Machine Learning Framework for Long-term Water Quality Monitoring (22320). Waste Management 2022 Conference, Phoenix, AZ, March 2022.
27. **Litzinger, A.,** M. Echeverria, L. Lagos and D. McDaniel. Standard Aging of Concrete for the Study of Protection Systems for H-Canyon Exhaust Tunnel at Savannah River Site. (Poster). Waste Management 2022 Conference, Phoenix, AZ, March 2022. (Best Poster of Undergrad Students Category).
28. **Adams, J., 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.

29. **Abrahao, A., 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.
30. Aravelli, a., **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.
31. Awwad, A., 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.
32. Dickson, J., **Caridad Estrada**, Yelena Katsenovich, Leonel Lagos, Alexander Johs, Eric Pierce. “Sustainable Sorbent Technology for Mercury Remediation in a Freshwater Aquatic System Waste Management” Virtual Conference, Phoenix, AZ, March 2022.
33. Drozd, V., Yelena Katsenovich, R. Matthew Asmussen, Shambhu Kandel, **Alicia Maratos**, Ravi Gudavalli, Leonel Lagos. “Effect of Grout-Contacted Solution on the Glass Dissolution Behavior”. Waste Management Conference, Phoenix, AZ, March 2022.
34. Joshi, S., **R. Boza**, H. Upadhyay, W. Quintero, L. Lagos,“Mobile Platform for Structural Health Monitoring Using Convolutional Neural Network,” Management Symposium, Phoenix, AZ, March 2022.
35. **Meray, A**., H. Upadhyay, L. Lagos, M. Siddiquee, R. Serata, S. Sturla, S. Uhlemann, H. Wainwright, M. Denham, H. G. Raymat, C. Eddy-Dilek. “pyLEnM: An Open Source Machine Learning Framework for Long-term Water Quality Monitoring.” Waste Management 2022 Conference, Phoenix, AZ, March 2022.
36. Quintero, W., H. Upadhyay, L. Lagos, S. Joshi, “D&D KM-IT 2022 Updates,” Waste Management Symposium, Phoenix, AZ, March 2022.
37. Upadhyay, H., W. Quintero, S. Joshi, L. Lagos, “Waste Information Management System with 2021-22 Waste Streams,” Waste Management Symposium, March 2022, Phoenix, AZ.
38. **Doughman M.,** Katsenovich Y., Lagos L., O’Shea K., Emerson H., Freedman V., Szecsody J., Qafoku N., Oral Presentation: Impact of Major Groundwater Components on the Adsorption of Uranium (VI) to Hanford Formation Sediment; at the RemPlex 2021 Global Summit on Environmental Remediation. November 8-12, 2021, Virtual.
39. Zhao, W., Upadhyay, H., Lagos, L., “Design and implementation of a blockchain-enabled secure sensing data processing and logging system,” IEEE International Conference on Systems, Man, and Cybernetics (SMC), 2021, https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9658949 **Citations: 3**
40. **Doughman M.,** Katsenovich Y., Lagos L., O’Shea K., Poster: Competing Attenuation Processes for Mobile Contaminants in Hanford Sediments; at the American Chemical Society National Meeting & Exposition Fall 2021. August 21-26, Atlanta, GA.
41. **Boza, R.,** Santosh Joshi, Himanshu Upadhyay, Leonel Lagos, "Crack Detection Using Convolutional Neural Network Deployed on Mobile Platform", 2021 ANS Winter Meeting and Technology Expo, November 30–December 3, 2021.
42. **Siddiquee, M.** R., Santosh Joshi, Himanshu Upadhyay, Leonel Lagos. “Artificial Intelligence Based Analytics to Support Environmental Remote Monitoring”. Environmental Considerations and Innovative Technologies for Decommissioning 2021, American Nuclear Society Topical Meeting 2021, Georgetown East, Maryland.

43. **Tashakori, S., 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.
44. **Telusma, M., 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.
45. **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.
46. **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.
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WORKS IN PROGRESS

1. **De La Noval, A.** (Masters), Upadhyay, H., Lagos, L., Soni, J., Prabakar, N., *"Spatial-Temporal Analysis of Groundwater Well Features from Neural Network Prediction of Hexavalent Chromium Concentration,"* Journal of Environmental Science & Technology, (2024), (Submitted 03/21/24, in revision: 04/11/24), **IF: 10.7**
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5. **M. Komninakis**, J. Syncope, J. C. Nicholson, P. Moore, Y. Rodriguez, L. Lagos, D. Radu, *"Determination of Airborne Release Fractions from Loose Powder Contamination under Impact Stress,"* Journal of Nuclear Technology (2024), **IF: 1.36**, (in print)
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Google Scholar Page link:
A complete list of published material can be found at:
https://scholar.google.com/citations?hl=en&user=BWxG5LMAAAAJ&view_op=list_works&sortby=pubdate

FUNDED RESEARCH [2020-Present]
(Bold indicates sponsored research as PI)

Leonel Lagos (PI)
Florida International University's Continued Research Support for the Department of Energy's Office of Environmental Management
Department of Energy's Office of Environmental Management
9/29/2020 -9/28/2025
$ 23,686,882.00

Leonel Lagos (PI)
Real-time Mercury Characterization for DOE Legacy Facilities Decommissioning Using Mobile Robotic Platforms
Battelle Savannah River Alliance
05/03/2024 – 05/02/2025
$350,000.00

Leonel Lagos (PI**)**
Digitally Optimized Autonomous Robot System for Hanford Waste Tank Handling
Department of Energy
01/01/2024 – 12/31/2026
$900,000.00

Leonel Lagos (PI**)**
Integration of Sensors and Robotic Platforms for Waste Isolation Pilot Plant (WIPP) Applications
Battelle Savannah River Alliance
05/03/2021 – 08/30/2025
$800,000.00

Leonel Lagos (PI)
TITLE III HSI STEM GRANT (ACCESS PROJECT) - Cyber Security Education and Training
Broward State College/US Department of Education
10/01/2021 – 09/30/2026
$ 340,537.00

Leonel Lagos (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
02/03/2023 – 05/02/2024
$240,000.00

Leonel Lagos (PI)
Robotic Exoskeletons and EMG Sensing for Glovebox Operations
Sandia National Laboratory
07/2021 – 08/2024
$500,000.00

Leonel Lagos (Co-PI)
Consortium for Research and Education in Cyber Manufacturing Applications for Modular Nuclear Reactors (CMA-MNuR)
National Nuclear Security Administration (NNSA)
10/2022 – 09/2027
$5,000,000.00

Leonel Lagos (Co-PI)
AI/ML development for TCAP to support Savannah River Site
Battelle Savannah River Alliance, LLC
12/2022 – 11/2024
$150,000.00

Leonel Lagos (Co-PI)
Artificial Intelligence (AI) Center of Excellence - DOT&E
Edaptive Computing Inc./Department of Defense
06/2023 – 08/2024
$1,000,000.00

Leonel Lagos (Co-PI)
Automation Tool for Hardware Virtualization & Validation (AHVV)
GTRI (Main Sponsor Test Resource Management Center/Dept. of Defense
08/2023 – 08/2025
$1,000,000.00

Leonel Lagos (Co-PI)
AI/ML Model Development to support Electrical Resistance Tomography (ERT) Data Analysis
Battelle Savannah River Alliance, LLC
05/03/2024 – 05/02/2025
$350,000.00

Leonel Lagos (Co-PI)
Sensor technologies for Degradation Assessment in Buried Pipe-in-Pipe Waste Transfer Lines
Battelle Savannah River Alliance, LLC
05/03/2024 – 05/02/2025
$350,000.00

Leonel Lagos (Co-PI)
Heterogeneous Robotics Systems for Mission Support
DoD Army Research Office (ARO)
08/2022 – 07/2023
$483,000.00

PROPOSALS SUBMITTED BUT NOT FUNDED

Leonel Lagos (PI)
Accelerate Hanford Tank Waste Treatment and Disposal
Battelle Savannah River Alliance, LLC
01/01/24 – 12/31/26
$350,000.00

Leonel Lagos (PI)
Non-destructive Storage Tank Integrity Monitoring and Prediction: Autonomous Robot-Radar Technology Approach
Los Alamos National Laboratory
01/01/24 – 12/31/26
$900,000.00

Leonel Lagos (PI)
Heavy Contact Robotic Repair Platform for Tank Farm Maintenance
Argonne National Laboratory
01/01/24 – 12/31/26
$1,700,200.00

Leonel Lagos (PI)
Development of a Robotic Remote System with Plug-and-play Interchangeable Components for Inspection and Repairs of DOE Facilities and Repositories
Battelle Savannah River Alliance, LLC
10/2022 – 09/2023
$320,000.00

Leonel Lagos (PI)
Heterogeneous Robotics Systems for Mission Support
Department of Defense
07/2023 – 06/2027
$800,000.00

Leonel Lagos (PI)
Autonomy Center of Excellence for Research & STEM Development
US Air Force Research Laboratory
01/2015 – 12/2020
$4,000,000.00

Leonel Lagos (PI)
FIU Nuclear Fellowships & Workforce Development Program (FIU-NFWDP)
Nuclear Regulatory Commission
05/2013 – 04/2017
$5,000,000.00

Leonel Lagos (PI)
Development of a 21st Century Workforce for the Nuclear Industry
Nuclear Regulatory Commission
01/2013 – 05/2015
$400,000.00

COMPLETED FUNDED RESEARCH
(Bold indicates projects as PI)

Award number	Award Title	Award Begin Date	Award End Date	PI Name	Sponsor	Total Amount Funded ($)
AWD000000000036	Morena Resort Project.	08/21/2008	4/30/2009	**Lagos**	Randolph International Inc.	14,367
AWD000000000398	SAIC Interns	05/04/2009	1/31/2014	**Lagos**	Science Applications International Corp.	526,108
AWD000000001138	Florida International University's Research Support to the Department of Energy's Office of Environmental Management	05/07/2010	8/28/2020	**Lagos**	Dept. of Energy Office of Environmental Management	42,674,397

AWD000000001673	Integrated Hydrological and water quality model using MIKE SHE and MIKE 11 Software	08/26/2011	08/26/2012	**Lagos**	National Park Service	205,000
AWD000000001754	Development of a Meso-Scale Sensor Test bed for In-situ Decommissioning of Nuclear Facilities	09/12/2011	12/31/2011	**Lagos**	Savannah River Nuclear Solutions LLC	77,664
AWD000000002103	Florida International University proposes the following services pertaining to the development of a program for Windamir Development & Construction.	10/15/2012	01/15/2013	**Lagos**	Jacobs Engineering Group	22,033
AWD000000003423	Development of a Meso Scale Sensor Test bed for Insitu Decommisioning of Nuclear Facilities	06/27/2013	12/31/2013	**Lagos**	Savannah River Nuclear Solutions LLC	31,369
AWD000000003627	Marketing, Communications, Knowledge Management, and Outreach Background Consulting	06/28/2013	06/27/2014	Triay Lagos (co-PI)	Waste Control Specialists LLC	45,052
AWD000000003759	Cyber Space Research and Development for Department of Defense's TRMC - Phases I and II	12/03/2013	12/02/2014	**Lagos**	Scientific Research Corporation	289,806
AWD000000005780	Cyber Space Technology Research and STEM Development for Department of Defense - Test Resource	05/01/2015	06/03/2016	**Lagos**	General Infomatics	200,000

	Management Center (TRMC) Phase III					
AWD000000 005984	Cyber Attack Orchestration Test Bed for Automation and Threat Monitoring in Virtual Environment	06/16/2016	08/31/2020	**Lagos**	U.S. Army	4,128,254
AWD000000 005994	FIU Support to RCNET's Renewal Proposal for a National Advanced Technical Education Center	10/01/2016	09/30/2022	**Lagos**	Indian River State College	200,000
AWD000000 006318	Robust and Remote Radiation Hardened Robotic System for Tunnel Inspection	10/01/2016	09/30/2020	**Lagos**	University of Texas at Austin	175,000
AWD000000 007934	Evaluation of a Dexterous Robotic Manipulator for Semi-Autonomous Glove box Tasks to Reduce Human Fatigue and Injuries	09/24/2017	01/31/2019	**Lagos**	Savannah River Nuclear Solutions LLC	400,000
AWD000000 009148	Dexterous Robotic Manipulator and Adaptation of Exoskeleton Devices for Assisted Glovebox Operations to Reduce Human Fatigue and Injuries	01/31/2019	10/31/2020	**Lagos**	Savannah River Nuclear Solutions LLC	275,000
AWD000000 010014	Secure Data Logging and Processing with Blockchain and Machine Learning	09/01/2019	04/30/2023	**Lagos**	US Department of Energy	400,000

AWD000000 013291	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.	11/03/21	11/02/23	**Lagos**	Savannah River Nuclear Solutions LLC	38,830
AWD000000 009947	WMS 2019 University Pavilion FIU Support	01/14/2019	03/30/2019	**Lagos**	WM Symposia	11,000
AWD000000 011145	CUI Industry Challenge	02/01/2020	05/01/2020	McDaniel, Lagos (co-PI)	Quasset	48,611
AWD000000 013388	Heterogeneous Robotics Systems for Mission Support	08/01/2022	07/31/2023	McDaniel Lagos (co-PI)	U.S. Department of Defense	483,000

STUDENT MENTORING AND TRAINING

Thesis/Dissertation Committees as Major Professor/Co-Major Professor or Committee member

Name of Student	Level	Major Professor/Committee Member	Degree	Status	Year
Mackenson Telusma*	Ph.D.	Co-Major Professor	MME	Defending Fall 2024	2020 – Present
Joel Adams*****	Ph.D.	Major Professor	MME	Defending Spring 2025	2022 – Present
Brendon Cintas*****	Ph.D.	Major Professor	MME	Current	2022 – Present
Gabriel Cerioni*****	Ph.D.	Major Professor	MME	Current	2022 – Present
Manuel Escobar*****	Ph.D.	Major Professor	MME	Current	2020 – Present
Anthony Abrahao*****	Ph.D.	Co-Major Professor	MME	Defending Fall 2024	2004 – Present
Juan Morales*****	Ph.D.	Committee Member	Occupational Health	Graduated	2019 – 2024
Maria Sotolongo*****	Ph.D.	Committee member	MME	Defending Spring 2025	2021 – Present
Mellissa Komninakis*****	Ph.D.	Committee Member	MME	Current	2020 – Present
Olivia Bustillo*****	M.S.	Major Professor	Env. Eng.	Graduated	2022 – 2023

Josue Estrada*	M.S.	Major Professor	MME	Graduated	2022 – 2023
Sebastian Story*	M.S.	Major Professor	MME	Graduated	2022 – 2023
Philip Moore*	M.S.	Major Professor	MME	Current	2022 – Present
Carlos Rios*	M.S.	Major Professor	MME	Current	2023 – Present
Brian Pineda*	M.S.	Co-Major Professor	MME	Current	2023 – Present
Hiba Khalil*	M.S.	Major Professor	MME	Current	2023 – Present
Shawn Cameron*	M.S.	Major Professor	MME	Graduated: non-thesis option	2022 – 2024
Jeff Natividad*	M.S.	Committee Member	MME	Graduated: non-thesis option	2020 – 2021
Johnson Imumbhon	Ph.D.	Committee Member	MME	Graduated	2020 – 2022
Ann Blanchard	Ph.D.	Committee Member	MME	Withdrawn	2020 – Present
Muhammad Faheem Afzal	Ph.D.	Committee Member	Civil Eng.	Graduated	2021 – 2024
Ali Javed	Ph.D.	Committee Member	Civil Eng.	Graduated	2021 – 2023
Anirban Saha	Ph.D.	Committee Member	MME	Current	2021– Present
Amer Awwad*	Ph.D.	Committee Member	Civil Eng.	Graduated	2020 – 2023
Gisselle Gutierrez*	M.S.	Committee Member	Env. Eng.	Graduated	2020 – 2022
Joshua Nunez*	M.S.	Committee Member	MME	Graduated	2018 – 2020
Tristan Simoes-Ponce*	M.S.	Committee Member	MME	Graduated	2018 – 2020
Michael Thompson*	M.S.	Committee Member	Electrical Eng.	Graduated	2018 – 2020
Edgard Espinosa*	M.S.	Committee Member	MME	Graduated	2009 – 2011
Steven Wood*	M.S.	Committee Member	MME	Graduated	2009 – 2011
Harini Kondamudi*	M.S.	Committee Member	Comp. Sci.	Graduated	2008 – 2010
Gowthami Thota*	M.S.	Committee Member	Comp. Sci.	Graduated	2008 – 2011
Maximiliano Edrei*	M.S.	Committee Member	MME	Graduated	2015 – 2017

***Indicates that the student is being (or has been) fully funded (stipend + tuition) from sponsored research projects where I am the main Principal Investigator (PI)**

Courses Taught at Florida International University

Student Perceptions of Teaching Survey (SPOT): Averages per category are based on a 5-point scale. Excellent = 5; Very Good = 4; Good = 3; Fair = 2; Poor = 1

Course Number	Course Title	Semester	SPOT Evaluation
BCN6912	Project Construction Engineering Mgmt.	Spring 2024	Current semester
EGM3503	Applied Mechanics**	Spring 2024	Current semester
BCN6916	Development in Construction Tech	Fall 2023	4.20
EGM3503	Applied Mechanics**	Fall 2023	3.41
EGM3503	Applied Mechanics**	Spring 2023	3.86
BCN6916	Development in Construction Tech	Fall 2022	4.61
EGM3503	Applied Mechanics**	Fall 2022	3.34
EGM3503	Applied Mechanics**	Spring 2022	3.80
EGM3503	Applied Mechanics**	Fall 2021	3.44
EGM3503	Applied Mechanics**	Spring 2021	3.92
EGM3503	Applied Mechanics**	Fall 2020	3.81
EGM3503	Applied Mechanics**	Spring 2020	4.07
EGM3503	Applied Mechanics**	Fall 2019	4.33
EGM3503	Applied Mechanics**	Spring 2019	4.16

EGM3503	Applied Mechanics**	Fall 2018	4.47
EGM3503	Applied Mechanics**	Fall 2017	4.04
EGM3503	Applied Mechanics**	Spring 2017	Not available
EGM3503	Applied Mechanics**	Fall 2016	Not available
EML3301L	Instrumentation Lab**	Fall 2015	Not available

**INDICATES COURSE TAUGHT AS ADJUNCT PROFESSOR

List of Proposed Courses (since joining Moss Department of Construction Management)

Course Title	Semester	Status
Robotics in Construction (graduate)	Fall 2023	Reviewed by FIU Academic Planning Office
Robotics in Construction (undergraduate)	Fall 2023	Reviewed by FIU Academic Planning Office
Master's in Nuclear Decommissioning and Environmental Remediation (MINDER) – 5 courses	Fall 2023	In review by academic department

Recent Post-Doctoral Associates and Visiting Scholars:

2023 – Presents, Nakown Sung (Visiting Scholar), Seoul National University, South Korea sponsored by Korea Nuclear International Cooperation Foundation (KONICOF)
2021 – 2023, Rodrigo Ramon (Post – Doctoral Associate), Applied Research Center
2020 – Present, Jayesh Soni (Post-Doctoral Associate), Applied Research Center

STUDENT RESEARCH SUPPORT

Based on Dr. Lagos' multi-disciplinary sponsored research portfolio, research labs and facilities, Dr. Lagos is able to support a large number of FIU STEM minority students. Since 2008, Dr. Lagos also serves at the director of the DOE-FIU Science and Technology Workforce Development Initiative (DOE Fellows Program) established by the US Department of Energy and Florida International University's Applied Research Center. He designed and built this program under the DOE-EM Cooperative Agreement (No. DE-EM0005213). Since its inception, the program has inducted 215 FIU minority students into the program. The program has completed 208 internships at DOE facilities across the county and graduated 22 PhDs, 62 Masters and over 100 undergraduate students. The DOE Fellows program is considered a Flagship program by FIU administration and the US Department of Energy. The program has successfully transitioned FIU students onto the workforce and counts with an impressive hiring rate of 98%. A detailed overview of the program can be obtained at https://fellows.fiu.edu

STEM Graduate Programs - Ph.Ds.

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Carolyn Grace Cooke	Chemistry	Ph.D.	Interaction of iodine species with Organoclays and Granulated Activated Carbon	2027 (anticipated)
Gabriel Cerioni	Mechanical Engineering	Ph.D.	Evaluation of Object encapsulation of Low-level waste utilizing 3D printed Concrete	2027 (anticipated)
Brendon Cintas	Mechanical Engineering	Ph.D.	Experimental analysis of flushing criteria for waste transport operations	2025 (anticipated)
Mariah Doughman	Chemistry	Ph.D.	Evaluation of Competing Attenuation Processes for Mobile Contaminants in Hanford Sediments	2024 (anticipated)

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Joel Adams	Mechanical Engineering	Ph.D.	Long Term Surveillance of Nuclear Facilities and Repositories	Spring 2025
Maria Sotolongo	Mechanical Engineering	Ph.D.	Detecting Surface Variations in Geometric Data Points Using Applied Mathematics to Enhance Confidence Levels in Environmental Analysis	Spring 2025
Phuong Pham	Chemistry	Ph.D.	Interaction of iodine species with Organoclays and Granulated Activated Carbon	2023
Juan Morales[1]	Public Health	Ph.D.	Accumulated Metalloestrogens Analysis for Health Risk Assessment and Watershed Toxicology Management in Tims Branch, SRS	2024
Silvina Di Pietro	Chemistry	Ph.D.	Ammonia Gas Treatment for Uranium Immobilization at DOE Hanford's Site	2021
Roger Boza[1]	Computer Science	Ph.D.	Analysis of Image Data using Machine Learning/Deep Learning and Big Data Technologies	Spring 2025
Sebastian Zanlongo	Computer Science	Ph.D.	Multipurpose All-Terrain Robotic Platform for D&D	2018
Hansell Gonzalez-Raymat	Chemistry	Ph.D.	Unrefined humic substances as a potential low-cost remediation method for groundwater contaminated with uranium in acidic conditions	2018
Claudia Cardona	Environmental Engineering	Ph.D.	Remediation of the uranium-contaminated subsurface in the deep vadose zone via NH_3 gas injection	2017
Charles Castello	Electrical Engineering	Ph.D.	Soil/Groundwater - Sensor Development for Field Measurement of Mercury	2011

STEM Graduate Programs – Masters

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Aubrey Litzinger	Environmental Engineering	Master	Model Development (for Basin 6 of the Nash Draw near the WIPP)	2024 (summer)
Philp Moore	Mechanical Engineering	Master	Development of an Off-Riser Sampler for Hanford's Waste Tanks	2024 (summer)
Sebastian Story	Mechanical Engineering	Master	Development of Inspection Tools for Primary Tanks	2023
Josue Estrada	Mechanical Engineering	Master	Development of Inspection Tools for DST Tanks	2023
Olivia Bustillo	Environmental Engineering	Master	Use of Apatite for Uranium Sequestration at Old Rifle Site	2023
Raymond Piloto	Electrical Engineering	Master	Pipeline corrosion and erosion evaluation	2022
Ryan Ocampo	Civil Engineering	Master	Evaluation of Coatings for the H-Canyon Exhaust Tunnel at the Savannah River	2022

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Gisselle Guiterrez	Environmental Engineering	Master	Digital Elevation Model and Hydrologic Network	2022
Michael Thompson	Electrical Engineering	Master	Structural health monitoring of pipelines in radioactive environments through acoustic sensing and machine learning	2020
Edward Nina	Mechanical Engineering	Master	Non-Thesis Option	2020
Jeff Natividad	Mechanical Engineering	Master	Non-Thesis Option	2021
Alexis Vento	Environmental Engineering	Master	Fate of Actinides in the Presence of Ligands in High Ionic Strength Systems	2021
Tristan Simoes-Ponce	Mechanical Engineering	Master	D&D Technology Demonstration & Development and Technical Support to SRS's 235-F Facility Decommissioning	2020
Ron Hariprashad	GeoScience (Hydrogeology)	Master	Modeling of Surface Water Flow and Contaminant Transport in the Tims Branch Ecosystem	2020
Jason Soto	Mechanical Engineering	Master	Design of Robotic Inspection Platform for Structural Health Monitoring	2020
Amanda Yankcoskie	Environmental Engineering	Master	Non-Thesis Option	2020
Ryan Cruz	Cyber Security	Master	Non-Thesis Option	2019
Joshua Nunez	Mechanical Engineering	Master	The applications of intumescent technologies in support of D&D activities across the DOE complex	2019
Joseph Coverston	Mechanical Engineering	Master	Evaluation of Pipeline Flushing Requirements for HLW at Hanford and Savannah River	2019
Mohammed Albassam	Water resource Engineering	Master	Effect of Frequent Atmospheric Events on Flow Characterization in Tims Branch and its Major Outfalls	2018
Alejandro Garcia	GeoScience	Master	The influence of biofilm formation on the SIP response of Hanford vadose zone sediment	2018
Robert Lapierre	Chemistry	Master	Mineral characterization after uranium sequestration by pH manipulation using NH_3 gas	2017
Natalia Duque	Environmental Engineering	Master	Non-Thesis Option	2017
Maximiliamo Edrei	Mechanical Engineering	Master	Investigation of Mixing Times of Sparged Bingham plastic type fluids as applied to the Pulse Jet Mixing Process	2017
Dayron Chigin	Electrical Engineering	Master	Non-Thesis Option	2015
Andrew De La Rosa	Computer Science	Master	Non-Thesis Option	2015
Valentina Padilla	Environmental Engineering	Master	Non-Thesis Option	2014
Revathy Venkataraman	Computer Science	Master	Performance Evaluation of Mobile Applications with KMIT Technology Web Services	2014

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Paola Sepulveda	Biomedical Engineering	Master	Investigating the Role of a Less Uranium Tolerant Strain, Isolated from the Hanford Site Soil, on Uranium Interaction in Polyphosphate Remediation Technology	2014
Joel McGill	Environmental Engineering	Master	Non-Thesis Option	2014
Mariela Sliva	Engineering Management	Master	Non-Thesis Option	2013
Jose Matos	Mechanical Engineering	Master	Development of improved Bodies for a Peristaltic Crawler for Radioactive Pipeline Unplugging	2013
Janty Ghazi	Electrical Engineering	Master	Control, through Sensors and LabVIEW, of the Asynchronous Pulsing Unit	2013
Jaime Mudrich	Mechanical Engineering	Master	Development of a Coupling Model for Fluid-Structure Interaction using the Mesh-free Finite Element Method and the Lattice Boltzmann Method	2013
Heidi Henderson	Environmental Engineering	Master	Surface water and contaminant transport within the Oak Ridge National Laboratory	2013
Elicek Delgado-Cepero	Electrical Engineering	Master	Structural Health Monitoring Inside Concrete and Grout Using the Wireless Identification Sensing Platform	2013
Yulyan Arias	Environmental Engineering	Master	Non-thesis option	2012
Melissa Sanchez	Environmental Engineering	Master	Non-thesis option	2012
Mario Vargas	Mechanical Engineering	Master	Kinematic Control of Remote Stack Characterization System	2012
Lilian Marrero	Environmental Engineering	Master	Soil/Groundwater - Modeling of Mercury Contamination at ORNL	2012
Lee Brady	Mechanical Engineering	Master	Non-thesis option	2012
Kanchana Iyer	Biomedical Engineering	Master	Non-Thesis Option	2012
Eric Inclan	Mechanical Engineering	Master	Mesh adaptation for use in Lattice Boltzmann code	2012
William Mendez	Engineering Mngmt.	Master	Development of Remote Stack Char. System	2011
Stephen Wood	Mechanical Engineering	Master	Modeling of Pipeline Transients: Modified Method of Characteristics	2011
Merlin Ngachin	Environmental Sciences	Master	Waste Processing - Baltman-Lattice Method to Model HLW	2011
Melina Idarraga	Environmental Engineering	Master	Dissolution rate of natural meta-autunite: effects of aqueous bicarbonate, pH and temperature	2011
Elsa Cabrejo	Environmental Engineering	Master	Soil/Groundwater - Modeling of Mercury Contamination at ORNL	2011
Edgard Espinosa	Mechanical Engineering	Master	Waste Processing - CFD Modeling of NuVison's Power Fluidic Technology/Process Remote Stack Characterization System	2011

DOE Fellow	Discipline	Degree	Research Topic	Year of Graduation
Denny Carvajal	Biomedical Engineering	Master	Soil/Groundwater – Bacteria Interaction due to Polyphosphate Injection at Hanford	2011
Amaury Betancourt	Environmental Engineering	Master	Soil/Groundwater - Modeling of Mercury Contamination at ORNL	2011
Serkan Akar	Biomedical Engineering	Master	Design and Development of an Enzyme-Linked Biosensor for Detection and Quantification of Phosphate Species	2010
Leydi Velez	Industrial Engineering	Master	Decision Modeling Tools D&D Surveillance & Maintenance	2010
Duriem Calderin	Biomedical Engineering.	Master	Modeling of Loose Contamination Scenarios to Predict the Amount of Contamination Removed	2010
Amy Pahmer	Engineering Management	Master	Non-Thesis Option	2010
Jose Vazquez	Environmental Engineering	Master	Effects of temperature and pH on volatilization of mercury after chemical reduction	2009

EMPLOYMENT AND TRANSITIONING TO THE WORKFORCE

STUDENTS HIRED BY DEPARTMENT OF ENERGY, NATIONAL LABS OR DOE CONTRACTORS

First Name	Last Name	Employer
Edgard	Espinosa	DOE EM Office of Nuclear Materials Disposition
Merlin	Ngachin	Argonne National Lab
Rubymir	Romero	Bechtel Power
Lee	Brady	DOE EM office of Deactivation and Decommissioning
Duriem	Calderin	Pacific Northwest National Lab (PNNL)
Charles	Castello	ORNL – Energy & Transportation Science Division
Rosa	Ramirez	DOE EM International Programs
Stephen	Wood	ORNL
Nicole	Anderson	National Energy Technology Laboratory (NETL)
Hansell	Gonzalez	Savannah River Nuclear Solutions
Adamandios	Manoussakis	Sandia National Laboratory
Silvina	Di Pietro	NNSA
Juan	Morales	Savannah River National Laboratory (SRNL)
Tristan	Simoes-Ponce	Savannah River Nuclear Solutions
Roger	Boza	INL
Jeff	Natividad	WRPS
Mariah	Doughman	PNNL
Josue	Estrada	WRPS
Phuong	Pham	Savannah River National Laboratory (SRNL)
Sebastian	Story	Los Alamos National Laboratory (LANL)
Olivia	Bustillo	Drummond Carpenter

STUDENTS HIRED BY PRIVATE FEDERAL, STATE OR LOCAL GOVERNMENT

First Name	Last Name	Employer
Serkan	Akar	Department of Commerce
Denisse	Aranda	NASA
Alex	Henao	Internal Revenue Services
Jose	Vazquez	Department of State
Amaury	Betancourt	Florida Department of Environmental Protection
Cindy	Cerna	Naval Sea Systems Command
Jennifer	Borges	Florida Department of Transportation
Elsa	Cabrejo	Dade County Environmental Department (Miami, Fla)
Alessandra	Monetti	Department of Defense – Office of the Secretary of Defense, Army Corp of Engineering
Kanchana	Iyer	Department of Health & Human Services
Alexander	Lopez	Florida Department of Transportation
Melissa	Sanchez	Florida Department of Environmental Protection
Frank	Silva	Department of State
Kiara	Pazan	U.S. Corps of Engineers
Jesse	Viera	U.S. Marine Corps
Christine	Wipfli	U.S. Dept of Defense
Sarah	Bird	U.S. Dept of Defense
Christopher	Strand	FAA
Mohammed	Albassam	City of Coconut Creek

STUDENTS HIRED BY PRIVATE STEM INDUSTRY

First Name	Last Name	Employer
Danny	Brenner	General Electric
Ramon	Colon	Bouygues Civil Works Florida
Henry	Diaz	Lockheed
Raul	Dominguez	Kimley-Horn and Associates, Inc.
Erica	McKinney	Boeing Company
William	Mendez	Boeing Company
Amy	Pahmer	Mount Sinai Medical Center
Giancarlos	Pena	Caribe Utilities of Florida, Inc
Jose	Rivera	FIU's Applied Research Center
Leydi	Velez	PriceSmart Inc
Sandra	Zapata	Johnson & Johnson
Melina	Idarraga	Nova Consulting Inc.
Dasney	Joseph	General Electric
Victor	Uriarte	Intel Corporation
Denny	Carvajal	Mount Sinai Medical Center
Rinaldo	Gonzalez Galdamez	Crane Aerospace and Electronics
Nadia	Lima	HJ Foundation
Jose	Matos	Beckman Coulter

First Name	Last Name	Employer
Mario	Vargas	Boeing Company
Yulyan	Arias	CH2M Hill
Maite	Barroso	Sikorsky Aircraft
Givens	Cherilus	Florida Power & Light
Elicek	Delgado	Motorola
Janty	Ghazi	Kiewit Power
Heidi	Henderson	CPH Inc.
Sheidyn	NG	Regeneron Pharmaceuticals
Shina	Rana	Florida Power & Light
Claudia	Cardona	STEM
Nel	Ciurdar	Burns & McDonnell
Lilian	Marrero	MWH Global
Joshua	Midence	Creativity, Value, Logic
Carol	Moreno-Pastor	Cummins
Jaime	Mudrich	Beckman Coulter
Ximena	Prugue	BRG Sports
Paola	Sepulveda	StryKer
Jennifer	Arniella	Permasteelisa North America
Francisco	Bolanos	Beckman Coulter
Dania	Castillo	HDR
Dayron	Chigin	Florida Power & Light
Joel	McGill	BND Engineers
Lucas	Nascimiento	Raytheon
Raul	Ordonez	Texas Instruments
Valentina	Padilla	Brown & Caldwell
Mariela	Silva	Conoco Phillips
Gabriela	Vazquez	Florida Power & Light
Revathy	Venkataraman	TradeStation
Michael	Abbott	Magic Leap Inc
Michelle	Embon	Kimley-Horn and Associates, Inc.
Mariana	Evora	King Engineering Associates, Inc
Eduardo	Garcia	UTC Aerospace Systems
Steve	Noel	Goldman Sachs
Sasha	Philius	HaikuTech Europe B.V.
Brian	Castillo	StryKer
John	Conley	Florida Power & Light
Andrew	De La Rosa	Lockheed
Jorge	Deshon	Lockheed
Maria	Diaz	Nova Consulting Inc.
Maximiliano	Edrei	Huntington Ingalls Newport News Shipbuilding Company
Janesler	Gonzalez	Velossa Tech
Meilyn	Planas	Florida Power & Light
Ryan	Sheffield	Applied Physics Laboratory
Aref	Shehadeh	Nova Consulting Inc.

First Name	Last Name	Employer
Alexis	Smooth	Nexant
Sebastian	Zanlongo	Johns Hopkins University, Applied Physics Laboratory
Michael	DiBono	Microsoft
Ron	Hariprashad	RS&H
Ripley	Raubenolt	SCS Engineering
Sarah	Solomon	County of Los Angeles Department of Public Works
Joseph	Coverston	Pennsylvania State University Applied Research Laboratory
Ryan	Cruz	Lockheed
Katherine	Delarosa	Advanced Environmental Laboratories
Christopher	Excellent	FPL
Ximena	Lugo	Kimley-Horn and Associates, Inc.
Joshua	Nuñez	Dayton-Granger, Inc.
Alex	Rivero	General Electric
Jason	Soto	SIA Solutions LLC
Patrick	Uriarte	iRobot
Alexis	Vento	SCS Engineering
Derek	Gabaldon	Rolls-Royace
Gisselle	Gutierrez	Kimley-Horn and Associates, Inc.
Daniel	Martin	FIU's Applied Research Center
Michael	Thompson	Raytheon
Rocio	Trimino Gort	A&P Consulting Transportation Engineers, Corp.
Adrian	Muino	Lockheed Martin
Eduardo	Rojas	Kinetic Engineering and Accident Reconstruction
Desmond	Sinnott	FPL

PATENT DISCLOSURES, APPLICATIONS, AND AWARDS

US Patent 11,630,025 “Robotic Inspection Device”, issued April, 18, 2023.
FIU Patent Disclosure, #FIU496 “Mini-rover Inspection Tool,” submitted, 11/2022
US Patent 6447366, M Ali Ebadian, Joseph F Boudreaux, Leonel E Lagos, issued Sept., 10, 2002

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

Honors

2024 – **Fellow**, Waste Management Symposia

2022 – Applied Research Center, Outstanding Group of the Year Award (Robotics Group)

2022 – American Nuclear Society’s Robotics and Remote Systems Division Service Award (Chair Award)

2022 – American Nuclear Society’ Robotics and Remote Systems Division Award - Special Recognition Award for Support of ANS Embedded Topical Winter Meeting 2021

2020 – FIU Presidential Excellence Award finalist

2019 – FIU Presidential Excellence Award finalist

2018 – American Nuclear Society’s Robotics and Remote Systems Division Service Award (Treasurer)

2017 – FIU Presidential Excellence Award finalist

2016 – FIU Presidential Excellence Award finalist

2013 – FIU Merit Award – Florida International University
2008 – FIU Spot Award – Florida International University
2007 – Dean's Award – Florida International University's College of Engineering
2002 – Excellent Performance Award – HCET
1999 – HCET's Leadership Award – HCET
1993 – HBCU/MI Fellowship, HBCU/MI Clark Atlanta University Consortium
1993 – HBCU/MI Summer Internship at US Environmental Protection Agency (EPA)

OFFICES HELD IN PROFESSIONAL SOCIETIES

2020 – Present, Board of Trustees Member, Roy G. Post Foundation Fellowship
2010 – Present, Program Advisory Committee (PAC) member, Waste Management Symp.
2022 – Present, Exe. Committee American Nuclear Society, Robotics and Remote Systems Division.
2008 – 2010, Program Advisory Committee supporter, Waste Management Symposia
2020 – 2022, Ex-Officio, American Nuclear Society, Robotics and Remote Systems Division
2018 – 2020, Chair, American Nuclear Society, Robotics and Remote Systems Division
2017 – 2018, Vice Chair, American Nuclear Society, Robotics and Remote Systems Division
2016 – 2017, Treasurer, American Nuclear Society, Robotics and Remote Systems Division

SERVICE

2024 – 2025, Faculty Council Representatives (nominated – 2nd year)
2024 – 2024, Participation and presentation at Associated Builders & Contractors East-Cost Florida 3rd Annual Construction Technology & Innovation Conference, (robotic technology demonstration), Orlando, Florida (May 7, 2024)
2024 – 2024, Vertex Construction, presentation and Demonstration of SPOT and Trimble X7 technologies (04/25/2024)
2024 – 2025, Search Committee, Moss Department of Construction Management - Open Rank - Tenured/Tenure-Track Faculty in Construction Management (Committee Chair: Dr. Pradhananga)
2024 – 2024, FIU Robotics and Artificial Intelligence Workshop (April 22 -24, 2024) - organizer
2022 – 2023, Search Committee, Moss Department of Construction Management - Open Rank - Tenured/Tenure-Track Faculty in Construction Management (Committee Chair: Dr. Orabi)
2022 – Present, Roy G. Post Scholarship Foundation, Waste Management Symposia
2010 – Present, Volunteer FIU College of Engineer – Engineering Expo
2022 – 2023, Volunteer She Builds Summer Camp (robotics lab tours)
2022 – 2023, Volunteer Trimble Camp (robotics lab tours and robotic technology demonstrations)
2024 – 2024, Associated Builders & Contractors East-Cost Florida Technical Conference (robotic technology demonstration), Hollywood, Florida.
2023 – 2023, Associated Builders & Contractors National Meeting, Orlando Florida.
2022 – 2022, Associated Builders & Contractors East Florida Chapter (robotic technology demonstration), Miami, Florida.

Journal Reviewer

2021 – Present, Guess Editor, Applied Sciences – Special Issue Robotics Systems for Inspection and Surveillance of Industrial Infrastructure
https://www.mdpi.com/journal/applsci/special_issues/6WZKGH7E6Z

INTERNATIONAL ACTIVITIES

2023 – Present, Leading the efforts with the International Atomic Energy Agency (IAEA) to obtain FIU designation of International Collaborating Research Centre.

2022 – Present, Participating and contributing to IAEA Working Group, New and Emerging Technologies for Decommissioning. Participated on 3 on-time meetings at IAEA Headquarters in Vienna, Austria.

2021 – Present, Development of a Master's in Nuclear Decommissioning and Environmental Remediation (MINDER). The MINDER program is funded by the European Commissioning under ERASMUS + program and is a collaboration between Portugal, Brazil, Norway, Belgium, and the US. The program aims to develop an international Master's program in nuclear decommissioning.

2020 – 2022, As part of the NSF funded Regional Center for Nuclear Education and Training (located at Indian River State College), I organized, participated and presented at University of Vigo, Vigo Spain (September 5-6, 2022) and Nuclear Energy Agency, Paris, France (September 7-8, 2022). The FIU Team included representatives from IRSC, Florida Power & Light/NexERA, Energy Northwest, and FIU.

2022 – Present Established Memorandum of Understanding (MOU) and collaborative efforts between Korea Nuclear International Cooperation Foundation (KONICOF) and FIU. MOU was fully executed on June, 2022.

2022 – 2022, Participated in Consultancy Meeting at the International Atomic Energy Agency, Vienna, Austria. The 1-week meeting was conducted in May, 2022 and had the purpose of stablishing the frame of reference for larger meeting in August 2022 at the IAEA.

2021– 2021 Served as subject matter expert a technical review conducted by the International Atomic Energy Agency titled "IAEA INTERNATIONAL PEER REVIEW OF MIDAND-LONG-TERM ROADMAP TOWARDS THE DECOMMISSIONING OF TEPCO'S FUKUSHIMA DAIICHI NUCLEAR POWER STATION," Virtual weekly meetings were conducted during June – August 2021 and final report was submitted to the government of Japan on September 2021.

2019 – 2019 Conducted International Atomic Energy D&D Workshop at FIU (09/09/19 – 09/13/19).

2017 – Established Practical Arrangement MOU between International Atomic Energy Agency (IAEA) and FIU (2017).

PROFESSIONAL WEBSITES

https://arc.fiu.edu/leonel-lagos/
https://fellows.fiu.edu/
https://doeresearch.fiu.edu/SitePages/Welcome.aspx
https://linkedin.com/in/leonel-lagos-25457a56