Mark H. Weatherspoon, Ph.D.

Curriculum Vitae

Associate Dean for Faculty Affairs & Academic Innovation
Professor | Department of Electrical and Computer Engineering
Florida A&M University – Florida State University College of Engineering
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CAREER SUMMARY

Dr. Weatherspoon is Associate Dean for Faculty Affairs & Academic Innovation at the Florida A&M University – Florida State University (FAMU-FSU) College of Engineering, a 41-year-old unique joint college between one of the most prominent historically black universities in the nation and a Research I university, recognized in Florida as one of three preeminent research universities. He leads the Office of Faculty Affairs which is responsible for all aspects of faculty advancement, development, and human resources for the college's 132 faculty, oversees college faculty diversity initiatives, is the chief liaison for the college with the senior administration at both universities on faculty matters, and has extensive experience in promotion and tenure, merit review, and academic personnel policies and procedures with the two universities. He has developed signature programs for faculty mentoring and faculty-driven student success, and he oversees programs for academic innovation and technology and faculty-staff training within the college to enhance student engagement, retention and overall success. He also has leading roles in college advancement activities between internal and external customers to develop partnerships and in academic program review where he recently led a team of 13 faculty and staff in the review of all undergraduate and graduate programs in the five departments of the college.

Prior to being appointed Associate Dean, Dr. Weatherspoon served as the Associate Chair and Director of Undergraduate Programs for the Department of Electrical and Computer Engineering (ECE). As associate chair, he led academic and career advising, scheduled classes, served on the department executive committee, and assisted the chair in performing faculty annual performance evaluations. As director, Dr. Weatherspoon led all aspects of the undergraduate program including chairing the curriculum committee and supervising the undergraduate academic coordinator. He led the efforts to revise the senior design course sequence and also served as a senior member of the ABET team that oversaw re-accreditation of the electrical engineering and computer engineering programs. Dr. Weatherspoon was the ECE representative on the college curriculum committee which was responsible for developing and reviewing college-wide academic policies and curricula.

As a tenured Professor in the Department of Electrical and Computer Engineering and concurrent with his administrative duties, Dr. Weatherspoon maintains an active research lab. He has served as research advisor or co-advisor of 16 graduate students and more than 20 undergraduate students. He has authored or co-authored over 65 publications (journal articles, conference papers, etc.). His research expertise is in modeling and simulation at the device, circuit and system level. Dr. Weatherspoon's scholarly activities have been funded by more than $5.5 million in sponsored research awards from various government and commercial organizations (e.g. National Science Foundation, National Security Agency, U.S. Department of Agriculture, Office of Naval Research, Northrop Grumman Foundation, and Intel Corporation). He has extensive experience in promoting undergraduate research, diversity and inclusion, and is the founding director of the innovative NSF FREEDM Research + Education Program (REP) that brings faculty and undergraduate/graduate students together in a bi-weekly forum to present and discuss the significance of research being conducted by the group. 50+ students have been mentored in the REP through the graduate research scholars program, undergraduate research scholars program, or the summer research experience for undergraduates program with demographics of 68% undergraduate students, 90% underrepresented minority students, and 25% female students. In industry, Dr. Weatherspoon was with Raytheon Systems-ECI Division in Saint Petersburg, FL designing RF/microwave low noise amplifiers and had several research visitations to the National Institute of Standards and Technology (NIST)-Microwave Metrology in Boulder, CO and Raytheon-RF Components in Andover, MA where he performed noise temperature measurements using custom radiometers and measurement techniques. Dr. Weatherspoon is a Senior Member of IEEE.

LEADERSHIP APPOINTMENTS

2018 – present

Associate Dean | Faculty Affairs & Academic Innovation
FAMU-FSU College of Engineering

Inaugural associate dean to lead all aspects of faculty affairs for the college including faculty advancement (promotion, tenure, annual performance evaluations, third year evaluations, sustained performance evaluations-post tenure, department chair 4-year review, salary reviews/adjustments, etc.), faculty development (sabbatical, professional development, new faculty orientation, etc.), faculty awards and recognition, faculty human resources (recruitment, appointment, credentialing, assignment of responsibilities, etc.), faculty grievance and appeals processes (for negative performance issues and appeals of performance evaluations), governance and compliance of other faculty activities in accordance with academic policies (faculty senates), collective bargaining agreement (faculty unions), bylaws (college and departments), and all other binding regulations (university, state, federal).

Develop and oversee faculty mentoring programs at college/department levels (mentoring series on select topics, junior faculty mentoring check-up initiative, individualized faculty mentoring teams, etc.), faculty-driven student success program (workshops on student motivation, classroom climate, learner-centered teaching, course redesign, etc.) and joint faculty-staff training program (interactive sessions on FERPA, employee-specific ADA, student/academic-specific ADA, Sexual Misconduct Prevention/Non-Discrimination/Title IX, etc.)

Lead faculty diversity initiatives (develop/oversee processes for recruiting and retaining diverse faculty; generate equity reports) and create/manage a SharePoint repository system of resources for faculty/staff/administration.

Oversee the Center for Academic Innovation and Technology (CAIT) which promotes the understanding of learner-centered pedagogy, pursues academic technology solutions that foster innovation in teaching and learning, and offers instructional support, trainings, and services for college faculty/staff.

Oversee other key college initiatives including academic program review (team leader of 13 faculty/staff for program review/quality enhancement review (PR/QER) of all undergraduate and graduate programs in the five departments of the college, serve as liaison between both universities and the college PR/QER team, regularly convene college team meetings to facilitate sharing and understanding of required data to complete the self-study reports, work with department chairs, the dean, and the universities to secure external reviewers and schedule their visits); tenure and promotion review (case manager for Interfolio online system); accreditation (senior member of the college ABET re-accreditation team for all faculty related items); and college advancement (facilitator of technical communications between internal customers, e.g. university foundations, departments, etc., and external customers to form partnerships that support student and program development by funding scholarships, capstone design projects, and research projects, e.g. most recently, $100k gift from Splunk, Inc. for computer engineering and computer science students).

Serve on the college budget committee that reviews unit budget requests and recommends college budget requests to the universities and allocations to the units based upon college strategic priorities and unit performance numbers.

2008 – present

Director | NSF Future Renewable Electric Energy Delivery and Management (FREEDM) Systems Center Research + Education Program (REP)
FAMU-FSU College of Engineering

Founding director with oversight (including student recruitment and mentoring) of the following programs: Summer Research Experience for Undergraduates (SREU), Undergraduate Research Scholars (UGRS), Graduate Research Scholars (GRS), Renewable Energy Systems (RES) Graduate Certificate Program*, RES Undergraduate Concentration Program*, and REP Bi-weekly Group Meetings.

*-also includes curriculum development.

2015 – 2018

Associate Department Chair | Electrical and Computer Engineering
FAMU-FSU College of Engineering

Led academic and career advising for the department; scheduled classes for the department; served as member of the department executive committee; assisted the chair in performing faculty annual performance evaluations; represented the department in the absence of the chair.

2015 – 2018

Director | Undergraduate Programs | Electrical and Computer Engineering
FAMU-FSU College of Engineering

Chaired the undergraduate curriculum committee; supervised undergraduate academic coordinator; led efforts to revise senior design course sequence to include a new third course with systems engineering and upper division writing component; served as a senior member of the ABET team resulting in a successful re-accreditation of electrical engineering and computer engineering programs; served as the ECE representative and one of five members on the college curriculum committee which was responsible for developing, reviewing, and adopting all academic policies and curricula for the college.

ACADEMIC APPOINTMENTS

2014 – present

Professor | Electrical and Computer Engineering
FAMU-FSU College of Engineering

Perform research, teaching, and service.

2009 – 2014

Associate Professor | Electrical and Computer Engineering
FAMU-FSU College of Engineering

Performed research, teaching, and service.

2002 – 2009

Assistant Professor | Electrical and Computer Engineering
FAMU-FSU College of Engineering

Performed research, teaching, and service.

INDUSTRIAL EXPERIENCE

2001 **Research Associate | Microwave Metrology | National Institute of Standards and Technology (NIST) | Boulder, CO**

Performed noise temperature measurements and analysis of select on-wafer and off-wafer DUTs using USFNTMS and NIST's NFRAD.

2000 **Contractor | RF Components | Raytheon | Andover, MA**

Performed scalar and radiometer noise temperature measurement techniques to a commercial synthetic cold/hot load, a prototype FET-based cold noise source, and an on-wafer MHEMT active cold load.

1998 **Research Associate | Microwave Metrology | National Institute of Standards and Technology (NIST) | Boulder, CO**

Utilized LabVIEW as controller to automate the WR-90 switching radiometer for measurement/analysis of various on-wafer devices and data processing.

1995 – 1997 **Engineer II | Microwave Engineering Group | Raytheon Systems – ECI Division | St. Petersburg, FL**

Designed L, S, and C band low noise amplifiers using commercial CAD tools.

PROFESSIONAL PREPARATION AND RESEARCH AREAS

2002 **Ph.D. Electrical Engineering | University of South Florida | Tampa, FL**
Dissertation: *Microwave Characterization of One-Port Noise Sources*

1994 **M.S. Electrical Engineering | Florida State University | Tallahassee, FL**
Studied advanced theory/numerical techniques in electromagnetics; antennas.

1992 **B.S. Electrical Engineering | Florida State University | Tallahassee, FL**

2019 – 2020 **IAspire Leadership Academy | sponsored by NSF | Inaugural Cohort**
Year-long intensive program to enhance leadership skills and knowledge in nine critical competencies, prepare and implement an action project to influence institutional change, and develop a peer leadership network.

2020 **Diversity and Inclusion Certificate | Cornell University | Ithaca, NY**
Four course program designed by the School of Industrial and Labor Relations.

2021 **Mentoring Training Program | Center for the Improvement of Mentored Experiences in Research (CIMER) | sponsored by NSF Aspire Alliance**
Six session program designed for mentors whose trainees are undergraduate students, graduate students, postdocs, or junior faculty in STEM/medicine.

2022 **Academic Leadership Institute | University of Michigan–The New School**
Residential program for president/provost aspirants who are committed to DEI.

Research Areas: Modeling of energy storage devices using electrochemical impedance spectroscopy; design and modeling of sustainable electrical energy systems; modeling of bioluminescence in biological organisms; synthesis and optimization of antenna response parameters; noise and noise temperature measurement and modeling; uncertainty analysis using Monte Carlo simulations, modeling of microwave active devices using artificial neural networks; microwave and millimeter-wave circuit design.

HONORS AND AWARDS

2022 Academic Leadership Institute Residential Program Certificate, University of Michigan-The New School
2020 Diversity and Inclusion Certificate, Cornell University
2019-2020 IAspire Leadership Academy Fellow (sponsored by NSF), Aspire Alliance
2018-2019 Leadership Development Program, Florida State University
2014 Best Paper Presentation Award*, FREEDM Systems Center Annual Conference
2014 1st Place Award*, Graduate Student Research Symposium, FAMU-FSU College of Engineering
2013 Certificate of Appreciation, Florida State University
2012 Sabbatical Leave Program - Spring 2012, Florida A&M University
2010 Senior Membership, Institute of Electrical and Electronics Engineers (IEEE)
2009 Certificate of Appreciation, Institute of Electrical and Electronics Engineers (IEEE)
2004 Certificate of Appreciation, Florida State University
2002 First Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Fellow to receive Ph.D.
1999 Membership, Eta Kappa Nu Electrical Engineering Honor Society
1998-2002 Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Fellowship
1998-2002 McKnight Doctoral Fellowship
1994 Delores Auzenne Fellowship
1994 Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Fellowship
1993 Boeing Fellowship
1992 Fundamentals of Engineering/Engineer-in-Training (FE/EIT)
1988 Florida State University Incentive Scholarship Award

*-Student researcher under my direct supervision

PROFESSIONAL ORGANIZATIONS/SOCIETIES

American Society for Engineering Education (ASEE)
Power and Energy Society (PES)
Electrochemical Society (ECS)
Institute of Electrical and Electronics Engineers (IEEE) - Senior Member
Automatic RF Techniques Group (ARFTG)
Microwave Theory and Techniques Society (MTT-S)
Instrumentation and Measurement Society (IMS)
National Society of Black Engineers (NSBE)

COURSES TAUGHT

EEL 3111 Introductory Circuit Analysis
EEL 3135 Signal and Linear System Analysis
EEL 3472 Electromagnetic Fields I
EEL 3473 Electromagnetic Fields II
EEL 4461 Antenna Systems
EEL 5426* RF/Microwave Circuits I
EEL 5427* RF/Microwave Circuits II
EEL 5465 Antenna Theory
EEL 5486 Advanced Electromagnetic Theory
EEL 5930* Lithium Battery Technology I
EEL 5930* Lithium Battery Technology II
EEL 5930* Sustainable Energy Systems
EEL 5930* RF/Microwave Engineering

*- Course may also be dual listed/taught with an undergraduate section

SCHOLARSHIP

Journal Articles

1. Rajagopalan Kannan, D. R. and **Weatherspoon, M. H.**, "The Effect of Pulse Charging on Commercial Lithium Titanium Oxide (LTO) Cathode Batteries" *Advances in Applied Energy*, (manuscript submitted for publication)

2. Rajagopalan Kannan, D. R. and **Weatherspoon, M. H.**, "The Effect of Pulse Charging on Commercial Lithium Cobalt Oxide (LCO) Cathode Batteries" *International Journal of Electrochemical Science*, 16, 2021, 150868, doi: 10.20964/2021.04.30.

3. Rajagopalan Kannan, D. R. and **Weatherspoon, M. H.**, "The Effect of Pulse Charging on Commercial Nickel Manganese Cobalt Oxide (NMC) Cathode Lithium-Ion Batteries" *Journal of Power Sources*, 479, 2020, 229085, doi: 10.1016/2020.12.15.

4. Rajagopalan Kannan, D. R., Terala, P. K., Moss, P. L., and **Weatherspoon, M.**, "Analysis of the Separator Thickness and Porosity on the Performance of Lithium-Ion Batteries" *International Journal of Electrochemistry*, 2018, 1-7.

5. Watson, V., Telama, W., Yeboah, Y., Haynes, Z., **Weatherspoon, M.**, Zheng, J., and Kalu, E. E., "Electrochemical Performance of Heat Treated SnO_2-SnCu@C-Felt Anode Materials for Lithium ion Batteries" *Surfaces and Interfaces*, 13, 2018, 224-232.

6. Watson, V., Yeboah, Y., **Weatherspoon, M.**, Zheng, J., and Kalu, E. E., "Preparation of Encapsulated Sn-Cu@Graphite Particles Composite Anode Materials for Lithium-Ion Batteries" *International Journal of Electrochemical Science*, 13, 2018, 7968-7988.

7. Oladimeji, C. F., Moss, P. L., and **Weatherspoon, M. H**., "Analyses of the Calendaring Process for Performance Optimization of Li-ion Battery Cathode" *Advances in Chemistry*, 2016, 1-7.

8. Moss, E. N., Jr., Nelson, R., Morris, L., Jr., **Weatherspoon, M. H.**, and Moss, P. L., "Lithium-Ion Battery Degradation in Energy Storage Systems for Grid Applications" *ECS Transactions*, 66(39), 2015, 39-45.

9. Nelson, R., Kosivi, J., **Weatherspoon, M. H.**, Kalu, E. E., and Zheng, J. P., "Impedance Behavior of Binderless Ni-Mo Composite Cathode for a Li-O_2 Battery via Impedance Spectroscopy" *ECS Transactions*, 58(22), 2014, 15-20.

10. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Binder-Free Co-Mn Composite Oxide for Li-Air Battery Electrode" *Journal of Materials Chemistry A*, 1(10), 2013, 3287-3294.

11. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Thin Film Co-MnO_2 by Combined Electroless-Electrolytic Techniques for Ultracapacitor and Li-Air Battery Applications" *ECS Transactions*, 45(18), 2013, 1-13.

12. Nelson, R. G., **Weatherspoon, M. H.**, Gomez, J., Kalu, E. E., and Zheng, J. P., "Investigation of a Li-O_2 Cell Featuring Binder-Free Cathodes via Impedance Spectroscopy and Equivalent Circuit Model Analysis" *Electrochemistry Communications*, 34(9), 2013, 77-80.

13. **Weatherspoon, M. H.**, Connor, J., and Foo, S. F., "Shaped Beam Synthesis of Phased Arrays Using the Cross Entropy Method" *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, 2013, 1-13.

14. Gomez, J., Kalu, E. E., Nelson, R., Akpovo, C., **Weatherspoon, M. H.**, and Zheng, J. P., "Binder-free electrode fabrication by electroless-electrolytic method" *ECS Electrochemistry Letters*, 1, 2012, D25-D28.

15. Gomez, J., Nelson, R., Kalu, E., **Weatherspoon, M.**, and Zheng, J., "Erratum to Equivalent Circuit Model Parameters of a High-Power Li-Ion Battery: Thermal and State of Charge Effects" *Journal of Power Sources*, 218, 2012, 5.

16. Gomez, J., Nelson, R., Kalu, E., **Weatherspoon, M.**, and Zheng, J., "Equivalent Circuit Model Parameters of a High-Power Li-Ion Battery: Thermal and State of Charge Effects" *Journal of Power Sources*, 196(10), 2011, 4826-4831.

17. **Weatherspoon, M.**, and Smith, R. J., "Uncertainty Analysis of a Commercial Microwave Noise Temperature Measurement System using Monte Carlo Simulations" *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, 24(1), 2011, 13-23.

18. **Weatherspoon, M.**, and Langoni, D., "Accurate and Efficient Modeling of FET Cold Noise Sources Using ANNs" *IEEE Transactions on Instrumentation and Measurement*, 57(2), 2008, 432-437.

19. **Weatherspoon, M. H.**, Martinez, H. A., Langoni, D., and Foo, S. Y., "Small-Signal Modeling of Microwave MESFETs Using RBF-ANNs" *IEEE Transactions on Instrumentation and Measurement*, 56(5), 2007, 2067-2072.

20. Langoni, D., **Weatherspoon, M.**, Foo, S., and Martinez, H., "A Speed and Accuracy Test of Backpropagation and RBF Neural Networks for Small-Signal Models of Active Devices" *Engineering Applications of Artificial Intelligence*, 19(8), 2006, 883-890.

21. **Weatherspoon, M. H.**, and Dunleavy, L. P., "Experimental Validation of Generalized Equations for FET Cold Noise Source Design" *IEEE Transactions on Microwave Theory and Techniques*, 54(2), 2006, 608-614.

22. **Weatherspoon, M. H.**, and Dunleavy, L. P., "Vector Corrected On-Wafer Measurements of Noise Temperature" *IEEE Transactions on Instrumentation and Measurement*, 54(3), 2005, 1327-1332.

Book Reviews

1. **Weatherspoon, M. H.** (2004). Review of the book Fundamentals of Adaptive Filtering, by A. H. Sayed. *IIE Transactions: Quality and Reliability*, 36(12), 2004, 1214-1215.

Conference Papers

1. Siddique, S., Park, J.G., **Weatherspoon, M.**, Andrei, P., and Liang, Z., "Enhancing Electrical Conductivity and Device Performance of Aerosol Jet Printed Patch Antenna and Strain Sensor for Composite Applications" *SAMPE 2016*, Long Beach, CA, May 2016.

2. Moss, E. N., Jr., Nelson, R., **Weatherspoon, M. H.**, and Moss, P. L., "Multi-Electrode Characterization of Various Electrode Material Using Cyclic Voltammetry and Electrochemical Impedance Spectroscopy" *Proceedings of the FREEDM Systems Center Annual Conference*. Raleigh, NC, 2015.

3. Nelson, R., Flores-Nigaglioni, A., and **Weatherspoon, M. H.**, "Analysis of Warburg Impedance in a Li-O_2 Cell Featuring a Porous Binder-free Cathode Via Impedance Spectroscopy and Equivalent Circuits" *Proceedings of the FREEDM Systems Center Annual Conference*. Raleigh, NC, 2015.

4. Aarons, R., and **Weatherspoon, M. H.**, "Noise Diode Calibration Using Receiver Noise Parameters" *83rd ARFTG Microwave Measurement Conference (ARFTG)*. Tampa, FL, 2014.

5. Bull, T., Nelson, R., and **Weatherspoon, M. H.**, "Computational Analysis of Interfacial Capacitance of a Li-O_2 Cell Using Electrochemical Impedance Spectroscopy" *Proceedings of the FREEDM Systems Center Annual Conference*. Raleigh, NC, 2014. **(Won Best Paper Presentation Award)**

6. Nelson, R., and **Weatherspoon, M. H.**, "Investigation of Kinetic Behaviors of a Lithium Oxygen Cell with a Binder-Free Cathode via Electrochemical Impedance Spectroscopy and Equivalent Circuit Modeling" *Proceedings of the FREEDM Systems Center Annual Conference*. Raleigh, NC, 2014.

7. Oladimeji, C., Moss, P. L., and **Weatherspoon, M. H.**, "Characterization of Lithium Phosphate Battery Material" *Proceedings of the FREEDM Systems Center Annual Conference*. Raleigh, NC, 2014.

8. Gomez, J., Nelson, R., Kalu, E. E., Zheng, J. P., and **Weatherspoon, M. H.**, "Equivalent Circuit Modeling of a High Power Li-ion Battery: Thermal and State of Charge Effects" *Proceedings of the FREEDM Systems Center Annual Conference* (pp. 136-139) Tallahassee, FL, 2010.

9. Greenleaf, M., **Weatherspoon, M. H.**, Kalu, E. E., and Zheng, J. P., "Simulation of LiFePO4 Battery Using Simple and Complex Electric Circuit Models" *Proceedings of the FREEDM Systems Center Annual Conference* (pp. 149-153) Tallahassee, FL, 2010.

10. Nelson, R., **Weatherspoon, M. H.**, Kalu, E. E., and Zheng, J. P., "FREEDM Systems Center Research + Education Program at Florida A & M University" *Proceedings of the FREEDM Systems Center Annual Conference* (pp. 113-115) Tallahassee, FL, 2010.

11. Moss, P. L., **Weatherspoon, M. H.**, Kalu, E. E., and Zheng, J. P., "Investigation of Solid Electrolyte Interfacial Layer Development during Continuous Cycling" *Proceedings of the FREEDM Systems Center Annual Conference* (pp. 147-150) Raleigh, NC, 2009.

12. Witherspoon, V. J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Dynamic Modeling of Ultra-Capacitors" *Proceedings of the FREEDM Systems Center Annual Conference* (pp. 151-153) Raleigh, NC, 2009.

13. Shellikeri, A., Liang, Z., Kalu, E., **Weatherspoon, M.**, and Zheng, J., "Pseudocapacitance: Metal Oxide Coated on Buckypapers as Electrodes for Electrochemical Capacitors" *Proceedings of the 19th International Seminar on Double Layer Capacitors and Hybrid Energy Storage Devices*. Deerfield Beach, FL, 2009.

14. Langoni, D., **Weatherspoon, M. H.**, Ogunti, E., and Foo, S. Y., "An Overview of Reconfigurable Antennas: Design, Simulation, and Optimization" *10th Annual IEEE Wireless and Microwave Conference*. Clearwater, FL, April 2009.

15. Skinner, D., Connor, J., Foo, S., **Weatherspoon, M.**, and Powell, N., "Optimization of a Multi-Band Reconfigurable Microstrip Line-Fed Rectangular Patch Antenna using Self-Organizing Maps" *10th Annual IEEE Wireless and Microwave Conference*. Clearwater, FL, April 2009.

16. Connor, J. D., Foo, S. Y., and **Weatherspoon, M. H.**, "Synthesizing Antenna Array Side-Lobe Levels and Null Placements Using the Cross Entropy Method" *34th Annual Conference of the IEEE-Industrial-Electronics-Society* (pp. 1873-1877) Orlando, FL, 2008.

17. Nelson, R., **Weatherspoon, M.**, and Foo, S., "Hidden Markov Modeling for DNA Sequencing" *IEEE Southeastern Symposium on System Theory* (pp. 215-217) New Orleans, LA, 2008.

18. Powell, N., Foo, S., and **Weatherspoon, M.**, "Supervised and Unsupervised Methods for Stock Trend Forecasting" *IEEE Southeastern Symposium on System Theory* (pp. 203-205) New Orleans, LA, 2008.

19. Langoni, D., and **Weatherspoon, M.**, "ANN Modeling of Synthetic Cold Loads" *69th ARFTG Conference*. Honolulu, HI, 2007.

20. Smith, R., and **Weatherspoon, M.**, "Noise Temperature Measurement Uncertainty Analysis Using Monte Carlo Simulations" *69th ARFTG Conference*. Honolulu, HI, 2007

21. Hayek, S., Chen, C.-J., Haik, Y., and **Weatherspoon, M. H.**, "Analysis of Heat Generation through Electromagnetic Energy Conversion for Hyperthermia Cancer Treatment" *ASME International Mechanical Engineering Congress and Exposition*. Chicago, IL, 2006.

22. Martinez, H., **Weatherspoon, M.**, Foo, S., Wall, G., and Langoni, D., "Small Signal Modeling of RF/Microwave Active Devices Using Artificial Neural Networks" *8th World Multi-Conference on Systemics, Cybernetics and Informatics*" Orlando, FL, July 2004.

23. **Weatherspoon, M.**, Dunleavy, L., Boudiaf, A., and Randa, J., "Vector Corrected Noise Temperature Measurements" *IEEE MTT-S International Microwave Symposium* (pp. 2253-2256). Seattle, WA: June 2002.

24. **Weatherspoon, M.**, and Dunleavy, L., "Enhanced One-Port Noise Temperature Measurements Using a Noise Figure Meter" *57th ARFTG Conference* (pp. 96-99). Phoenix, AZ, 2001.

25. Watson, P., **Weatherspoon, M.**, Dunleavy, L., and Creech, G., "Accurate and Efficient Small-Signal Modeling of Active Devices Using Artificial Neural Networks" *IEEE GAAS IC Symposium* (pp. 95-98). Atlanta, GA, 1998.

Meeting Abstracts and Presentations

1. Rajagopalan Kannan, D., Moss, P. L., and **Weatherspoon, M. H.**, "An Experimental Analysis on the Impacts of Different Pulse Charging Frequencies on Lithium Ion Batteries" *235th ECS Meeting, Electrochemical Society (ECS)*, Dallas, TX, May 2019, in *ECS Meeting Abstracts*.

2. Nelson, R., Watson, V. G., Rajagopalan Kannan, D., Wee Tom, M., **Weatherspoon, M. H.** and Kalu, E. E., "MS and EIS Characterization of Electrolessly Deposited Composite Metals on Carbon Fiber Surfaces" *235th ECS Meeting, Electrochemical Society (ECS)*, Dallas, TX, May 2019, in *ECS Meeting Abstracts.*

3. Moss, P. L., Rajagopalan Kannan, D. R., Sonavane, R., and **Weatherspoon, M. H.**, "Optimization of Energy Transfer during Active Balancing of Lithium-Ion Batteries" *235th ECS Meeting, Electrochemical Society (ECS)*, Dallas, TX, May 2019, in *ECS Meeting Abstracts*.

4. Watson, V. G., Haynes, Z., Yeboah, Y. D., **Weatherspoon, M. H.**, Zheng, J. P., and Kalu, E. E., "Electroless Synthesis Approach for Cu_2O-CuO Nanowires/Whiskers on C-Felt for Lithium Ion Battery Anode Materials" *235th ECS Meeting, Electrochemical Society (ECS)*, Dallas, TX, May 2019, in *ECS Meeting Abstracts*.

5. Watson, V. G., Rajagopalan Kannan, D. R., Morris, Jr., L., Shellikeri, A., Moss, P. L., **Weatherspoon, M. H.**, Zheng, J. P., Yeboah, Y. D., and Kalu, E. E., "Comsol Modelling of the Experimental Results Obtained from a Lithium Ion Battery with a Low Binder Content Lithium Iron Phosphate ($LiFePO_4$) Cathode" *235th ECS Meeting, Electrochemical Society (ECS)*, Dallas, TX, May 2019, in *ECS Meeting Abstracts*.

6. Watson, V. G., Kalu, E. E., Yeboah, Y. D., and **Weatherspoon, M. H.**, "Flexible Free-Standing and Binder-Free Porous Carbon Cloth (C-Felt) for Lithium-Ion Battery Anodes" *2018 Americas International Meeting on Electrochemistry and Solid State Science (AiMES)*, ECS and SMEQ Joint International Meeting, Cancun, Mexico. October 2018, in *ECS Meeting Abstracts*.

7. Butts, L., Wee Tom, M., Rajagopalan Kannan, D., and **Weatherspoon, M. H.**, "Mott-Schottky Analysis of Electroless Binder-Free Electrodes" *FREEDM Systems Center Annual Conference, National Science Foundation*, Raleigh, NC, June 2018.

8. Rajagopalan Kannan, D., **Weatherspoon, M. H.**, and Moss, P. L., "Analysis of the Separator Porosity on the Performance of Lithium-ion Batteries" *FREEDM Systems Center Annual Conference, National Science Foundation*, Raleigh, NC, June 2018.

9. Stephens, J. F., Moss, P. L., Morris, L., Jr., and **Weatherspoon, M. H.**, "Dynamic Pulse Charging Scheme for Series Connected Cells" *233rd ECS Meeting, Electrochemical Society (ECS)*, Seattle, WA, May 2018, in *ECS Meeting Abstracts*.

10. Watson, V. G., Kalu, E. E., Yeboah, Y. D., **Weatherspoon, M. H.**, and Zheng, J. P., *"*Electroless Encapsulation of C-Cloth with Sn and Sn-Cu Alloy for Li-Ion Battery Anode*" 233rd ECS Meeting, Electrochemical Society (ECS)*, Seattle, WA, May 2018, in *ECS Meeting Abstracts*.

11. Butts, L., Rajagopalan Kannan, D., and **Weatherspoon, M. H.**, "Capacity Fade Analysis of Pulse-Charged Lithium-Ion Batteries" *FREEDM Systems Center Annual Conference, National Science Foundation*, Raleigh, NC, May 2017.

12. Rajagopalan Kannan, D., **Weatherspoon, M. H.**, and Moss, P. L., "Using Electrochemical Impedance Spectroscopy and Equivalent Circuit Modeling to Analyze the Effects of Pulse Charging on Lithium-Ion Batteries" *FREEDM Systems Center Annual Conference, National Science Foundation*, Raleigh, NC, May 2017.

13. Morris, L., Jr., **Weatherspoon, M. H.**, Stephens, J. F., and Moss, P. L., "Pseudo-Two-Dimensional (P2D) Reformulation Modeling of Li-Ion Batteries Using Kalman Filter (KF), Particle Filter (PF), and Hybrid Particle Filter (HPF) Algorithms*" 229th ECS Meeting, Electrochemical Society (ECS)*, San Diego, CA, June 2016, in *ECS Meeting Abstracts*.

14. Aarons, R., Bolufawi, O., and **Weatherspoon, M. H.**, "The Impact of Double-use Storage on a Grid Connected House with Photovoltaics" *Florida Energy Systems Consortium (FESC) Workshop*, Orlando, FL, May 2015.

15. Morris, L., Jr., **Weatherspoon, M. H.**, Nelson, R., Stephens, J. F., and Moss, P. L., "Using Pseudo-Two-Dimensional (P2D) Reformulation Model with a Particle Filter to Estimate State of Charge, State of Health, and Remaining Useful Life in Li-Ion Battery Management System (BMS)*" 227th ECS Meeting, Electrochemical Society (ECS)*, Chicago, IL May 2015, in *ECS Meeting Abstracts*.

16. Nelson, R., and **Weatherspoon, M. H.**, "Analysis of Diffusion Behavior in Lithium-Air Batteries Via Simulated and Experimental Impedance Spectroscopy and Equivalent Circuit Modeling*" 227th ECS Meeting, Electrochemical Society (ECS)*, Chicago, IL, May 2015, in *ECS Meeting Abstracts*.

17. Moss, E. N., Jr., Nelson, R., Moss, P. L., and **Weatherspoon, M. H.**, "Multi-Electrode Configurations for Electrochemical Measurements" *REU Symposium, Council on Undergraduate Research*, Arlington, VA, October 2014.

18. Moss, E. N., Jr., Nelson, R., Moss, P. L., and **Weatherspoon, M. H.**, "*Multi-Electrode Configurations for Electrochemical Measurements*" *225th ECS Meeting, Electrochemical Society (ECS)*, Orlando, FL, May 2014, in *ECS Meeting Abstracts*.

19. Nelson, R., **Weatherspoon, M. H.**, Kalu, E. E., Kosivi, J., and Zheng, J. P., "Investigation of Electrode Contributions to the Impedance of a Li-Air Cell*" 225th ECS Meeting, Electrochemical Society (ECS),* Orlando, FL, May 2014, in *ECS Meeting Abstracts.*

20. Stephens, J., **Weatherspoon, M. H.**, Nelson, R., and Moss, P. L., "Surface Film Characterization of a Li-Air Cell Using Electrochemical Impedance Spectroscopy" *225th ECS Meeting, Electrochemical Society (ECS),* Orlando, FL, May 2014, in *ECS Meeting Abstracts.*

21. Nelson, R., **Weatherspoon, M. H.**, Kosivi, J., Kalu, E. E., and Zheng, J. P., "Impedance Behavior and Analysis of Binder-Free Ni-Mo Composite Cathode for Li-O_2 Batteries" *2013 Annual Meeting, American Institute of Chemical Engineers (AIChE),* San Francisco, CA, November 2013.

22. Moss, E. N., Jr., Nelson, R., **Weatherspoon, M. H.**, and Moss, P. L., "Mathematical Modeling and Simulation of Lithium-Ion Battery Degradation" *EnergyWaterFoodNexus (EWFN) International Summit,* Tallahassee, FL, March 2015.

23. Mtenga, V., Morris, Jr., L., and **Weatherspoon, M. H.**, "Cost Analysis for Energy Storage Systems" *EnergyWaterFoodNexus (EWFN) International Summit,* Tallahassee, FL, March 2015.

24. Nelson, R., and **Weatherspoon, M. H.**, "Development and Modeling of Organic Based Lithium-Oxygen Batteries" *EnergyWaterFoodNexus (EWFN) International Summit,* Tallahassee, FL, March 2015.

25. Oladimeji, C., Moss, P. L., and **Weatherspoon, M. H.**, "Synthesis, Characterization of LiMnPo4 for Sustainable Energy Systems" *EnergyWaterFoodNexus (EWFN) International Summit,* Tallahassee, FL, March 2015.

26. Nelson, R., Gomez, J., **Weatherspoon, M. H.**, Kalu, E. E., and Zheng, J. P., "Impedance Behavior and Analysis of Binder-Free Co-Mn Composite Oxide Cathode for a Li-O_2 Battery" *2nd Annual Graduate Student Research Symposium, FAMU-FSU College of Engineering,* Tallahassee, FL, April 2014. **(Won 1st Place Award)**

27. Nelson, R., **Weatherspoon, M. H.**, Kosivi, J., Kalu, E. E., and Zheng, J. P., "Impedance Behavior of Binderless Ni-Mo Composite Cathode for Li-O_2 Battery via Impedance Spectroscopy" *224th ECS Meeting, Electrochemical Society (ECS),* San Francisco, CA, October 2013, in *ECS Meeting Abstracts.*

28. Jeffrey, P., Baran, M., Andrei, P., Karady, G., Ferdowsi, M., **Weatherspoon, M. H.**, and Molineaux, K., "Preparing for a Workforce Environment: Bridging Education and Industry for ERC Students" *NSF Engineering Education Awardees Conference, National Science Foundation (NSF),* Arlington, VA, March 2012.

29. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Evaluation of Ni-Mo oxide (Ni-MoOx) Electrocatalyst for Li-Air Battery" *2011 Annual Meeting, American Institute of Chemical Engineers (AIChE),* Minneapolis, MN, October 2011.

30. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Thin film Co-MnO_2 by combined electroless-electrolytic techniques for Ultracapacitor and Li-air Battery Applications" *221st ECS Meeting, Electrochemical Society (ECS),* Seattle, WA, May 2011, in *ECS Meeting Abstracts.*

31. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Composite Cathode Electrocatalyst for Li-Air Battery Electrode and Catalyst Nanostructures" *221st ECS Meeting, Electrochemical Society (ECS),* Seattle, WA, May 2011, in *ECS Meeting Abstracts.*

32. Gomez, J., Kalu, E. E., Nelson, R., **Weatherspoon, M. H.**, and Zheng, J. P., "Synthesis of Composite Metal Oxide Catalyst for Li-Air Battery" *220th ECS Meeting, Electrochemical Society (ECS)*, Boston, MA, October 2011 in *ECS Meeting Abstracts*.

Invited Talks and Other Presentations

1. Program Presentation, "Northrop Grumman Research and Education Program (REP) at FAMU" Kickoff Meeting (via Zoom), Tallahassee, FL, March 2023.

2. Invited Speaker, "Sabbatical Leave Report for Dr. Mark H. Weatherspoon (Spring 2012)" Academic Affairs Committee, FAMU Board of Trustees, Tallahassee, FL, April 2013.

3. Program Review Presentation, "NSF FREEDM Research + Education Program (REP)" Site visit by NSF FREEDM Systems Center Director and Co-Director, Tallahassee, FL, November 2009.

4. Project Briefing Presentation, "Antenna Simulators: Project Progress Report and Technical Briefing for NSA Contract #H98230-07-1-0131, Reconfigurable Antennas: Design, Performance, and Optimization" Site visit by the NSA Program Manager, Tallahassee, FL August 2008.

5. Invited Speaker, "An Overview of Research at the MiSMo Laboratory" Center of Microwave, Satellite, and RF Engineering, Morgan State University, Baltimore, MD, July 2008.

6. Online Presentation, "Modeling Bioluminescence in a Dinoflagellate Organism Using Electric Potentials" INTEL Corporation, December 2007.

7. Online Presentation, "Design and Analysis of a Test Circuit for Heat Generation through Electromagnetic Energy for Magnetic Hyperthermia" INTEL Corporation, December 2006.

8. Invited Speaker, "Microwave Simulation and Modeling (MiSMo) Laboratory at the FAMU-FSU College of Engineering" Naval Surface Warfare Center, Panama City, FL, June 2006.

9. Project Briefing Presentation, "Navy SDV Bioluminescence Mitigation Briefing" Site visit by the ONR Program Manager, Tallahassee, FL November 2005.

10. Invited Speaker, "Microwave Characterization of One-Port Noise Sources" Graduate Seminar, ECE Department, FAMU-FSU College of Engineering, Tallahassee, FL, October 2002.

11. Invited Speaker, "Microwave Characterization of One-Port Noise Sources" Raytheon RF Components, Andover, MA, June 2002.

RESEARCH FUNDING

1. *Northrop Grumman Research and Education Program (REP)*, Northrop Grumman Foundation, PI, $1,500,000, Dec 2022–Dec 2025.

2. *NSF Track 1 EFRI DCL Planning Grant: Brain Inspired Intelligence Distributing High Efficiency RF/Analog Signal Processing Circuit*, National Science Foundation, $100,001, Co-PI (PI: Arigong, B.), Jun 2022–May 2023.

3. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $3,952, Sub-award PI, Sep 2017–Aug 2019.

4. *NSF ERC: Safety Testing of 48 V Li-ion Battery Modules*, National Science Foundation, $66,046, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2017–Aug 2019.

5. *USDA NRCS: A Farm Audit for Rural Farmers in Thirteen Under-Served Counties of North Florida*, U.S. Department of Agriculture, $144,000, Co-PI (PI: Onokpise, O. U.), Sep 2016–May 2018.

6. *NSF ERC: Battery Degradation and Cost Analysis Modeling*, National Science Foundation, $145,000, Sub-award PI, Sep 2014–Aug 2016.

7. *NSF ERC: Hydrogen ion/Iron-ion Redox Flow Cell for Smart Grid Energy Storage*, National Science Foundation, $90,093, Sub-award Co-PI (PI: Kalu, E. E.), Sep 2013–Aug 2014.

8. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $17,917, Sub-award PI, Sep 2013–Aug 2014.

9. *NSF ERC: Li-air Flow Batteries for Stationary Energy Storage*, National Science Foundation, $69,905, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2013–Aug 2014.

10. *NSF ERC Phase II: Development of Advanced Energy Storage Devices*, National Science Foundation, $1,500,000, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2013–Aug 2018.

11. *NSF ERC: Development of Efficient Oxygen Electrocatalyst for Reversible Li-Air Batteries*, National Science Foundation, $66,046, Sub-award Co-PI (PI: Kalu, E. E.), Sep 2012–Aug 2013.

12. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $28,402, Sub-award PI, Sep 2012–Aug 2013.

13. *NSF ERC: Development of High Energy High Power Li-Ion Prototype Batteries*, National Science Foundation, $61,464, Sub-award Co-PI (PI: Zhang, X.), Sep 2012–Aug 2013.

14. *NSF ERC: Development of Efficient Oxygen Electrocatalyst for Reversible Li-Air Batteries*, National Science Foundation, $127,776, Sub-award Co-PI (PI: Kalu, E. E.), Sep 2011–Aug 2012.

15. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $41,414, Sub-award PI, Sep 2011–Aug 2012.

16. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $39,616, Sub-award PI, Sep 2010–Aug 2011.

17. *NSF ERC: Development of an Improved Rechargeable Li-Air Battery*, National Science Foundation, $90,836, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2010–Aug 2011.

18. *NSF ERC: Investigation of Capacity Degradation in Rechargeable Batteries*, National Science Foundation, $90,616, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2010–Aug 2011.

19. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $35,365, Sub-award PI, Sep 2009–Aug 2010.

20. *NSF ERC: Investigation of Capacity Degradation in Rechargeable Batteries*, National Science Foundation, $169,916, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2009–Aug 2010.

21. *NSF ERC: Future Renewable Electric Energy Delivery and Management Systems-College Education Grant*, National Science Foundation, $31,012, Sub-award PI, Sep 2008–Aug 2009.

22. *NSF ERC: Investigation of Capacity Degradation in Rechargeable Batteries*, National Science Foundation, $152,527, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2008–Aug 2009.

23. *NSF ERC Phase I: Development of Advanced Energy Storage Devices*, National Science Foundation, $1,350,000, Sub-award Co-PI (PI: Zheng, J. P.), Sep 2008–Aug 2013.

24. *NSA: Reconfigurable Antennas: Design, Performance, and Optimization*, National Security Agency, Co-PI (PI: Foo, S.Y.), $590,791, Jun 2007–May 2010.

25. *Modeling Bioluminescence in a Dinoflagellate Organism Using Electric Potentials*, Intel Corporation, PI, $5,000, Jan 2007–Dec 2007.

26. *Design and Analysis of a Test Circuit for Heat Generation through Electromagnetic Energy for Magnetic Hyperthermia*, Intel Corporation, PI, $5,000, Jan 2006–Dec 2006.

27. *ONR HBCU/MI REP: SDV Bioluminescence Mitigation through the Use of Appropriately Applied Electromagnetic Fields*, Office of Naval Research, PI, $599,138, Mar 2003–Sep 2007.

RESEARCH ADVISING

Ph.D. Students (Advised or Co-Advised)

Dr. Ruben G. Nelson (2022)
Topic: *Impedance Models for Thermal, State of Charge, and Aging Effects of Commercial Lithium-Ion Batteries.*

Dr. Dhevathi R. Rajagopalan Kannan (2020)
Topic: *The Effects of Pulse Charging on Commercial Lithium-Ion Batteries.*

Dr. Diego Langoni (2014)
Topic: *Reconfigurable Aperture Antenna Synthesis and Optimization Using Backpropagation and Radial-Basis Function Artificial Neural Networks*.

Dr. Jeffrey D. Connor (2008)
Topic: *Antenna Array Synthesis Using the Cross Entropy Method*.

Mr. Hakeem K. Thomas (Spring 2024)
Topic: *Predictive State of Health Monitoring for Battery Energy Storage Systems Using EIS and ML*.

Ph.D. Students (Committee Membership)

Mr. Sean D. Jackson (2023)
Topic: *Optimization of Electrolytes for 3D Printing of Wire-Shaped Dye-Sensitized Solar Cells.*

Dr. Sabrina S. Siddique (2020)
Topic: *Aerosol Jet Printed Sensors and Antennas for Composite Life Cycle Monitoring.*

Dr. Annadanesh Shellikeri (2015)
Topic: *Nuclear Magnetic Resonance Studies of Energy Storage Devices.*

Dr. Fletcher E. Fleming (2014)
Topic: *Real-time Machine Emulation via Magnetic Equivalent Circuits*.

Dr. Erastus O. Ogunti, (2008)
Topic: *Design and Power Analysis of Resonant Clocks*.

Dr. Ibrahim Braimah (2007)
Topic: *Feasibility Study of Radio-Frequency (RF) Inductor Energy Harvesting*.

M.S. Students (Advised or Co-Advised)

Larry Morris, Jr. (2019)
Topic: *A Reconfigurable Series-Parallel Battery Management System (BMS).*

Tolulope Fasakin (2019)
Topic: *On-Farm Energy Audits Using ASABE Type 2 Method*.

De'Michael Queen (2017)
Topic: *Recent Advances in Sustainable Electric Energy Systems.*

Jamal F. Stephens (2017)
Topic: *A Novel Dynamic Pulse Charging Equalization Scheme for Series Connected Cells.*

Nolan Topey (2016)
Topic: *Renewable Energy & Energy Storage Systems for Sustainable Energy Solutions.*

Smriti Sagaram (2013)
Topic: *Optimization of RF Waveguides for Traveling Wave MRI at 21.1T*.

Richard C. Aarons (2010)
Topic: *Modeling Potentials in Dinoflagellate Noctiluca Miliaris*.

Thomas Moses (2008)
Topic: *A Survey of Antennas for Wireless Communication Systems*.

R. Joe Smith (2007)
Topic: *Microwave Noise Temperature Measurement Uncertainty Analysis Utilizing Monte Carlo Simulations*.

Diego Langoni (2005)
Topic: *GaAs MESFET Small-Signal Modeling Using Backpropagation and RBF Neural Networks*.

Hector A. Martinez (2005)
Topic: *Small-Signal and Noise Temperature Modeling of Microwave MESFETs Using Artificial Neural Networks.*

M.S. Students (Committee Membership)

Jose Cordova (2015)
Topic: *Fault Location Identification in Distribution Systems with Distributed Generation*.

Rahul Patel (2015)
Topic: *Analytical Framework for Implementing Speech Recognition in Intelligent Autonomous Systems*.

Charles Oladimeji (2015)
Topic: *Analysis and Characterization of Olivine Cathode Materials Grown Via Solid State Reaction*.

Gerard Melanson (2015)
Topic: *Proton Exchange Membrane Fuel Cells: Limitations, Research, and Applications*.

Sai K. Mudela (2013)
Topic: *2-Channel Low Power Broadband Transmit/Receive Switch and 720 MHz High Power Narrow Pass Band Filter*.

Zachary Prisland (2013)
Topic: *An Investigation of Reflectance off an Interface with an Absorbing Medium, such as Paint*.

Furkan Akar (2012)
Topic: *Computationally Intelligent Algorithms in Maximum Torque Ampere Strategies in Switched Reluctance Machines at Low Speeds*.

Jermain Bailey (2012)
Topic: *Lithium/Water-Battery for Inclusion in Submarine Applications*.

Brandon Peters (2012)
Topic: *Usability of Command Strategies for the Phantom Omni/Schunk 5DOF Teleoperation Setup*.

Yusi Liu (2011)
Topic: *Application of an Intelligent Tuning Algorithm for Three-Level NPC Rectifier for Shipboard Power Distribution*.

Fletcher E. Fleming (2010)
Topic: *Development and Implementation of a 25kVA Phasor based Virtual Machine*.

Annadanesh Shellikeri (2010)
Topic: *Pseudocapacitance:Metal Oxide Coated on Buckpaper/CNTs as Electrodes for Asymmetrical Pseudocapacitor*.

Nicole A. Powell (2008)
Topic: *A Comparitve Study of Supervised and Unsupervised Learning Methods in Forecasting the U.S. 30-Year Treasury Bond Yield*.

RESEARCH + EDUCATION PROGRAM (REP) ADVISING AND MENTORING

Graduate Research Scholars (GRS) Program
8 Ph.D. students
7 M.S. students

Undergraduate Research Scholars (UGRS) Program
20 B.S. students

Summer Research Experience for Undergraduates (SREU) Program
16 B.S. students

SERVICE

UNIVERSITY SERVICE

Member, University Deans and Chairs Advisory Committee (2020-present).
Member, University Faculty Development Advisory Committee (2020-present).
Member, APLU/NSF IChange Network Team (2019–present).
Member, University Collective Bargaining Team (2019–present).
Member, University Diversity and Inclusion Council (2018–present).
Member, University Bylaws Working Group (2021-2022).
Member, University Special Committee on Tenure and Promotion (2020-2022).
Faculty Representative, Enterprise Compliance Committee Working Group – Faculty and Research (2018–2021).
Member, Deans Search Panel to Review Finalists for the Dean of Nursing (2020).
Member, Multi-College Advisory Group to Review Finalists for Chemistry Department Chair (2020).
Member, Academic Affairs COVID-19 Task Force on Laboratories (2020).
Facilitator, Chairs and Associate Deans Meeting (2019-2020).
Facilitator, Provost's Reception for Newly Promoted Faculty (2019).
Member, Provost and VP for Academic Affairs Search Committee (2018).
Member, University Executive Council (2017–2018).
Member, Faculty Senate Committee on Committees (2016–2018).
Senator, Faculty Senate (2015–2018).
Member, University Institutional Research Award Committee (2016–2017).
Member, University Tenure & Promotion Committee (2016–2017).
Member, Institute and Centers Committee (2016).
Member, Faculty Senate Steering Committee (2015–2016).
Member, Sabbatical and Professional Development Leave Committee (2014–2016).
Member, Article 10 Committee (2015).
Member, VP for Research Search and Screening Committee (2014).
Member, Dean's Search Committee for College of Science and Technology (2011–2013).
Member, Dean's Search Committee for FAMU-FSU College of Engineering (2011–2012).
Member, Lyceum Planning Committee (2008–2010).

COLLEGE SERVICE

Co-chair, College Strategic Planning Committee: Inclusive Excellence (2022–present).
Leader, Engineering Education Tenure-Line Faculty Hiring Initiatives (2021–present).
Leader, College Faculty-Driven Student Success Program (2020–present).
Leader, Center for Academic Innovation and Technology (2020–present).
Chair, Annual Performance Evaluation Committee for Joint COE/CST Appointed Faculty (2019–present).
Leader, Engineering Faculty Mentoring Programs (2019–present).
Leader, College Faculty Awards and Recognition Program (2019–present).
Member, College Budget Committee (2018–present).
Member, College Executive Council (2018–present).
Leader, College Committee on Bylaws Revisions (2021–2022)
Leader, College Academic Program Review/Quality Enhancement Review Team (2018–2019).
Member, College Curriculum Committee (2015–2018).
Chair, College Specialized Faculty Promotion Committee (2016–2017).
Member, College Strategic Planning Steering Committee - One College (2016–2017).
Chair, College Promotion & Tenure Committee (2015–2017).
Member, College Promotion & Tenure Committee (2014–2017).
Member, 25th Anniversary Committee (2006–2007).
Member, Scholarship Committee (2005–2006).
Member, Computer Committee (2004–2005).

DEPARTMENT SERVICE

Member, EE Curriculum Review Committee (2021–present).
Chair, Non-Tenure Track Teaching Faculty (CpE) Search Committee (2017–2018).
Chair, Non-Tenure Track Teaching Faculty (EE) Search Committee (2017–2018).
Chair, ECE Undergraduate Curriculum Committee (2015–2018).
Member, ECE ABET Area Lessons-Learned Committee - Group 1A (2008–2018).
Chair, ECE Accountant Search Committee (2017).
Member, FSU-Panama City ECE Faculty Search Committee (2017).
Member, ECE Strategic Planning Research Committee (2016–2017).
Member, ECE Promotion & Tenure Committee (2014–2017).
Chair, ECE Promotion & Tenure Committee (2014–2016).
Chair, ECE Non-Tenure Track Teaching Faculty Search Committee (2014–2015).
Chair, ECE Graduate Program Coordinator Search Committee (2014).
Member, ECE Energy & Materials Faculty Committee (2013–2014).
Member, CAPS Faculty Search Committee (2012–2014).
Chair, ECE Faculty Search Committee (2010–2014).
Member, ECE Ph.D. Qualifier Examination Team - Electromagnetics Group (2002–2014).
Chair, ECE ABET Area Lessons-Learned Committee - Group 1A (2012–2013).
Member, ECE Bylaws Committee (2010–2013).
Organizer, ECE Graduate Seminar (2012).
Member, ECE Faculty Search Committee (2009–2010).
Member, ECE Graduate Studies Committee (2005–2006).
Member, ECE Faculty Search Committee (2003–2006).
Member, ECE Laboratory Development Committee (2002–2005).
Member, ECE Graduate Studies Committee (2002–2003).

REVIEWER FOR PROFESSIONAL PUBLICATIONS

International Journal of Numerical Modelling
Journal of Allows and Compounds
IEEE Transactions on Instrumentation and Measurements
IEEE Southeast Symposium on System Theory
IIE Transactions: Quality and Reliability

SERVICE TO PROFESSIONAL ASSOCIATIONS

Member, IEEE International Microwave Symposium (2024) Planning Committee (2016–present).
Member, United Faculty of Florida - Collective Bargaining Team (2015–2018).
Senator, United Faculty of Florida (2014–2018).
Member, EnergyWaterFoodNexus (EWFN) International Summit (2015) Planning Committee (2014–2015).
Chair, IEEE International Microwave Symposium (2014) Project Connect Committee (2013–2014).
Chair, Membership Development Committee, IEEE Tallahassee Section (2012–2014).
Member, IEEE International Microwave Symposium (2014) Steering Committee (2007–2014).
Chair, Awards Committee, IEEE Tallahassee Section (2012–2013).
Chair, Membership Development Committee, IEEE Tallahassee Section (2009–2010).
Member, IEEE WAMICOM Planning Committee (2006–2009).
Member, IEEE Florida Council (2007–2008).
Chair, IEEE Tallahassee Section (2007–2008).
Member, IEEE International Microwave Symposium (2014) Planning Committee (2006–2007).
Treasurer, IEEE Tallahassee Section (2003–2006).

SERVICE TO OTHER ORGANIZATIONS

Panelist, HBCUs and STEM: Providing Solutions to Address Global Challenges, HBCU Virtual STEM Tour, (2022).
Panelist, HBCU Virtual STEM Tour Extravaganza, (2021).
Reviewer, Fellowship Applications for Cohort 2, IAspire Leadership Academy sponsored by NSF (2020).
Panelist, Impact Through Varying Career Paths, NextProf Nexus 2019, Georgia Tech, Atlanta, GA (2019).
Panelist, Deans Roundtable Discussion, Advancing Minorities' Interest in Engineering (AMIE) 25th Anniversary and Annual Conference, Huntsville, AL (2018).
Panelist, Session 2: Minding the Gap, Inaugural Diversity in Tech Summit, Greensboro, NC (2018).
Panelist, Deans and Minority Engineering Program (MEP) Strategic Retention Roundtable, NSBE 44th Annual Convention, Pittsburgh, PA (2018).
Faculty Representative, Federal Demonstration Project (FDP) Spring Meeting, Washington, DC (2018).
Faculty Representative, Apple's 2nd Annual HBCU Faculty Summit, Cupertino, CA (2017).
Faculty Representative, Apple's Inaugural HBCU Faculty Summit, Cupertino, CA (2016).
Session Chair, Lithium-Ion Batteries and Beyond: Li-Air (O_2) Battery I, 227th Electrochemical Society (ECS) Meeting, Chicago, IL (2015).
Session Chair, Science Enterprise: New Frontiers in Renewable Energy, EnergyWaterFoodNexus (EWFN) International Summit, Tallahassee, FL (2015).
Panelist, Black in Academia Panel Discussion, Florida State University Black Graduate Student Association (BGSA), Tallahassee, FL (2013).
Faculty Advisor, QEM Network Workshop for Professional Development and Mentoring of Underrepresented Minority Graduate Engineering Students, Baltimore, MD (2011).
Judge, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Expo, Tampa, FL (2007).
Judge, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Expo, Orlando, FL (2005).
Facilitator, Transitioning to Graduate School, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP), Tallahassee, FL (2004).
Speaker, Making the Transition to Graduate School, Florida State University Black Graduate Student Orientation Program (BGSOP), Tallahassee, FL (2004).
Facilitator, Transitioning to Graduate School, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP), Tallahassee, FL (2003).
Judge, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Expo, Tampa, FL (2003).
Panelist, Transitioning to Graduate School, Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Expo, Tampa, FL (2003).