

Melany Gutierrez-Hernandez

Miami, FL

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EDUCATION

Florida International University

Doctoral Candidate in Electrical and Computer Engineering GPA: 4

Miami, FL

Aug. 2020 – Dec. 2024

Bowling Green State University

M.A. Applied Mathematics and Scientific Computation GPA: 3.82

Bowling Green, OH

Jan. 2019 – Aug. 2020

Technological University of Havana (CUJAE)

B.Eng. Telecommunications and Electronics Engineering GPA: 3.83

(Summa Cum Laude) Thesis: “Implementation of an Energy

Detector on FPGA with application to digital TV systems”

Havana, Cuba

Sep. 2012 – Jul. 2017

AWARDS

1- Young Scientist Awardee for URSI International Symposium on Electromagnetic Theory (EMTS). May 2023.

2- GEM Fellowship Awardee 2021.

3- James Robert and Gretchen Overman Graduate Scholarship Awardee, Department of Mathematics and Statistics, Bowling Green State University. May 2020.

4- “Most outstanding research student of 2017”. Technological University of Havana “José Antonio Echeverría”. Jan. 2018.

5- “Distinction Integral Graduate of the Telecommunications and Electronics Engineering Faculty Class of 2017”. Technological University of Havana “José Antonio Echeverría”. Jul. 2017.

PUBLICATIONS

SCIENTIFIC JOURNALS

1- Garcia A., Gutierrez M., and Torres J. “FPGA implementation of a cyclostationarity feature detector for OFDM modulated signals”, *Telematics Journal* ISSN 1729-3804, vol.18, no.2, p. 2019.

2- Mélyny Gutierrez Hernández, Jorge Torres Gómez and Elias A. Perdomo Hourné, “Digital Spectrum Sensing Technique implemented on FPGA systems with application to Digital Television”, *Journal of Electronic, Automation and Communications Engineering (RIELAC)* (ISSN: 1815-5928), vol. 39, no.2 (2018) 10-23.

CONFERENCES AND WORKSHOPS

1- Melany Gutierrez-Hernandez, Satheesh Bojja-Venkatakrishnan, Sally Duarte, Jorge Riera Diaz, John L. Volakis. “Battery-less and Wireless Neurosensing System for Monitoring of Neuronal Activity in Swine”. National Radio Science Meeting 2024. Boulder, CO, 2024. (Accepted)

2- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, Jorge Riera Diaz, John L. Volakis. “Ultra High Sensitive Neural Recorder with Additive Manufacturing”. IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting. Portland, OR, 2023.

3- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, Jorge Riera Diaz, and John L. Volakis. “Machine Learning Algorithm for Recognition of Neurological Disorders Using a Multichannel Battery-free Wireless Brain Implant Recorder”. URSI International Symposium on Electromagnetic Theory. Vancouver, BC, Canada, 2023.

4- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, and John L. Volakis. “A Battery-less and Wireless Neural Recording System with Additive Manufacturing”. National Radio Science Meeting. Boulder, CO, 2022.

- 5- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, Jorge Riera Diaz, and John L. Volakis. "Machine Learning Evaluation of Multichannel Passive Wireless Neuropotential Recorder". Biomedical Engineering Society Annual Meeting. San Antonio, TX, 2022.
- 6- Melany Gutierrez-Hernandez "Integrated Wireless Neural Recording Systems with Additive Manufacturing". AME Academy. Boston, MA, 2022.
- 7- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, John L. Volakis. "Machine Learning Evaluation of Passive Wireless Neurosensing Recorder for Biopotentials Recognition". IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting. Denver, CO, 2022.
- 8- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, John L. Volakis. "Passive Wireless Neurosensing Recorder Evaluation using Machine Learning for Somatosensory Evoked Potentials Recognition". National Radio Science Meeting 2022. Boulder, CO, 2022.
- 9- Melany Gutierrez-Hernandez, Carolina Moncion, Satheesh Bojja-Venkatakrishnan, John L. Volakis. "Active Impedance Matching of a Passive and Wireless Neuropotential Recorder". IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting. Marina Bay Sands, Singapore, 2021.
- 10- Melany Gutierrez Hernandez, Yi Liu, Aleksandar Vukojevic. "Photovoltaic Generation Estimation for DERMS Curtailment Analysis". CIGRE US National Committee 2021 Grid of the Future (GOTF) Symposium. Providence, RI, 2021.
- 11- Melany Gutierrez Hernández, Jorge Torres Gómez and Elias A. Perdomo Hourné. "Spectrum Sensing Technique Implemented on Simulink". VIII Telecommunications Symposium at the XVII International Informatics Conference and Fair 2018 (ISBN: 978-959-7255-00-0). Havana, Cuba, 2018.

PROFESSIONAL EXPERIENCE

Florida International University	Miami, FL
Graduate Research Assistant at the Department of ECE. Project:	Aug. 2022 – Present
- Implementation of Wireless Neurosensing System and development	Aug. 2021 – Jun. 2022
of brain-computer interface using SDR and machine learning algorithms	Aug. 2020 – Jun. 2021
Commonwealth Edison Company (ComEd)	Chicago, IL
Intern in Emerging Technologies Department. Projects:	Jun. 2022 – Aug.2022
- Storm Outage Estimation with ML for resilience	Jun. 2021 – Aug.2021
- Photovoltaic Generation Estimation for Curtailment Calculation	
Bowling Green State University	Bowling Green, OH
Graduate Teaching Assistant in Mathematics	Jan. 2019 – Aug. 2020
Technological University of Havana (CUJAE)	Havana, Cuba
Instructor Professor in Mathematics. Projects:	Sep. 2017 – Dec. 2018
- Implementation of an Energy Detector on FPGA	
- Design of a system to capture Electrocardiogram signals	

SKILLS

- **Design Tools:** Full proficiency: Xilinx, GNU Radio, ADS Keysight, AWR, ANSYS HFSS.
- **Programming Languages and Tools:** Full proficiency: MatLab, Python, LaTeX, Visual Studio, PyCharm, QT Creator, Spyder. Intermediate knowledge: VHDL, C/C++/C#.
- **Languages:** Spanish (Native language) | English (Full proficiency)