JAYNISE M. PÉREZ VALENTÍN

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EDUCATION

University of Notre Dame, Indiana *Jul 2016 - Present*
Graduate Student Overall GPA: 3.60
Department of Civil, Environmental Engineering and Earth Sciences

Universidad de Puerto Rico, Mayaguez *Aug 2009 - Jul 2015*
B.S. Theoretical Physics
Department of Physics

TECHNICAL STRENGTHS

Computer Languages MATLAB, GEE, Python, R
Software & Tools QGIS, RAOB, Latex, Excel, Mathematica

RESEARCH EXPERIENCE

Environmental Fluids Dynamics Laboratory, ND July 2018 - Present
Graduate Research - MISO-BOB Field Campaign

- Assisted in the planning of flight paths and dropsonde releases from C-130 aircraft using real-time satellite derived data analysis and weather forecasting systems
- Participated on Thomas G. Thompson expedition making periodical releases of radiosonde iMET instruments, and assisting on various ocean instrument measurements like CTD scanning
- Performed data processing from the collected atmospheric data of both vessel and aircraft and combine them with SST satellite derived data to analyze air-sea interactions during MISO events

Centre for Atmospheric and Oceanic Sciences, IISc Sept 2019 – Nov 2019
Internship - INDO-U.S. SCIENCE & TECHNOLOGY FORUM

- Worked closely on analyzing atmospheric and upper ocean data from field experiments, buoys and radiosonde data with renounced professors in the field of monsoon systems
- Developed an automatized code for batch processing radiosonde data
- Assisted several seminars from professionals in the field of atmospheric and ocean sciences

NASA Summer School, JPL Aug 2019
Summer school - Using Satellite Observations to Advance Climate Models

- Assisted on daily lectures, seminars and workshops from experts in the fields of climate modeling, satellite processing and data analysis.
- Performed and presented group project in which we analyzed El Niño modes and variability using NASA's OpeNEX Climate Model Diagnostic Analyzer (CMDA)

Computational Hydraulics Laboratory, ND Jul 2016 - May 2018
Graduate Research - Coastal Modeling and Assessment

- Developed an automatized coastal impact assessment using satellite image detection techniques for hurricane Maria in Puerto Rico
- Implemented and validated a high-resolution regional WRF model as forcing to ADCIRC model coupled with the wave model SWAN
- Performed surge and wave NMS of tropical cyclones using various atmospheric data sources as initial conditions
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CariCOOS, IOOS Jan 2014 - Dec 2015
Undergraduate Research - WRF Model Validation

- Developed a real-time validation script to assist CariCOOS end-users in comparing the NWP forecasts to in-situ data
- Performed statistical solving algorithms with various validation parameters as a tool to measure the model's execution
- Assist in the mounting and installation of a weather station

UF Florida May 2015 - Jul 2015
Undergraduate Research - Quantum Magnetism

- Worked with a team member to find resonant signals of a quartz tune-in fork using a lock-in amplifier
- Performed temperature and pressure dependent magnetization measurements for an anti-ferromagnetic chain using a SQUID magnetometer
- Maintain laboratory equipment and instruct laboratory safety management

TEACHING EXPERIENCE

University of Notre Dame Aug 2016 - Dec 2015
Graduate Teaching Assistant - Department of CEEES

Assisted faculty in strengthening concepts presented in lecture, maintain office hours and respond to student's emails and grade assignments

- Fluid Mechanics
- Hydraulics
- Computational Methods for Engineers

PUBLICATIONS

- Pérez Valentín, J. M., & Müller, M. F. "Impact of Hurricane Maria on beach erosion in Puerto Rico: Remote sensing and causal inference". Geophysical Research Letters, 47, 2020, doi.org/10.1029/2020GL087306.
- Pérez Valentín, J. M., L. D. Aponte-Bermúdez, J. M. Morell and E. Rodríguez, "CariCOOS: Real-time data validation of high-resolution wind forecast," OCEANS 2015 - MTS/IEEE Washington, Washington, DC, 2015, pp. 1-7, doi: 10.23919/OCEANS.2015.7404368.

RELEVANT COURSES

Core Courses	**Other Courses**
Advanced Fluid Mechanics	Thermodynamics
Environmental Fluid Mechanics	Mathematical Methods in Engineering
Waves and Instabilities	Computational Methods in Engineering
Remote Sensing Analysis	Coastal Processes
Turbulence	Finite Elements

ACADEMIC ACHIEVEMENTS

Kinesis - Fernandez Richards Family Fellowship, Special Endowed Fellowship at University of Notre Dame (2016)

Conference for Undergraduate Woman in Physics - Poster Presentation Award, Rutgers University (2015)