

# Sharmin F. Siddiqui

Curriculum Vitae

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## EDUCATION

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**University of Florida**, Gainesville, FL  
PhD, Environmental Engineering  
*Advisor:* Dr. David Kaplan

Expected May 2023

**University of Florida**, Gainesville, FL  
BSc, Biological Engineering  
*Concentration:* Land and Water Resources  
*Minor:* International Development and Humanitarian Assistance

May 2018

## PUBLICATIONS & PRESENTATIONS

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### Publications:

Nunez-Regueiro M., Fletcher R.J., **Siddiqui S.**, Wilcove D.S (2017) Biodiversity impacts of bioenergy across the planet vary by crop, taxa and land-use. In review. *Conservation Letters*

Nunez-Regueiro M., Hiller J., Branch L., Godoy C.N, **Siddiqui S.** (2017) Socio-economic characteristics of spatiotemporal adverse selection enrollment patterns in one of the largest Payment for Ecosystem Service Programs in the world. In preparation. (Intended Journal: *Biological Conservation*)

Wootten, A., A. Terando, B. Reich, R. Boyles, and F. Semazzi, in USGS review. Characterizing Sources of Uncertainty from Global Climate Models and Downscaling Techniques. *J. Climate*. 2016 (*Served as a contributor*)

### Presentations:

“Web-Based Tool for Irrigation Scheduling” **Sharmin F. Siddiqui**, Eduardo Carrascal, Rachel N. Lo, Bryan Gutierrez. University of Florida ABE Advisory Board Presentation. Gainesville, FL. 2018

“Nitrogen Fluxes from Loggerhead Sea Turtles (*Caretta caretta*) to Sand Dune Ecosystems” **Sharmin F. Siddiqui**, Brian J. Smith, Christina M. Romagosa, Raymond R. Carthy, Nichole D. Bishop. Ecological Society of America. Fort Lauderdale, Florida. 2016.

“Using downscaled climate data to interpret climate outcomes for Puerto Rico” **Sharmin F. Siddiqui**. State Climate Office of North Carolina, Raleigh, NC. 2016

“Finding Research Opportunities as an Undergraduate” **Sharmin F. Siddiqui** Center for Undergraduate Research Board Panel. University of Florida, Gainesville, FL. 2015

“Creating Successful Mentoring Programs” **Sharmin F. Siddiqui**. The Millenium Campus Conference on behalf of MentorUF, Lynn University, Boca Raton, Florida. 2014

## SKILLS & AWARDS

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<b>Programming</b>	R, MATLAB, Python, Linux, SQL/PHP, HTML, CSS
<b>Programs</b>	Proficient in ArcGIS, QGIS, Excel VBA, AutoCAD
<b>Awards</b>	National Science Foundation Graduate Research Fellow (2018-2023) University of Florida Graduate Student Pre-eminence Award (2018-2023)

1<sup>st</sup> place Biological Engineering Senior Design  
National Finalist for National Parks Next Gen Advisory Council (2018)  
Doris Duke Scholar 2015-2017 (\$10,000 Research Stipend)  
College of Engineering Dean's List (2016-2018)  
1<sup>st</sup> place Ecological Society of America Mobile App Development (2016)  
Student Travel Award, Ecological Society of America (2016)  
Presidential Service Award in Youth Education (2016)  
Allan G. Smajstrla Award for Land and Water Resource Engineering 2016 (\$1000)  
**Languages** English, Hindi, Spanish (working proficiency), Portuguese (beginner)

## **RESEARCH**

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**Graduate Intern, United States Geological Survey** June 2018 – August 2018  
Integrated Modeling and Prediction Division, Lakewood, CO

- Contributed to application and development of the National Hydrologic Model in Alaska

**Research Assistant, Center for Remote Sensing** October 2017 – May 2018  
Department of Agricultural and Biological Engineering, University of Florida under Dr. Jasmeet Judge

- Responsible for soil moisture sensor setup and data processing during MW12 field experiment (goal: optimizing crop models with measured data to better predict vegetative growth)

**Research Assistant, Population and Landscape Ecology** Aug 2014 – Aug 2017  
School of Natural Resources and Environment, University of Florida under Dr. Fletcher

- Contributed to evaluation of anthropogenic activities on biodiversity via ecological modeling, statistical analysis and data collection
- Conducted literature reviews to compile biodiversity and land use data into a global meta-analysis
- Managed biodiversity database with the aim of determining the scales at which biodiversity and crop productivity tradeoffs occur

**Web Developer, Florida Automated Weather Network** May 2017 – Dec 2017  
Institute of Food and Agricultural Sciences, University of Florida

- Worked with ArcGIS, JavaScript, and HTML/CSS to develop spatial tools for visualizing weather data and managing natural resources.

**Research Intern, State Climate Office of North Carolina** May 2016 – Aug 2016  
North Carolina State University, Raleigh, NC

- Used Linux database management to prepare global climate model data into fine resolution regional climate models of precipitation, temperature, and wind speed
- Created R Graphics to visualize multiple regional climate models
- Assisted with field site maintenance of weather stations, performing quality check of incoming data from all state weather stations, preparing data reports, and science outreach for middle school students

**Research Intern, Whitney Laboratory for Marine Bioscience** May 2015 – Aug 2015  
University of Florida, Marineland, FL

- Monitored nutrient levels to assess the ecosystem contributions of *Caretta caretta*
- Standardized methodology for nutrient quantification from soil samples
- Assisted supervisor with ongoing research projects: using surveying equipment to determine the beach profile, characterizing soil parameters where sea turtle crawls occur

## **OUTREACH**

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### **Irrigation Consultant, Senior Design Project**

Aug 2017 - Present

- Working with a regional-scale farmer in Live Oak, Florida to determine irrigation needs
- Developed recommendation options that conserve water and optimize system efficiency
- *Advisor:* Dr. Kati Migliaccio

### **Site Leader Trainer, Florida Alternative Breaks**

Aug 2013–Present

- Co-taught *EDA4931: Leading and Immersive Service Experience* to help 34 trip leaders plan meaningful and diverse service experiences throughout the year. Duties included creating lesson plans, teaching facilitation and leadership skills, and overseeing logistics involved with planning 17 service trips
- As a service team manager, maintaining and initiated community partnerships to create 18 service-learning experiences for University of Florida students

### **Treasurer, Strategies for Ecology Education, Diversity and Sustainability**

Sept 2016–May 2017

- Mentor peers in course selection and advise students on how to get involved
- Worked with the Natural Resource Diversity Initiative to organize local natural resource events

### **Team Leader, MentorUF**

Aug 2013–May 2016

- Met with four local middle schools, lead workshops, work with site coordinators, and worked to establish a positive mentoring experience for the mentors and students.
- Developed and facilitated workshops to improve mentor efficacy (topics such as *Understanding the State of our Education System* and *Supporting Self-Esteem in Adolescents*)

### **Seminar Leader, Tropical Conservation and Development**

Dec 2015–May 2017

- Organized a weekly seminar for visiting scholars to present their research at the University of Florida
- Co-led the Amazon Action Seminar, a weekly meeting to discuss action-oriented research and advocacy to protect the Amazon Rainforest

### **Counselor, Camp Kavod**

Jun 2014–Jan 2015

Camp Kavod, Boca Raton, FL 33433

- Worked with 30 children with cognitive disabilities and led activities that instilled self-reliance and independence.

## **RELEVANT COURSEWORK**

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### Undergraduate:

**Basic Science:** General Biology Sequence, General Chemistry Sequence, Organic Chemistry

**Mathematics/Physical Sciences:** Calculus Sequence; Differential Equations; Physics with Calculus Sequence; Engineering Mechanics: Statics; Statistics; Land & Water Resource Engineering; Hydrodynamics; Hydraulics Irrigation and Drainage; Principles of Design, Environmental Science, Principles of Heat and Mass Transfer

**Computational:** Technical Drawing and Visualization; Computational Methods in Environmental Engineering; Geographic Information Systems

### Graduate:

**Ecology:** Amazon Conservation and Development Seminar; **Communication:** Grant Writing

### Training:

**Ecology:** National Conservation Training Center Basic Training

**Leadership:** Doris Duke Scholars Program Diversity and Leadership Training, University of Florida Center for Leadership and Service Student Training

**Technology:** Ecological Society of America Mobile Application Development Training, Python for Data Management