RACHEL MOGLEN

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EDUCATION

University of Texas, Austin, TX
Ph.D. Operations Research and Industrial Engineering — Fall 2019 – Present

University of Maryland, College Park, MD
M.S. Mechanical Engineering — Fall 2017 – Spring 2019
B.S. Civil and Environmental Engineering, with Honors in Engineering — Fall 2013 – Spring 2017

EIT Environmental Engineering, MD — June 2017

AWARDS

Macro-Energy Systems Fellow, Stanford University — Fall 2020 – Present
Cockrell School of Engineering Fellow, University of Texas at Austin — Fall 2019 – Present
NSF INFEWS Fellow, University of Texas at Austin — Fall 2019 – Present
Dean's M.S. Research Award Competition Department Finalist, University of Maryland — Spring 2019
College of Engineering Most Outstanding Research Award, University of Maryland — Spring 2017

SERVICE

President, INFORMS Student Chapter, University of Texas at Austin — Fall 2020 – Present
Member, INFORMS Student Chapter, University of Texas at Austin — Fall 2019 – Present
Voting Representative, Graduate Student Assembly, University of Texas at Austin — Fall 2020 – Present
Member, Mechanical Engineering Graduate Student Board, University of Texas at Austin — Fall 2019 – Present
Scientific Committee Member, Trans-Atlantic Infraday Conference — Fall 2018, Fall 2019

RESEARCH AND PROFFESIONAL EXPERIENCE

University of Texas at Austin, Austin, TX — Fall 2019 – Present
Research Assistant for Dr. Benjamin Leibowicz — ***Python***
- Studying optimization of the Food-Energy-Water Nexus for a resilient, sustainable, economical future

Sandia National Laboratory, Albuquerque, NM — Summer 2020
Graduate Intern for Energy and Water Systems Integration Department — ***Python***
- Modeling water distribution system dynamics for disaster resilience study using WNTR

Washington Gas, Springfield Virginia — Summer 2019
Pipeline Risk Intern for the Distribution Integrity Management Team — ***R, ArcGIS***
- Developed ArcGIS-based risk model for natural threats to natural gas distribution pipelines

University of Maryland, College Park, MD — Fall 2017 – Spring 2019
Research Assistant for Dr. Steven Gabriel — ***R, Python***
- Applied Stochastic and Deterministic Optimization to the energy sector for improved flexibility (video)

University of Maryland, College Park, MD — Spring 2018, Spring 2019
Teaching Assistant for Simulation and Design of Experiments — ***R, MATLAB***

Whisker Labs, Germantown, MD — Summer 2017
Research and Development Intern for Demand Response Team — ***Python, R, AWS***
- Coded and deployed tool on AWS Lambda to notify users of extreme electricity prices in ERCOT

University of Maryland, College Park, MD — Fall 2016 – Spring 2017
Research Assistant for Dr. Kaye Brubaker — ***MATLAB***
- Developed life cycle predictive model of algae bloom probabilities on the Chesapeake Bay

RELEVANT COURSES

Production and Inventory Control	Applied Machine Learning
Probability and Statistics	Operations Research Models
Simulation and Design of Experiments	Applied Multivariate Analysis
Probabilistic Optimization	Microeconomics
Multivariate Statistical Analysis	Decision Analysis

PRESENTATIONS

Water Infrastructure Resilience: A Case Study in the US Virgin Islands Nov 2020
INFORMS Annual Meeting

A Deterministic and Stochastic Dynamic Programming Approach to Demand Response Planning Nov 2018
Trans-Atlantic Infraday Conference, Energy Regulatory Commission, Washington, DC

Using Dynamic Programming for Real-Time Residential Demand Response Scheduling May 2018
Computational Management Science Conference**,** NTNU, Trondheim, NO

Bloom and Bust: Modeling *Karlodinium veneficum* Growth Dynamics May 2017
Undergraduate Engineering Honors Thesis Presentation, University of Maryland, College Park, MD

PUBLICATIONS

Moglen, R. L., Chanpiwat, P., Gabriel, S. A., & Blohm, A. (2020). Optimal thermostatically-controlled residential demand response for retail electric providers. *Energy Systems*, 1-21. https://doi.org/10.1007/s12667-020-00400-0

Chanpiwat, P., Gabriel, S. A., **Moglen, R. L.,** and Siemann, M. J. (2020). Using Cluster Analysis and Dynamic Programming for Demand Response Applied to Electricity Load in Residential Homes. ASME. J. Eng. Sustain. Bldgs. Cities. February 2020; 1(1): 011006. https://doi.org/10.1115/1.4045704

Moglen G. E., McCuen R. H., & **Moglen R. L.** (2018). Consequences of Changes to the NRCS Rainfall-Runoff Relations on Hydrologic Design. Journal of Hydrologic Engineering, 23(8), 04018032. https://doi.org/10.1061/(ASCE)HE.1943-5584.0001681