Elizabeth Eisenhauer

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Research interests: environmental statistics, animal movement modeling

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EDUCATION

The Pennsylvania State University, State College, PA
Doctorate of Philosophy (post-candidacy), Statistics, August 2017 – present

- Distinguished Graduate Fellow, August 2017 – May 2018
- Vollmer-Kleckner Scholarship in Science, August 2018 – May 2019
- Executive Chair, Penn State Science Policy Society, August 2019 – present

The College of New Jersey (TCNJ), Ewing, NJ
Bachelor of Arts, Mathematics with Statistics specialization, August 2013 – May 2017

- Magna cum laude
- Departmental Honors
- Phi Beta Kappa Honors Society
- Pi Mu Epsilon Mathematics Honors Society
- President of TCNJ Environmental Club
- Vice President and co-founder of TCNJ Veg Life Club

RESEARCH

Graduate Research Assistant, Department of Statistics, The Pennsylvania State University, State College, PA
June 2018 – present
Advisor: Dr. Ephraim Hanks

- Project description: Developed a novel sampling design called lattice and random intermediate points (LARI) for animal movement data which combines samples at regular and random time points to improve parameter estimation accuracy. Compared LARI and regular sampling on a carpenter ant dataset, a guppy dataset and in a simulated example. Performed comparisons using a stochastic differential equation framework updated to allow for irregular samples.
- Presented posters at the 2018 American Statistical Association's Statistics for the Environment Workshop and the 2019 Rao Prize Conference
- Contributed talk at JSM 2019
- Invited talks at Hawk Mountain Sanctuary (October 2019) and SMAC Talk Series at Penn State (January 2020)
- Eisenhauer, Elizabeth, and Ephraim Hanks. "A lattice and random intermediate point sampling design for animal movement." *Environmetrics* (2019).

Undergraduate Research Assistant, Department of Statistics, The Pennsylvania State University, State College, PA
June 2017 – August 2017
Advisor: SCRiM Researcher Dr. Murali Haran

- SCRiM project involving development of statistical methods for analyzing non-Gaussian time series data, with applications to precipitation time series
- Took part in SCRiM Summer School 2017

Undergraduate Honors Research, Department of Mathematics, TCNJ, Ewing, NJ
June 2016 – May 2017

Advisor: Dr. Michael Ochs

- Creation of structural equations and graphical models to understand the limits of learnability of cell signaling networks based on high-throughput biological measurements with a focus on cell signaling networks in head and neck squamous cell carcinoma
- Presented posters at TCNJ Mentored Undergraduate Summer Experience 2016 Poster Session (September 2016), 2017 Eastern North American Region International Biometric Society Spring Meeting (March 2017), and TCNJ Celebration of Student Achievement Poster Session (May 2017)

TEACHING EXPERIENCE

Instructor for STAT/MATH 318, Pennsylvania State University, State College, PA
Fall and Spring 2019

Graduate Student Online Teaching Certification, Pennsylvania State University, State College, PA
May 2019

Lab instructor for STAT 200: Elementary Statistics, Department of Statistics, The Pennsylvania State University, State College, PA
August 2018 – December 2018

- Led introductory statistics labs with 60-80 undergraduate students
- Held weekly office hours

PROFESSIONAL EXPERIENCE

Graphic Designer, TCNJ Office of Student Activities, Ewing, NJ
September 2014 – May 2016

- Consulted with faculty and student organizations on how best to meet their design goals
- Completed individual graphic design projects and packages (logos, posters, t-shirt designs, and murals)

Operations Intern, TerraCycle, Inc., Trenton, NJ
December 2015 – April 2016

- Analysis of shipping operations through manipulation of Excel spreadsheets
- Improvement of zero-waste office collection program

Statistics Project Manager, The Rainbird Foundation, Madison, WI
December 2014 – October 2015

- Compilation and analysis of child abuse data from across the United States
- Gained grater understanding of the importance of data generation methods to analyze data well