Julia Pilowsky

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Summary

Outgoing, environmentally conscious scientist with experience in teaching, mentoring, research, data analysis, and experimental design, seeking a career applying analytical skills to solve problems with intellectual merit and social impact.

Education

Tufts University, Medford, MA
Master of Science in Biology, May 2017
Relevant Courses: Advanced Biostatistics, Science Communication, Teaching Biology: Pedagogy and Practice

Columbia University, New York, NY
Bachelor of Arts in Ecology, Evolution, and Environmental Biology, May 2012

Research Experience

Starks Lab, Tufts University, Medford, MA
Master's Thesis, 2013 – present
- Found questions of scientific value; designed and executed experimental protocols
- Managed and cleaned large observational datasets for efficient statistical analysis
- Coordinated with research partners at 153 study sites across the Eastern seaboard for ecological study
- Built pipelines to climate data from NASA, NOAA, and the USGS
- Analyzed and modeled data; visualized and presented findings in context

Cohn Lab, Tufts University, Medford, MA
Research Technician, fall semester 2016
- Collected and merged data on coffee production from 12 Latin American governments
- Identified and visualized geographic patterns in coffee production over fifty years of data
- Summarized and presented findings for a grant to the National Science Foundation

Crone Lab, Tufts University, Medford, MA
Research Rotation, spring semester 2014
- Simulated data representing real-world population processes
- Wrote machine learning algorithms to compare accuracy and precision of different modeling techniques
- Recommended specific experimental design protocols for ecologists conducting longitudinal studies
- Available on GitHub at http://github.com/japilo/colored-noise

Bowman Lab, Archbold Biological Station, Lake Placid, FL
Research Intern, May – Nov 2012
- Managed and cleaned 40 years of longitudinal data in a population of endangered Florida scrub jays
- Calculated relatedness from multi-generational pedigrees; mapped landscape data
- Analyzed and modeled spatial and genetic data for two threatened populations of Florida scrub jays
- Visualized and presented findings to managers of the Archbold Biological Preserve

Rubenstein Lab, Columbia University, New York, NY
Undergraduate Honors Thesis, 2010 – 2012
- Originated research project; designed and executed experimental protocols
- Led a team of four research assistants to analyze and process bird songs
- Classified and extracted over 100,000 cases of data from sound files
- Analyzed and modeled data; presented and published findings in *Animal Behaviour*

Publications

Keen, S.C., Meliza, D., **Pilowsky, J.A.**, & Rubenstein, D.R. Song in a social and sexual context: vocalizations signal identity and rank in both sexes of a cooperative breeder. (2016) *Front. Ecol. Evol.* 4:46.

Wilson-Rich, N., **Pilowsky, J. A.**, Foo, B., Tien, T., Hester, F., & Starks, P.T. (2014) A test of the haploid susceptibility hypothesis using a species with naturally occurring variation in ploidy. *Ins. Soc.*, 61(2), 163-169.

Pilowsky, J. A., & Rubenstein, D. R. (2013) Social context and the lack of sexual dimorphism in song in an avian cooperative breeder. *Animal Behaviour*, 85(4), 709–714.

Technical Skills

Programming: R (GIS, visualization, modeling, data munging), Python (pandas, geopandas, numpy), WinBUGS, ArcGIS, Google Earth

Data Analysis: Generalized linear mixed models, principal component analysis, Bayesian statistics, multivariate statistics, spline regression, model comparison and averaging, data munging

Awards

Tufts Graduate Research Symposium, second-place winner in research presentation contest. February 2017.

Graduate Research Fellowship, *National Science Foundation*. March 2013.

Best Paper of the Year Award, *Insectes Sociaux*. December 2014.

Graduate Student Research Competition, *Tufts University*. February 2014.

Charles H. Turner Award, *Animal Behavior Society*. March 2012.

Teaching Experience

Osher Living & Learning Institute, Tufts University, Medford, MA.
Study Group Leader, winters 2014 – 2016.

- Created curricula with lectures, discussion, and activities for two classes on evolution for senior citizens.
- Taught curricula as month long courses for 30 senior students each year.

Biology Dept., Tufts University, Medford, MA.
Graduate Instructor, Spring 2015.

- Developed a new lab curriculum to complement a lecture course on biostatistics.
- Taught the lab course I developed for a class of 25 graduate and undergraduate students.

Biology Dept., Tufts University, Medford, MA.
Graduate Instructor, Fall 2014.

- Taught a biology lab course for a class of 30 undergraduate students.

Leadership & Affiliations

President, Ecology Reading Group. Tufts University. Sep 2015 – May 2016.

Presenter, Boston Data Analytics Conference. Sep 2014.

American Association for the Advancement of Science. Sep 2014 – Present

Sigma Xi: The Scientific Honor Society. Sep 2013 – June 2015.

Additional Skills

Languages: Native fluent speaker of Spanish, proficient French