

# Katie Scranton

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I am a PhD data scientist who loves solving complex statistical challenges to better analyze and visualize data. I'm an experienced public speaker and author, dedicated to inclusivity in the STEM fields.

## Education

Ph.D., University of California, Berkeley 2006 - 2012  
Developed frequentist and Bayesian statistical frameworks for hierarchical experimental designs in ecology

B.Sc., McGill University 2000 - 2005  
Major in Biology, Minor in Mathematics and Statistics

## Professional Experience

Lecturer, University of California, Los Angeles 2018  
*Mathematics for Life Scientists*. Introduction to the use of calculus in the analysis of biological systems.

Postdoctoral Fellow, University of California, Los Angeles 2016 - 2018  
Developed new stochastic population models and Bayesian statistical frameworks for insect populations.

Postdoctoral Fellow, Yale University 2012 - 2015  
Built stochastic community models and validated novel statistical methods across data sets.

National Science Foundation Fellow, University of California, Berkeley 2010 - 2012  
Developed and tested a novel Bayesian statistical framework (ABC) for experimental time series data.

Graduate Student Researcher, University of California, Berkeley 2007 - 2010  
Extended and applied survival analysis (time-to-event) models to insect life cycle data.

## Skills

**Statistical Modeling:** hypothesis testing, experimental design, bootstrap resampling, mixed-effects regression, survival analysis, classification theory, approximate Bayesian computation (ABC), Markov chain Monte Carlo and sequential Monte Carlo (particle filter) algorithms.

**Numerical Modeling:** linear algebra (matrix modeling), ordinary and delay differential equation modeling, stochastic branching processes, Gillespie algorithms.

**Programming Languages and Software:** R, Python, Jupyter, L<sup>A</sup>T<sub>E</sub>X, distributed computing with AWS EC2 and private (university) high performance clusters. Some experience with Matlab and Mathematica. Familiar with Fortran, Java, and C++.

**Communication:** Experienced public speaker for audiences including potential donors (non-technical), university students, and technical experts. Author on 9 peer-reviewed publications.

**Service and Outreach:** Founder and Organizer of R-Ladies Los Angeles, Women In Science at Yale mentor, Coordinator and Planning Committee member, Expanding Your Horizons conference.

*Last Updated September 14, 2018*