MICHAEL CULSHAW-MAURER

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EDUCATION

University of California, Davis *Predicted 2021*
PhD in Ecology
Advanced to Candidacy June 2017
Current GPA: 4.0
Rosenheim and Schreiber Labs

Saint John's University *2015*
BA in Biology, 3.86 GPA
Graduated Magna Cum Laude with Distinction in Biology

PUBLICATIONS

Culshaw-Maurer, M., Sih, A. and Rosenheim, J.A. (2020), Bugs scaring bugs: enemy-risk effects in biological control systems. Ecology Letters doi:10.1111/ele.13601

Bernoff AJ, Culshaw-Maurer M, Everett RA, Hohn ME, Strickland WC, et al. (2020) Agent-based and continuous models of hopper bands for the Australian plague locust: How resource consumption mediates pulse formation and geometry. PLOS Computational Biology 16(5): e1007820. https://doi.org/10.1371/journal.pcbi.1007820

Rosenheim, J.A., Booster, N.A., Culshaw-Maurer, M. et al. (2019) Disease, contagious cannibalism, and associated population crash in an omnivorous bug, *Geocoris pallens*. Oecologia 190: 69. https://doi.org/10.1007/s00442-019-04407-y

EXPERIENCE

The Carpentries Spring 2018 - Present
Workshop Instructor *Davis, CA*

- Taught first-ever Geospatial Data Analysis workshop in June 2018
- Contributed to open-source lessons on Make, R for Ecology, and Geospatial Data Analysis in R
- Assisted with workshop for government agency employees

Davis R Users Group Spring 2018 - Present
Co-coordinator *Davis, CA*

- Help organize weekly meetings and present on various R-related topics
- Actively maintain the group website
- Provide assistance and guidance to undergraduates, graduate students, and postdocs seeking help with R

Graduate Group in Ecology Stats Support Group Spring 2019 - Present
Co-founder and co-coordinator *Davis, CA*

- Help organize weekly meetings, including lectures, group discussions, and group activities
- Provide guidance on statistics and data analysis to graduate students
- Create a welcoming community to discuss topics related to ecological data analysis and statistics

UC Davis Winter 19
Instructor, ECL 298: R-DAVIS *Davis, CA*

- Co-instructed course on R, RStudio, and Git with another graduate student
- Developed curriculum, maintained course website, taught using live-coding technique, live streamed course for remote students
- Course is required for all UC Davis Ecology graduate students

UC Davis Winter 19
Instructor, ENT 198: Gentle Intro to R/RStudio *Davis, CA*

- Created and co-instructed course on R, RStudio, with another graduate student
- Developed curriculum, maintained course website, taught using live-coding technique
- Course was developed for students in the Research Scholars in Insect Biology Program who are conducting research in entomology labs

UC Davis Spring 16, Winter/Fall 17
BIS 2B Teaching Assistant *Davis, CA*

- Taught and graded laboratory sections
- Lectured on concepts in ecology and evolution and guided laboratory exercises
- Received a mean 4.75/5 rating from end-of-quarter student evaluation

MN Dept. Natural Resources Stream Habitat Program May-August 2014, May-July 2015
Intern 2014, Student Worker 2015 *St. Paul, MN*

- As a student worker, trained new interns in field and office skills
- Field work included electroshocking and identifying fish, assessing habitat types, using geodimeter to map river cross-sections
- Analyzed historical stream gauge data for geomorphology group
- Assisted in trout stream restoration project, stream-crossing surveys, and mussel propagation project
- Taught fishing skills to inner-city students through the Fishing in the Neighborhood program

SJU Outdoor Leadership Center September 2011 May 2015
Reservation & Event Coordinator *Collegeville, MN*

- Coordinated outdoor gear reservations for campus groups and organizations
- Organized and led community outdoor events, including challenge courses and gear tutorials
- Acted as co-coordinator of the 2012 Fruit at the Finish triathlon and served as Timing Committee chair for 2013-2015

OTHER COMPLETED RESEARCH

SJU Honors Thesis September 2014 - May 2015
"The Induced Heart Rate Response to Fish Kairomones in Daphnia pulex*"* *Collegeville, MN*

- I investigated the effects of predatory fish kairomones on *Daphnia pulex* heart rate across varying size classes. I utilized slow-motion videomicroscopy to measure heart rate in clonal populations to determine how size selection by predators affects anti-predator responses.

SJU Undergraduate Research Fellow May 2013 August 2013
"Shallow Lakes and Wetlands Research" *Collegeville, MN*

- I worked with **Dr. William Lamberts** researching several aspects of the interconnected lakes, streams, and wetlands on the St. John's campus. I measured nutrient levels, temperature gradients, water depth, and macrophyte growth over the course of a summer. This involved gear maintenance, sample collection, filtration, and spectrophotometry.

Undergraduate Independent Study January 2013 May 2013
"The Effects of Tap Size on Sap Yield in Sugar Maples" *Collegeville, MN*

· I worked with **Dr. Stephen Saupe**, **St. John's Outdoor University**, and members of **St. John's Abbey** to determine the effects of tap size on maple sap yield in a 1500+ tap, gravity-fed system. My study utilized volunteers for data collection, and I integrated my study into the daily activities of the syrup operation. The operation continued to use my methodology for several seasons in order to inform decisions regarding full-scale shifts in tap size.

HONORS AND AWARDS

USDA NIFA AFRI Predoctoral Fellowship 2019-2021 ($120,000)
Robert and Peggy van den Bosch Scholarship, Center for Biological Control, UC Berkeley 2017 ($15,000)
Robert and Peggy van den Bosch Scholarship, Center for Biological Control, UC Berkeley 2018 ($20,000)
UC Davis Graduate Group in Ecology Fellowship 2015-2018
UC Davis Graduate Group in Ecology Endowment Award 2017
Henry A. Jastro Research Fellowship 2018 ($1500)
St. John's University Honors Thesis
CSB/SJU Regents/Trustees Scholarship (highest academic scholarship)
Eldon Siehl Memorial Scholarship
St. John's Undergraduate Biology Research Fellowship

SELECTED PRESENTATIONS

UC Davis oSTEM LGBTQIA+ Science Club May 2018
"Zombie Bugs" *Davis, CA*

Davis R Users Group Feb 2018
"Code Optimization in R" *Davis, CA*

Chabot Space and Science Center May 2017
"Zombie Bugs" *Oakland, CA*

UC Davis Ecology Brown Bag May 2017
"Disease and Cannibalism in a Beneficial Insect" *Davis, CA*