

Andrew Peter Rothstein

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Education

Ph.D, Department of Environmental Science, Policy and Management, UC Berkeley 2016-2020

PI: Dr. Erica Bree Rosenblum

Dissertation: Managing disease-related amphibian declines using genomics

M.Sc, Department of Biology, Western Washington University 2012-2015

PI: Dr. Dietmar Schwarz

Thesis: Non-invasive genetic tracking of harbor seals (*Phoca vitulina*)

B.S., Rubenstein School of the Environment and Natural Resources, University of Vermont

Major: Natural Resources - Resource Ecology

Professional Positions

Postdoctoral Scholar 2021-present

Department of Environmental & Occupational Health, School of Public Health

University of Washington

PI: Dr. Karen Levy

Relevant Skills

WetLab: DNA/RNA extraction, PCR, qPCR, Illumina library prep, amplicon sequencing prep.

Code: R, python, bash.

Bioinformatics: Illumina amplicon sequencing, bait capture design, multiplex design, assembly, annotation, alignments, phylogenetics, and experience SNP calling with GATK, Freebayes, samtools, bamtools, and ANGSD.

Computing: SLURM, Unix tools, git, GitHub.

Statistics: Linear models, mixed models, classical statistics.

Geospatial: Analysis & visualization in R (raster, sp, ggplot2). Experience with ArcGIS.

Publications

[Google Scholar](#)

Rothstein A.P., Byrne A.Q., Knapp R.A., Briggs C.J., Voyles J., Richards-Zawacki C.L. and Rosenblum E.B. *Proc. R. Soc. B.* 2021. Divergent regional evolutionary histories of a devastating global amphibian pathogen.2882021078220210782. <http://doi.org/10.1098/rspb.2021.0782>

Rothstein, A.P., Knapp, R., Bradburd, G., Boiano, D., Rosenblum, E.B. *Molecular Ecology*. 2020. Stepping into the past to conserve the future: archived skin swabs from extant and extinct populations inform genetic management of an endangered amphibian. <https://doi.org/10.1111/mec.15515>

Lambert, M.R., Womack, M.C., Byrne, A.Q., Hernández-Gómez, O., Noss, C.F., **Rothstein, A.P.**, Blackburn, D.C., Collins, J.P., Crump, M.L., Koo, M.S. and Nanjappa, P. *Science*. 2020. Comment on “Amphibian

fungal panzootic causes catastrophic and ongoing loss of biodiversity". <https://doi.org/10.1126/science.aay1838>

Hernández-Gómez O., Byrne A.Q., Gunderson A.R., Jenkinson T.S., Noss C.F., **Rothstein, A.P.**, Womack MC, Rosenblum EB. 2020. Invasive vegetation affects amphibian skin microbiota and body condition. *PeerJ* 8:e8549 <https://doi.org/10.7717/peerj.8549>

Byrne, A.Q., **Rothstein, A.P.**, Poorten, T.J., Erens, J., Settles, M.L., & Rosenblum, E.B. 2017. Unlocking the story in the swab: A new genotyping assay for the amphibian chytrid fungus *Batrachochytrium dendrobatidis*. *Molecular Ecology Resources*. [doi:10.1111/1755-0998.12675](https://doi.org/10.1111/1755-0998.12675).

Des Roches, S., Sollmann, R., Calhoun, K., **Rothstein, A.P.** & Rosenblum, E.B. 2017. Survival by genotype: patterns at Mc1r are not black and white at the White Sands ecotone. *Molecular Ecology*. [doi:10.1111/mec.13894](https://doi.org/10.1111/mec.13894)

Rothstein, A.P., McLaughlin, R., Acevedo-Gutiérrez, A. & Schwarz, D. 2016. WisePair: a computer program for individual matching in genetic tracking studies. *Molecular Ecology Resources*. [doi:10.1111/1755-0998.12590](https://doi.org/10.1111/1755-0998.12590)

Rothstein, A.P. 2015. [Non-invasive genetic tracking of harbor seals \(*Phoca vitulina*\)](#). M.Sc. thesis, Department of Biology, Western Washington University, Bellingham, WA.

Grants & Awards

UC Berkeley Wildlife and Fisheries Program, Lyman Oliver Award (\$1,200)	2020
UC Berkeley Wildlife and Fisheries Program, Lyman Oliver Award (\$900)	2019
UC Berkeley Museum of Vertebrate Zoology, Wilhelm F. Martens Fund (\$2,000)	2019
UC Berkeley Graduate School Travel Grant (\$800)	2019
Sequoia Science Learning Center Research Grants Program (\$5,000)	2018
UC Berkeley ESPM Cohort Starter Grant (\$1,000)	2016
Sequoia Parks Conservancy Travel Grant (\$350)	2016
Western Washington University Ross Travel Grant (\$350)	2014
Western Washington University Fund for the Enhancement of Graduate Research (\$900)	2013
Best Student Poster Presentation at 17th NW Student Ch. Marine Mammalogy	2013

Presentations

Joint Meeting of Ichthyologists and Herpetologists (Snowbird, UT) <i>Talk</i>	2019
The Evolution Conference (Providence, RI) <i>Talk</i>	2019
103rd Ecological Society of America Meeting (New Orleans, LA) <i>Talk</i>	2018
Mountain Yellow Legged Frog Interagency Meeting (Sacramento, CA) <i>Talk</i>	2017
Mountain Yellow Legged Frog Interagency Meeting (Burlingame, CA) <i>Talk</i>	2016
Sequoia-Kings Canyon NP Science Symposium (Three Rivers, CA) <i>Poster</i>	2016
Thesis seminar, WWU Department of Biology (Bellingham, WA) <i>Talk</i>	2015
WWU Graduate Research Conference (Bellingham, WA) <i>Talk</i>	2014
18th NW Student Chapter Meeting - Society of Marine Mammalogy (Bellingham, WA) <i>Talk</i>	2014
2nd North American Congress for Conservation Biology meeting (Missoula, MT) <i>Poster</i>	2014
17th Northwest Student Chapter Meeting of the Society of Marine Mammalogy (Seattle, WA) <i>Poster</i>	2013

Teaching Experience

Graduate Student Instructor 2020

Fung Fellowship GSI Fung Fellowship for Undergraduates: Conservation and Technology Track

Transfer Connect Fellow 2020

Mentor Fellow ESPM Berkeley Connect Program

Berkeley Connect Fellow 2019-2020

Mentor Fellow ESPM Berkeley Connect Program

Graduate Student Instructor 2018

Lecture & Lab Lead Data Science in Global Change Biology (ESPM157)

Graduate Student Instructor 2018

Discussion Lead Global Change Biology (ESPM152)

Graduate Student Instructor 2012-2014

Lecture & Lab Lead Introduction to Cell and Molecular Biology (BIO205)

Outreach & Mentoring

Mentee of undergraduate research assistants 2012-present

Total of fifteen undergraduates during MS.c. and Ph.D programs in both field, lab, and coding work. Mentored URAP student to support both current research and developing independent studies.

Bay Area Science in Schools Volunteer 2016-2018

Volunteer outreach program in East Bay, CA with elementary schools consisting of hour-long, hands-on presentations that align with current elementary science standards

Volunteer, Save the Frogs Day 2017-present

Rosenblum Lab annual event for local elementary students consisting of hands-on presentations about frog conservation and vertebrate biology

Schwarz Lab Science Outreach Lead Coordinator 2014-2015

Developed educational activity with 5th grade students at Happy Valley Elementary, Bellingham, WA that highlighted the methods and goals of my graduate research at Western Washington University. Coordinated activities and assigned roles for undergraduates and other graduate students Schwarz lab. Lead sessions that included teaching topics of sampling design, data analysis, and ecological system dynamics

WWU Biology Graduate Program Committee Member 2013-2014

Elected position to represent current graduate students for faculty members

Co-coordinator of 18th NW Student Meeting of The Soc. of Marine Mammalogy 2013-2014

Responsibilities include planning conference, inviting keynote speaker, and delegating associated tasks to undergraduates in Dr. Acevedo-Gutiérrez lab

Work Experience

GIS and Stewardship Intern 2011

Trust for Public Land Vermont Office (Montpelier, Vermont)

Compiled and wrote baseline documents summarizing the natural, cultural, and historical features for properties secured by land trust. Responsibilities included creating maps on natural resources and public use trails through ArcGIS and spatial tools. Wrote project stewardship management plans with county

foresters, state biologists, and community members which are used to guide management, on local, state, and federal levels

Research Assistant

2010-2011

University of Vermont and Zambian Carnivore Program

Organized a literature review of study species such as African Lion, African Wild Dog, Cheetah, and Brown Hyena

Created animal movement maps (ArcGIS) using GPS locations of collared individuals to be used in governmental management of species

Forestry Research Assistant

2010

University of Maine CFRU Summer Field Crew

Independent Research

2009-2010

Nitrogen deposition's influence on HWA infestation spread rate with Dr. Jennifer Pontius

Independent study on the effects of temperature and nitrogen deposition in spread of Hemlock Woolly Adelgid throughout the Northeastern US

References

Available upon request