

Keefe Reuther
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School of Biological Sciences
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CURRENT POSITION

Assistant Teaching Professor	2020-Present
University of California, San Diego	
School of Biological Sciences	
Department of Ecology, Behavior, and Evolution	

EDUCATION

Saint Louis University	2009
PhD, Biology	
Dissertation: "Early invasion dynamics of the Japanese pavement ant, <i>Tetramorium tsushimae</i> , in the Saint Louis, Missouri metropolitan area"	

University of California, Berkeley	2003
BA, Integrative Biology	
BA, Geology	

TEACHING EXPERIENCE

Assistant Teaching Professor	2020-present
Continuing Lecturer (Unit 18)	2018-2020
Lecturer (Unit 18)	2009-2018
University of California, San Diego	
Division of Biological Sciences	

Courses taught:

- The Cell (BILD 1, lecture)
- Multicellular Life (BILD 2, lecture)
- Organismic and Evolutionary Biology (BILD 3, lecture)
- Introductory Biology Laboratory (BILD 4, laboratory)
- Fundamental Concepts of Modern Biology (BILD 10, lecture)
- Genetics (BICD 100, lecture)
- Molecular Biology (BIMM 100, lecture)
- Recombinant DNA Techniques (BIMM 101, laboratory)

Adjunct Instructor	2015-2021
University of California, San Diego Extension	

Outreach Program with San Diego Unified School District

- Adapted college courses to teach seniors on-site at Point Loma High School and La Jolla High School.
- Provides no-cost college courses to seniors preparing to enter college.

Courses taught:

- Organismic and Evolutionary Biology (BILD X3, lecture)
- Human Nutrition (BILD X22, lecture)

Certified Core Adjunct Faculty	2010-2017
National University	
Department of Mathematics and Natural Sciences	

Courses taught:

Animal Behavior (BIO 420, lecture)
Biodiversity (BIO 302, lecture)
Biodiversity (BIO 411, lecture)
Natural Resource Conservation (EES 336, lecture)
Environmental Science (EES 335, lecture)
Environmental Law and Sustainability (EES 337, lecture)
Zoology (BIO 412, lecture)
Zoology Laboratory (Bio 412A, laboratory)
Survey of Bioscience (BIO 100, lecture)
Survey of Bioscience Laboratory (BIO 100A, laboratory)
Evolution (BIO 310, lecture)
Capstone in Environmental Science I (EES 491A, lecture)
Capstone in Environmental Science II (EES 491B, lecture)
Invertebrate Zoology (BIO 414, lecture)
Invertebrate Zoology Laboratory (BIO 414A, laboratory)
General Biology 2 (BIO 162, lecture)
Human Anatomy and Physiology I (BIO 201, lecture)
Human Anatomy and Physiology II (BIO 202, lecture)
Laboratory in Human Anatomy and Physiology I (BIO 201A, laboratory)
Laboratory in Human Anatomy and Physiology II (BIO 202A, laboratory)
Masters level seminar: Issues in Physiology (BIO 630, lecture)
Masters level seminar: Issues in Ecology (BIO 640, lecture)
Microbiology (BIO 203, lecture)
Microbiology Laboratory (BIO 203A, laboratory)

Adjunct Instructor

2013-2014

University of California, San Diego Extension

- Designed and implemented two online courses aimed at preparing K-12 teachers to pass the California Subject Examination for Teachers (CSET) in biology.

Courses taught:

Genetics (online)
Cell Biology and Physiology (online)

Adjunct Faculty

2011-2013

San Diego Community College District

Mesa College, Department of Biology

City College, Department of Biology

Courses taught:

General Biology (Bio 107, lecture and laboratory)
Issues in Environmental Biology (Bio 101, lecture and laboratory)

Adjunct Faculty

2010-2012

University of Phoenix

Colleges of Arts & Sciences

Courses taught:

Introduction to Biology (BIO 101, lecture)
People, Science, and the Environment (SCI 256, lecture)
Environmental Science (SCI 275, online)

Teaching Assistant
Saint Louis University
Department of Biology

2006-2008

Courses taught:

Principles of Biology (BIO 106, lecture)
Principles of Biology (BIO 104, lecture)
Animal Behavior Biology (BIO 436, lecture)
Laboratory in Animal Behavior (BIO 437, laboratory)

GRANTS AND AWARDS

Saltman Distinguished Teaching Award, Non-Senate Member	2018
University of California, San Diego	
Revelle College Outstanding Teacher Award	2017
University of California, San Diego	
Unit 18 Development Funds (\$335)	2017
University of California, San Diego	
Outstanding Professor Teaching Award	2016
University of California, San Diego, Panhellenic Council	
Certificate of Appreciation	2015, 2016
University of California, San Diego, Office of Students with Disabilities	
Graduate Research Fellow (\$121,500)	2005-2009
National Science Foundation	
Doctoral Dissertation Improvement Grant (\$12,000)	2007-2009
National Science Foundation	
Menke Scholarship (\$1,000)	2006
Webster Groves Nature Study Society	
Research Grant (\$750)	2007
Litzsinger Road Ecology Center	
Monsanto Fellow (\$3,000)	2004-2005
Saint Louis University	
Graduate Student Association Travel Award (\$250)	2004
Saint Louis University	

UNIVERSITY SERVICE - University of California, San Diego

Learning Outcome and Assessment Working Groups	2017-Present
Division-wide, BILD 3, BILD 4, BICD 100, BImm 100	
BioSci Community Center Working Group	2020-Present
Biological Sciences Student Association (BSSA)	2021-Present
Faculty advisor	
Revelle College first-year and transfer orientation	2015-Present
Speaker and Keynote Speaker	
Academic Internship Program (AIP)	2012-Present
Faculty Advisor	
Environmental Systems Student Program (ESYS)	2012-Present
Faculty Advisor	
Advisor for transfer credit for BILD 1, 2, 3, 4, 10 and BICD 100	2016-Present
Revelle College Commencement Ceremony	2018, 2021
Muir College Commencement Ceremony	2021
Non-Senate Faculty Development Fund	2018-2020
Committee Member	
OASIS Summer Bridge program	2019

RESEARCH EXPERIENCE

Assistant Teaching Professor	2020-Present
Continuing Lecturer	2018-2020
Lecturer	2009-2018

University of California, San Diego

- Simulation study examining the identification, handling, and reporting of outliers in CURE and citizen science research.
- Involved in experimental design, data collection, and statistical analysis of invasive/native plant soil microbiomes collected by undergraduates in BILD 4.
Collaborators: Drs. Stephanie Mel and Stanley Lo
- Involved in curriculum design and dissemination for laboratory activities in BILD 4.
Collaborators: Drs. Stephanie Mel and Stanley Lo
- Involved in curriculum design and dissemination for laboratory activities in BImm 101.
Collaborators: Dr. Lisa McDonnell
- Collecting classroom data for pedagogical research conducted by Drs. Melinda Owens, Aaron Coleman, Lisa McDonnell, Sarah Stockwell, and Stanley Lo.

Graduate Researcher	2004-2009
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Saint Louis University

- Dissertation: "Early invasion dynamics of the Japanese pavement ant, *Tetramorium tsushimae*, in the Saint Louis, Missouri metropolitan area."
- Designed and conducted experiments in the fields of behavioral ecology, community ecology, population genetics, landscape ecology, and conservation biology.

Research Assistant	2003-2004
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University of California, Berkeley

Advisor: Matteo Garbelotto

- Exploring population genetic structure, natural history, and invasion ecology of *Phytophthora ramorum* (pathogen responsible for Sudden Oak Death).
- Responsible for maintaining a working culture collection and extracting DNA; coordination of various physiological and environmental experiments on *P. ramorum*.

Research Assistant	1999-2003
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University of California, Berkeley

Advisor: George Barlow

- Conducted behavioral ecology studies on the mating and aggressive behavior of the East African cichlid *Julidochromis marlieri*.

PROFESSIONAL TRAINING

Center for Engaged Teaching Course Design Studio University of California, San Diego	2017
HHMI Summer Institute on Scientific Teaching University of California, San Diego	2017

INVITED SEMINARS & CONFERENCE PRESENTATIONS

"Biotech Demystified" Rady School of Management University of California, San Diego	2013-Present
Revelle College Orientation Keynote Address	2019-Present

University of California, San Diego	
"How to Succeed in the College Classroom" Revelle College Orientation	2015-2018
University of California, San Diego	
"Biology for Engineers"	2018
Thermo-Fisher/UCSD Center for U.S. – Mexican Studies/CETYS Universidad	
"Be a Scientist for Social Justice" Legacy Lecture	2018
University of California, San Diego Scholar's Society	
"Evolution and Tinkering" Biological Science Students Association	2015
University of California, San Diego	
"CRISPR-Cas9 Biology and Ethical Considerations"	2015
Biological Science Students Association, University of California, San Diego	
"Quantifying Intraspecific Aggression in The Invasive Japanese Pavement Ant"	2008
Animal Behavior Society Annual Meeting	
"Invasion Biology"	2008
Southern Illinois University, Edwardsville	
"Contemporary Biology"	2008
Southern Illinois University, Edwardsville	
"Animal Diversity pt. 1 & 2"	2008
Saint Louis University	
"Rarity"	2008
Saint Louis University	
"Behavioral Ecology of Habitat Selection: Short Distance Dispersal & Territoriality"	2007 Saint
Louis University	
"The Other Social Insects"	2007
Webster Groves Nature Study	
"Biological Invasions & You: A Guide to the Exotic & Alien"	2007
Saint Louis University	
"Ecological Niche Modeling of the Invasive Japanese Pavement Ant, <i>Tetramorium</i> 2007 <i>tsushimae</i> "	
Saint Louis University	
"Conquest Through Cooperation: The Invasive Japanese Pavement Ant, <i>Tetramorium tsushimae</i> , in St. Louis, MO" Saint Louis University	2007
"The Invasive Japanese Pavement Ant, <i>Tetramorium tsushimae</i> (Emery): A Model System for Understanding Biological Invasions" Webster Groves Nature Study Society	2006
"The History and Basic Principles of Animal Behavior"	2006
Saint Louis University	

PUBLICATIONS

- Lisa McDonnell, **Keefe Reuther**, Andrew Cooper, Christopher Day, Cindy Gustafson-Brown (Accepted). Converting a face-to-face lab to online: an example of process and outcomes for a CRISPR-based molecular biology lab **CourseSource**.
- Steiner, F.L., Schlick-Steiner, B.C., VanDerWal, J., **Reuther, K.D.**, Christian, E., Stauffer, C., Suarez, A.V., Williams, S.E., & Crozier, R.H. (2008). Combined modelling of distribution and niche in invasion biology: a case study of two invasive *Tetramorium* ant species. **Diversity and Distributions**. 14(3): 538-545.
- Meshriy, M., Hüberli, D., Harnik, T., Miles, L, **Reuther, K.** & Garbelotto, M. (2006). Variation in Susceptibility of *Umbellularia californica* (Bay Laurel) to *Phytophthora ramorum*. In **Proceedings of the Sudden Oak Death Second Science Symposium: the State of our Knowledge**. Monterey, California, U.S. pp. 87-89.

- Hüberli, D., Afzal-Rafii, Z., Dodd, R.S., Douhovnikoff, V., Harnik, T.Y., Meshriy, M., Miles, L., **Reuther, K.** & Garbelotto, M. (2006). Interactions of *Phytophthora ramorum* with two native trees, *Quercus agrifolia* and *Umbellularia californica*, from California. In **Progress in Research on Phytophthora Diseases in Forest Trees: 3rd International IUFRO Working Party S07.02.09**, Ed. C. Brasier. Forest Research, Farnham, Surrey, UK. pp. 79-83.
- Huberli, D., **Reuther, K. D.**, Smith, A., Swain, S., Tse, J. G., Garbelotto, M. (2004). "First report of foliar infection of *Rosa gymnocarpa* by *Phytophthora ramorum*." **Plant Disease**. 88(4):430.
- Reuther, K.** (2002). "Size, Gender, and Coloration Effects on Territorial Behavior in the Amphidromous Goby *Sicyopterus pugnans*." **Biology and Geomorphology of Tropical Islands: Student Research Papers**. University of California, Berkeley Biosciences Library Collection.

REFERENCES

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