

# Gaurav S. Kandlikar

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## Education

### University of California, Los Angeles

PH.D CANDIDATE AND NSF-GRADUATE RESEARCH FELLOW WITH DR. NATHAN KRAFT

Los Angeles, CA

2015-current

### University of Maryland, College Park

PH.D. STUDENT IN ECOLOGY (MOVED TO UCLA WITH DR. NATHAN KRAFT'S LAB GROUP)

College Park, MD

2014-2015

### University of Minnesota

B.S. IN ECOLOGY, EVOLUTION & BEHAVIOR AND PLANT BIOLOGY

Minneapolis-St. Paul, MN

2013

## Professional Appointments

### ETH Zurich

VISITING STUDENT WITH DR. JONATHAN LEVINE

Zurich, Switzerland

March-July 2018

### University of Minnesota, Dept. of Agronomy and Plant Genetics

JUNIOR SCIENTIST WITH DR. CANDICE HIRSCH

St. Paul, MN

Dec. 2013 - June. 2014

### Smithsonian National Museum of Natural History, Dept. of Botany

NSF-REU RESEARCH ASSISTANT WITH DR. ELIZABETH ZIMMER

Washington, D.C.

May. 2013 - Aug. 2013

### Bell National Museum of Natural History

HERBARIUM CURATORIAL ASSISTANT WITH DR. GEORGE WEIBLEN

St. Paul, MN

Sept. 2012 - May. 2013

### University of Minnesota, Dept. of Ecology and Evolutionary Biology

RESEARCH ASSISTANT WITH DR. GEORGE WEIBLEN

St. Paul, MN

Sept. 2012 - May. 2013

## Publications

5) **Kandlikar, G.S.**, Gold Z.J., Cowen, M. C., Meyer, R., Friese, A., C., Kraft, N.J.B., Moberg-Parker, J., Sprague, J., Kushner, D., and Curd, E.E. 2018. Ranacapa: an R package for interactive visualization and exploratory analysis of environmental DNA data. *F1000 Research* 7:1734.

*The software presented in this paper is used to analyze data in the UCLA undergraduate course "Biodiversity in the Age of Humans".*

4) Petry, W., **Kandlikar, G.S.**, Kraft, N.J.B., Godoy, O., and Levine, J.M.L. 2018. A competition-defence trade-off both promotes and weakens coexistence in an annual plant community. *Journal of Ecology* 106:5, 1806-1818.

3) **Kandlikar, G.S.\***, Vaz, M.C\*, Kriebel, R., Vargas, G., Michelangeli, F., Cordero, R., Avalos, G., Almeda, F., Fetcher, N, Kraft, N.J.B. 2018. Low functional and phylogenetic turnover of melastomes along a Costa Rican elevational gradient. *Journal of Tropical Ecology* 34:3, 204-208.

*\* These authors contributed equally to this work.*

2) Hanson, W., and 14 others, including **Kandlikar, G.S.** 2018. Student reflections on careers and culture of 21st century ecology. *Ecosphere* 9:2, e02099.

1) Yan, M., **Kandlikar, G.S.**, Jacobson, L., Clanton, C., and Hu, B. 2014. Lab simulation to determine the factors affecting swine manure foaming. *Trans of the Am. Soc. of Agricultural and Biol. Engineers* 57(3): 907-914.

## Manuscripts in Review

4) Sura, S.A., and 14 others, including **Kandlikar, G.S..** Ten simple rules for giving an effective academic job talk. In Review.

3) **Kandlikar, G.S.**, Johnson, C.A., Yan, X , Kraft, N.J.B., and Levine, J.M. Winning and losing with microbes: how microbially mediated fitness differences influence plant community dynamics. Revision requested at *Ecology Letters*.

2) Curd, E.E., Gold, Z.\*, **Kandlikar, G.S.\***, and 13 others. Anacapa: an environmental DNA toolkit for processing multilocus metabarcode datasets. Revision requested at *Methods in Ecology and Evolution*. Pre-print available on [BioRxiv](https://www.biorxiv.org/).

*\* These authors contributed equally to this work.*

1) Meyer, R.S., and 15 others, including **Kandlikar, G.S.** The California environmental DNA “CALeDNA” Program. In Review. Pre-print available on [BioRxiv](#).

## Teaching and Mentoring

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### Research mentor

GRADUATE STUDENT MENTOR TO 6 UNDERGRADUATE STUDENT RESEARCH PROJECTS

- I have mentored students in theoretical ecology, experimental design and execution, trait measurements, and using R for ecological analyses
- My mentee Xinyi Yan has received the UCLA Undergraduate Research Fellowship

UCLA

2016-present

### UCLA Graduate Writing Center

WRITING CONSULTANT

### TA preparation course for graduate students

INSTRUCTOR OF RECORD FOR MCDB 495

- Introduced graduate students to classroom management, teaching pedagogy, and creating inclusive classrooms

UCLA

2018-present

UCLA

2018

### UCLA-PEERS workshop for Mathematics for Life Sciences

LEADER FOR PEERS-LS30A WORKSHOPS

### Practical Computing for Biology (graduate and upper-division undergraduate)

TEACHING ASSISTANT FOR EEB 177/234

- Developed syllabus and activities for lab component of the course, lab materials [available online](#)

UCLA

2017

UCLA

2017

### Mathematics for Life Sciences (Lower-division Undergraduate)

GRADUATE TEACHING ASSISTANT FOR LS 30A

### Principles of Molecular Biology (Lower-division Undergraduate)

GRADUATE TEACHING ASSISTANT

### Principles of Ecology (Upper-division Undergraduate)

GRADUATE TEACHING ASSISTANT

### Principles of Ecology and Evolution (Lower-division Undergraduate)

UNDERGRADUATE TEACHING ASSISTANT

UCLA

2016

University of Maryland- College Park

2015

University of Maryland- College Park

2014

University of Minnesota- Twin Cities

2012-2013

### PEDAGOGY WORKSHOPS

An Introduction to Evidence-Based Undergraduate STEM Teaching, Boston University, 2017. I took this course through the [CIRTL](#) Network at UCLA.

Educational Development Summer Institute, Center for Education Innovation and Learning in the Sciences (CEILS), UCLA. 2017.

## Funding

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2014-2019 **NSF Graduate Research Fellowship**, \$120,000

2019 **American Naturalist Society - Student Research Award**, \$2,000

2018 **La Kretz Center for Conservation Science - Student Research Award**, \$3,000

2017-2018 **UCLA Vavra Research & Travel Grants**, \$3,500

2014 **University of Maryland Flagship Fellowship**, \$10,000 x 5 years (Accepted for 1 year)

2014 **University of Maryland Flagship Fellowship**, \$5,000

## Honors & Awards

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2018 **Travel Award**, Ecological Society of America Plant Population Ecology Section

2018 **Travel Award**, Ecological Society of America Physiological Ecology Section

2015 **Graduate Research Presentation Award**, University of Maryland Graduate Research Interaction Day

2014 **Undergraduate Research Prize and Travel Award**, American Society of Plant Taxonomists

2013 **Full scholarship to “Applied Field-course in Ecology and Conservation”**, Xishuangbanna Tropical Botanical Garden (China)

2013 **NSF-Research Experience for Undergraduates (REU)**, Smithsonian National Museum of Natural History, Dept. of Botany

2013 **Hamm Memorial Scholarship in Plant Research Sciences**, University of Minnesota

2012 **Undergraduate Leadership Fellow**, University of Minnesota Institute on the Environment

## Conference Presentations and Posters

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### PRESENTING AUTHOR

- 2019 Using R for teaching ecology. Talk at *Los Angeles Saturday conference*, Los Angeles, CA.
- 2019 Winning and losing with microbes: how microbially mediated fitness differences in fluence plant diversity. Poster at *Gordon Research Conference on Plant-Herbivore Interactions*, Ventura, CA.
- 2018 Functional traits help explain plant demographic responses to variation in soil abiotic characteristics and microbial composition. Talk at *ESA Annual Meeting*, New Orleans, LA.
- 2018 Functional traits and the drivers of plant species coexistence across a heterogeneous landscape. Talk at *California Native Plants Society Meeting*, Los Angeles, CA.
- 2017 Functional traits and the drivers of plant species coexistence across a heterogeneous landscape. Talk at *ESA Annual Meeting*, Portland, OR.
- 2015 High phylogenetic but low functional turnover of melastomes along a tropical elevational gradient. Poster at *ESA Annual Meeting*, Baltimore, MD.
- 2014 Chloroplast DNA reveals uniparental plastid inheritance from *Isoetes engelmannii* in two allotetraploid speciation events. Poster at *Botany Annual Meeting*, Boise, ID.
- 2013 Leaf Variation in Ficus: an evolutionary perspective. Talk at *Advanced Field Course in Ecology and Conservation*, Xishuangbanna, China. Awarded "Best Project and Presentation" by AFEC Core Instructor Committee.
- 2013 Assessing community assembly in a lowland rainforest of Papua New Guinea using spatial and phylogenetic turnover. Talk at *National Conference on Undergraduate Research*, LaCross, WI.

### CONTRIBUTING AUTHOR

- 2018 Spatial variation in seed consumption and apparent competition generate mosaics of plant diversity. Talk at *ESA Annual Meeting*, New Orleans, LA; Presenting Author: W. K. Petry
- 2018 Resource Competition and Plant-Microbe Interactions Can Jointly Influence Plant Species Coexistence. Poster at *UCLA-EEB Research Symposium*, Los Angeles, CA; Presenting Author: X. Yan
- 2017 Collaborations Between a Course-Based Undergraduate Research Experience, Faculty-Driven Research, and a UC-Wide Citizen Science Project Enhance Curriculum Development and Student Opportunities. Poster at *SABER-West*, Irvine, CA; Presenting Author: A. Friese
- 2017 Do competitors drive intraspecific shifts in plant functional traits? An experimental test with serpentine annual plants. Poster at *ESA Annual Meeting*, Portland, OR; Presenting Author: M.N. Van Dyke
- 2017 Apparent competition through granivores impacts plant coexistence. Talk at *ESA Annual Meeting*, Portland, OR; Presenting Author: W.K. Petry
- 2017 One trait fits all? Predicting coexistence of annual plants across spatial and temporal scales. Talk at *ESA Annual Meeting*, Portland, OR; Presenting Author: N.J.B. Kraft

## Invited Working Groups

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Centre for the Synthesis & Analysis of Biodiversity  
UC-Conservation Genomics Consortium  
Ecological Society of America

Causes and consequences of functional rarity from local to global scales. *PI: Cyrille Viole* (2018)  
Environmental DNA (eDNA) working group. *PI: Rachel Meyer* (2017)  
EcoFutures working group. *PI: Winslow Hansen* (2015-2016)

## Professional Service

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### UNIVERSITY SERVICE

**Co-Founder:** Graduate student and Postdoc co-working space/"Hacky Hours", Dept. of Ecology and Evolutionary Biology, UCLA

**Graduate student representative:** Faculty search committee for Quantitative Microbial Ecology/Evolution position, Dept. of Ecology and Evolutionary Biology and Institute for Quantitative and Computational Biology, UCLA

**Graduate student representative:** Department seminar committee, Dept. of Ecology and Evolutionary Biology, UCLA

**Volunteer Docent:** Mildred E. Mathias Botanical Gardens at UCLA

**Graduate Assistant:** R Bootcamp for incoming graduate students, Dept. of Ecology and Evolutionary Biology, UCLA

## **EXTRAMURAL SERVICE**

**Peer review:** *Functional Ecology*; *Oecologia* (x2)

**SEEDS Mentor:** Ecological Society of America Annual Meeting, 2018

**Co-organizer:** Organized Oral Session “Examining the Role of Spatial Variation in Maintaining Plant Community Diversity” for Ecological Society of America Annual Meeting, 2018.

**Vice President:** Partnership for Academic Competition Excellence, 2016-17

**Head Editor:** Academic Competition Federation’s ACF Fall tournament: 2014-17

**President:** University of Minnesota Quizbowl team, 2012-2013. Managed a team of >20 players and a budget of >\$10,000.

## **PROFESSIONAL SOCIETY MEMBERSHIP**

American Society of Naturalists; Ecological Society of America (*member of Plant Population Ecology Section, Physiological Ecology Section, and Theoretical Ecology Section*); California Native Plants Society; Academic Competition Federation (*elected member 2015-present*); Partnership for Academic Competition Excellence (*elected member 2015-2019; Vice President, 2016-17*)