Gaurav Kandlikar http://gauravsk.github.io

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Current Position

PhD Student at University of California, Los Angeles: 2015-present (Advanced to Candidacy, Sept. 2017)
Advisor: Dr. Nathan Kraft
Relevant coursework: Plant-microbe interactions; Coexistence seminar; Multivariate statistics; Bayesian Statistics; Quantitative bootcamps (R); graduate coursework in Ecology & Evolution
GPA: 4.0

Past Education

Visiting Student at ETH-Zurich: Apr-June 2018- visiting the lab of Dr. Jonathan Levine
PhD Student at University of Maryland, College Park, Maryland: 2014-2015
Advisor: Dr. Nathan Kraft. GPA: 4.0
University of Minnesota, Minneapolis and St. Paul, Minnesota: Fall 2010 – Spring 2013.
Bachelor of Science in *Ecology, Evolution* & *Behavior* and *Plant Biology,* Minor: *Biochemistry*

Past Research Experience

Junior Scientist, Dr. Candice Hirsch, UMN Dept. of Agronomy & Plant Genetics. 2013-2014.
Bioinformatic analysis of maize transcriptome and genomic sequence data.
Research Assistant, Dr. Elizabeth Zimmer, Smithsonian NMNH, 2013
Describing allotetraploid speciation of *Isoetes* spp. (quillworts) using chloroplast DNA.
Curatorial Assistant, Dr. George Weiblen, Bell Museum of Natural History, 2012-2013
Database assistant at the BMNH Herbarium. Updated database, digitized specimen data, fielded data requests, managed Minnesota and Papua New Guinea specimens.
Research Assistant, Dr. George Weiblen, UMN Dept. of Plant Biology, 2012-2013.
Community phylogenetics and forest dynamics of a Papua New Guinea forest.
Research Assistant, Dr. Bo Hu, UMN Dept. of Bioproducts & Biosystems Engineering, 2012.
Microbial and chemical composition of foaming swine manure.

Publications

* indicates equal contribution; † indicates undergraduate coauthor

Preprints/In Review

7. Curd, E.E., Gold, Z.*., **Kandlikar, G.S.***, and 13 others. Anacapa: an environmental DNA toolkit for processing multilocus metabarcode datasets. In Review.

6. 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. Ranacapa: an R package for interactive visualization and exploratory analysis of environmental DNA data. In Review; Pre-print available at F1000 Research.

5. 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.*

Published

4. Petry, W., **Kandlikar, G**., 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.

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.

Teaching/Mentoring Experience

Teaching Assistant/Instructor:

UCLA MCDB 495: **Instructor of Record** for course in TA preparation (Winter 2018).
UCLA EEB177/234: TA for Practical Computing for Ecology and Evolutionary Biology (Winter 2017). Developed all lab materials: https://eeb177-w17.github.io/.
UCLA LS30A: TA for Mathematics for Life Sciences - introductory calculus (Fall 2016)
UMD BSCI 105: TA for Principles of Molecular Biology (Spring 2015).
UMD BSCI 361: TA for Principles of Ecology (Fall 2014)
UMN BIOL 1001 TA for Principles of Evolution & Ecology (Fall-Spring 2012-13)

Tutor/Academic Mentor:

Graduate Writing Consultant at UCLA- Grad. Writing Resource Center. Fall 2018-present.
Workshop Facilitator for UCLA's Program for Excellence in Education and Research. Fall 2017.
Research Mentor to seven UCLA undergraduates.
My mentee Xinyi Yan has received the prestigious UCLA Undergraduate Research Fellowship.

Other Courses/Workshops Attended

Research workshops

UC-Conservation Genomics Consortium- environmental DNA working group, 2017.
UCLA La Kretz Center 2017 Conservation Genomics workshop. 2017.
EcoFutures working group, Ecological Society of America Student Section. 2016.
Organization for Tropical Studies, Costa Rica. Tropical Plant Systematics. 2014 .
Xishuangbanna Tropical Botanical Gardens: Advanced Field-course in Ecology and Conservation. 2013.

Pedagogy workshops

"An Introduction to Evidence-Based Undergraduate STEM Teaching", online course on EdX from Boston University. Fall 2017.
Educational Development Summer Institute, Center for Education Innovation and Learning in the Sciences (CEILS), UCLA. 2017.

Posters and Presentations (* indicates equal contribution; † indicates undergraduate mentee)

15. G. S. Kandlikar, J.M. Levine, and N.J.B. Kraft. Functional traits help explain plant demographic responses to variation in soil abiotic characteristics and microbial composition. Talk at ESA 2018

14. W. K. Petry, N.J.B. Kraft, **G.S. Kandlikar**, and J.M. Levine. Spatial variation in seed consumption and apparent competition generate mosaics of plant diversity. Talk at ESA 2018.

13. X. Yan†, **G.S. Kandlikar**, and N.J.B. Kraft. Resource Competition and Plant-Microbe Interactions Can Jointly Influence Plant Species Coexistence. Poster at 2018 UCLA-EEB Research Symposium.

12. A. Friese, **G.S. Kandlikar**, E.E.**.** 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 2017 SABER West.

11. G. S. Kandlikar, J.M. Levine, and N.J.B. Kraft. Functional traits and the drivers of plant species coexistence across a heterogeneous landscape. Talk at 2017 ESA & 2018 California Native Plants Society.

10. M. N. Van Dyke*, **G.S. Kandlikar***, A.R. Kleinhesselink, J.M. Levine and N.J.B. Kraft. Do competitors drive intraspecific shifts in plant functional traits? An experimental test with serpentine annual plants. Poster at 2017 ESA.

9. W. K. Petry, N.J.B. Kraft, **G.S. Kandlikar**, O. Godoy, and J.M. Levine. Apparent competition through granivores impacts plant coexistence**.** Talk at 2017 ESA.

8. N. J. B. Kraft, **G.S. Kandlikar**, A.R. Kleinhesselink, O. Godoy and J.M. Levine. One trait fits all? Predicting coexistence of annual plants across spatial and temporal scales. Talk at 2017 ESA.

7. G. S. Kandlikar. An introduction to R webapps via Shiny. Presented at UCLA-EEB R User Group. November 2016.

6. G. S. Kandlikar., M. Vaz, R. Kreibel, G. Vargas, F.A. Michelangeli, R. Cordero, F. Almeda, G. Avalos, N. Fetcher., and N.J.B. Kraft. "High phylogenetic but low functional turnover of melastomes along a tropical elevational gradient." Poster at 2015 ESA.

5. G. S. Kandlikar.*, H. Nguyen,.*, W-H Wu*, S-J Zeng*, and Y. Xin*. "Leaf Variation in *Ficus*: an evolutionary perspective." Talk at the Advanced Field-course in Ecology and Conservation (AFEC) Symposium at the Xishuangbanna Tropical Botanical Gardens. November 2013. *Awarded "Best Project and Presentation" by AFEC Core Instructor Committee*.

4. G. S. Kandlikar Freund, F.D, Johnson, G.P., Taylor, W.C., and Zimmer, E.A. "Chloroplast DNA reveals uniparental plastid inheritance from *Isoetes engelmannii* in two allotetraploid speciation events." Poster at the 2013 National Museum of Natural History's NHRE (REU) symposium and 2014 Botany.

3. G. S. Kandlikar., G. Weiblen, and J. Vincent. "Assessing community assembly in a lowland rainforest of Papua New Guinea using spatial and phylogenetic turnover." Talk at National Conference on Undergraduate Research. April 2013.

2. G. S. Kandlikar. "Biodiversity of a tropical forest." Talk at the UMN Student Engagement Leadership Forum on Sustainability. October 2012.

1. G. S. Kandlikar., M. Yan, and B. Hu. "Microbial and chemical characterization of foaming swine manure." Poster at the U. Minnesota Materials Research Science and Engineering Center's Summer Research Exposition. August 2012.

Awards and Fellowships

Graduate Awards

2018 Ecological Society of America Plant Population Ecology Section Travel Award

2018 Ecological Society of America Physiological Ecology Section Travel Award

2018 UCLA Vavra Research & Travel Grant: $1600

2017 UCLA Vavra Research & Travel Grants: $2200

NSF Graduate Research Fellowship: 2014-2019. $32,000 x 3 years

University of Maryland Flagship Fellowship: 2014-2019. $10,000 x 5 years (accepted for 1 yr)

University of Maryland Dean's Fellowship: 2014-2019. $5,000.

University of Maryland Graduate Research Presentation Award: 2015. $400.

Undergraduate Awards

American Society of Plant Taxonomists: Undergrad Research Prize for "Chloroplast DNA reveals uniparental plastid inheritance from *Isoetes engelmannii* in two speciation events."
American Society of Plant Taxonomists: Travel grant to attend 2014 Botany conference. **Xishuangbanna Tropical Botanical Gardens**: Full scholarship to the 2013 Applied Field-course in Ecology and Conservation.
NSF Research Experiences for Undergraduates: Summer 2013, Natural History Research Experiences program at the Smithsonian National Museum of Natural History.
Phi Beta Kappa: Elected 2013, University of Minnesota.
Hamm Memorial Scholarship in Plant Research Sciences: 2013. Awarded to a University of Minnesota student who "shows promise and interest in becoming a research plant scientist."
Undergraduate Research Opportunities Program: 2012-13. "Assessing Phylogenetic Alpha and Beta Diversity in a Papua New Guinea Forest."
Undergraduate Fellow, UMN Institute on the Environment: 2012-13. Awarded to students "with a commitment to challenging themselves and demonstrated experience in realizing a project, policy or business, from idea to creation."
Undergraduate Research Opportunities Program: 2011-12. "Microbial and Chemical Characterization of Foaming Swine Manure."

Society Memberships:

Ecological Society of America (2014-present); California Native Plants Society (2017-present); American Society of Naturalists (2018-present).

Elected Memberships:

Academic Competition Federation (ACF): Provisional Member (2012-2015); Full Member (2015-present).
Partnership for Academic Competition Excellence: Member (2015-present); **Vice President,** 2016-17

Service and Outreach

Peer review: Functional Ecology (x1); Oecologia (x1)

University service

Founder of UCLA-EEB Hacky Hours (A coworking space for dept. Grad students and postdocs)
Graduate Student Representative on UCLA EEB/QCBio faculty hiring committee (2017)
Graduate Student Representative on UCLA EEB Department Seminar Committee (2016-2017).
Docent at Mildred E. Mathias Botanical Gardens at UCLA (2015-present)
Graduate Assistant for UCLA EEB R bootcamp for incoming graduate students (2016-18)

Extramural service:

SEEDS Mentor at ESA 2018
Co-organizer of Organized Oral Session "Examining the Role of Spatial Variation in Maintaining Plant Community Diversity" for ESA 2018.
Head Editor for ACF Fall: 2014-17. Sample questions.
Lead Judge Coordinator for Minnesota Academy of Sciences' 2014 State Science Fair.
President of the University of Minnesota Quizbowl team: 2012-2013. Managed a team of >20 players and a budget of >$10,000.