

Allison Fritts-Penniman, Ph.D.

Curriculum Vitae

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Education

- 2016 Ph.D., Ecology and Evolutionary Biology (EEB)
University of California Los Angeles (UCLA)
Committee Chair: Dr. Paul Barber
Title: "Ecological speciation and cryptic diversity of coral-associated nudibranchs"
- 2008 B.S., Natural Resources and Biology with Distinction in Research
Cornell University College of Agriculture and Life Sciences
Thesis advisor: Dr. Janis Dickinson, Cornell Laboratory of Ornithology
Title: "Neophobia and Personality in Western Bluebirds, *Sialia mexicana*."

Professional Appointments

- 2019-2020 **Instructor of Biology (full time, terminal position)**
Mt. Hood Community College
Courses: BI101A General Biology: Survey of Cellular Biology; BI102A General Biology: Survey of Molecular Biology and Genetics; BI112 Biology for Health Professions; BI213 Principles of Biology III.
- 2019 **Postdoctoral Researcher**
California Academy of Sciences (CAS)
Principle investigator: Dr. Alison Gould
Project: Evolution of bioluminescence symbioses on coral reefs
- 2019 **Adjunct Faculty**
Saint Mary's College
Course: Bio 2L Organisms and Evolution Lab
- 2019 **Producer, Writer, Science Adviser**
The Hydrous
Creating educational content on coral reefs for projects funded by the National Geographic Society and the Smithsonian Institution.
- 2017-2018 **National Science Foundation Postdoctoral Fellowship –
Broadening participation of groups underrepresented in biology**
California Academy of Sciences
Sponsoring scientist: Dr. Terrence Gosliner
Project: Understanding the role of ecology in the evolution of high biodiversity on coral reefs

- 2016 **Instructional Development Assistant**
Introduction to Marine Science
Department of Ecology and Evolutionary Biology, UCLA
- 2014-2016 **Teaching Assistant Consultant**
Teaching Biology in Higher Education (2 units)
Department of Ecology and Evolutionary Biology, UCLA
Trained and evaluated new TAs
- 2015 **Teaching Associate and Guest Lecturer**
Introduction to Marine Science (6 units)
Department of Ecology and Evolutionary Biology, UCLA
- 2014 **Teaching Associate**
EEBIOL 120: Evolution (4 units)
Department of Ecology and Evolutionary Biology, UCLA
- 2012-2013 **Teaching Associate**
Evolution of the Cosmos and Life (3 quarters, 6 units each)
General Education Cluster Program, UCLA
Instructor of record for Spring quarter: designed and taught seminar on Exploring California's Ecosystems
- 2011 **Teaching Assistant**
Introduction to Marine Science (6 units)
Department of Ecology and Evolutionary Biology, UCLA
- 2009-2010 **Population Genetics Laboratory Technician**
Seattle Institute for Biomedical and Clinical Research
Principle investigator: Dr. Cyrus Zabetian
- 2008-2009 **Conservation Genetics Intern**
Student Conservation Association
Warm Springs Fish Technology Center, Warm Springs, GA
Principle investigators: Dr. Gregory Moyer, Dr. William Wayman
- 2006-2007 **Stream Ecology Research Assistant**
Cornell University Department of Natural Resources, Ithaca, NY
Hubbard Brook Experimental Forest
Principle investigators: Dr. Clifford Kraft, Dr. Dana Warren

Awards and Honors

- 2015 UCLA EEB Special Faculty Award
2015 UCLA EEB Poster Award
2008 Magna Cum Laude, Cornell University

2008 Academic Excellence Award in Natural Resources
 2007-2008 College of Agriculture and Life Sciences Honor Society
 2007-2008 Golden Key International Honor Society

Fellowships, Grants, and Scholarships

2017-2018	National Science Foundation Postdoctoral Fellowship	\$138,000
2016	UCLA Office of Instructional Development Grant	\$13,000
2016	UCLA Graduate Division Travel Grant	\$500
2015	UCLA EEB Travel Grant	\$500
2015	UCLA Vice Chancellor for Research Scholarship	\$3,200
2015	American Society of Naturalists Student Research Fellowship	\$2,000
2014-2015	Graduate Assistance in Areas of National Need (GAANN) Fellow	\$19,374
2014	UCLA EEB Travel Grant	\$1,000
2013-2014	UCLA EEB Pauley Fellow	\$19,500
2013	Conchologists of America Research Grant	\$1,500
2013	UCLA EEB Research/Travel Grant	\$500
2012	Lerner Gray Memorial Fund, American Museum of Natural History	\$2,000
2012	Sigma Xi Grant-in-Aid of Research	\$1,000
2012	UCLA Indonesian Studies Program Lemelson Fellowship	\$5,000
2012	UCLA EEB Research Grant	\$1,000
2011-2012	Graduate Assistance in Areas of National Need (GAANN) Fellow	\$22,457
2010-2011	UCLA EEB Pauley Fellow	\$19,500
2004-2008	Cornell Tradition Fellow	
2005	Shoals Marine Lab John M. Kingsbury Scholarship	

Additional Mentorship and Teaching Experience

2020	Science Instructor Saturday Academy, Portland
2018	Careers in Science Project Group Leader and Mentor California Academy of Sciences
2016	Entering Mentoring Training Program College of Life Sciences, UCLA
2012-2016	Research Mentor Barber Lab, Department of Ecology and Evolutionary Biology, UCLA
2011	Project Mentor/Teaching Assistant Diversity Project, Indonesian Biodiversity Research Center, Denpasar, Bali,
2006	Teaching Assistant Field Biology (4 units), Department of Natural Resources, Cornell University

University and Community Service

2018-2019	826 Valencia: tutored students from underserved communities in San Francisco
2017-2018	CAS Early Career Scientists: created peer mentorship group for graduate students and postdocs; led biweekly meetings
2014-2016	UCLA Barber Lab Safety Manager
2013-2016	826 LA: tutored students from underserved communities in Los Angeles
2013-2016	Board member and co-founder, Bruin Naturalist Club
2014-2015	UCLA graduate student orientation
2014	Alfred Russel Wallace Centennial Celebration: coordinated student volunteers
2014	LA County Science Fair - Judge
2013-2014	UCLA Biological Sciences Council- EEB representative
2013-2014	UCLA Graduate Student Association- Biological Sciences representative; served on Graduate Resource Center Oversight Committee.
2012-2013	EEB Faculty Student Liaison
2011-2012	UCLA EcoEvoPub graduate seminar committee member
2004-2008	Cornell Tradition: 75 hours per year of community and campus service

Outreach and Science Communication

2019	Led IGNITE virtual reality workshop at Ida B. Wells High School
2018-2019	Ambassador and Science Advisor, The Hydrous thehydro.us
2018	Skype a Scientist- Skyped with 2 nd grade class in Darrington, WA
2018	Scientist's Scoop- virtual lesson for classes grades 4-12 around the US
2018	March for Science, Bay Area- Women in Science table
2018	Exploring Your Horizons, Berkeley- science conference for middle school girls
2018	Taste of Science SF- adult science outreach
2017-2018	CAS NightLife- Designed and facilitated "find the nudibranch" game with museum visitors using photos from my research of nudibranch camouflaged on their coral hosts. Organized Women in Science discussion panel. Wrote and facilitated scavenger hunt for Bay Area Postdocs Association. Co-wrote and hosted science quiz show, Wait Wait... Don't Cite Me!
2017-2018	Created citizen science project on iNaturalist, "Cryptic Coral Connoisseurs"
2017	Bay Area Science Festival Discovery Day
2017	Filipino American International Book Festival- Panelist, Philippine biodiversity
2016	National Center for Science Education- Scientist in the Classroom.
2016	UCLA Grad Slam
2015	Organization for Tropical Studies graduate course "Telling Stories About Science: Science Communication in the Digital Age"
2015	Produced a video explaining dissertation research on nudibranch speciation to a general audience: https://www.youtube.com/watch?v=ICQIdiSkW8U
2015	Women in STEM Discussion Panel, High Tech Los Angeles Charter High School
2014-2015	Exploring Your Universe, UCLA science outreach day- EEB table manager
2014	Alfred Russel Wallace Centennial Celebration: designed evolution-focused curriculum for K-12 field trips to the UCLA Botanical Gardens
2014	Santa Monica Pier Aquarium Volunteer

- 2013 Exploring Your Universe, UCLA science outreach day- volunteer
2012 Produced parody music video about research in the Coral Triangle that has been viewed more than 64,000 times on YouTube:
<http://www.youtube.com/watch?v=9BI2m3QoaS8>

Publications

- Fritts-Penniman, AL**; Gosliner, TM; Mahardika, GN; Barber, PH. (2020) Cryptic ecological and geographic diversification in coral-associated nudibranchs. *Molecular Phylogenetics and Evolution* 144. <https://doi.org/10.1016/j.ympev.2019.106698>
- Simmonds, SE; **Fritts-Penniman, AL**; Cheng, SH; Mahardika, GN; Barber, PH. (2020) Genomic signatures of host-associated divergence and adaptation in a coral-eating snail, *Coralliophila violacea* (Kiener, 1836). *Ecology and Evolution* 10:1817-1837. <https://doi.org/10.1002/ece3.5977>
- Tsuang, D., Leverenz, J. B., Lopez, O. L., Hamilton, R. L.,...**Fritts-Penniman, A.**,... Zabetian, C. P. (2012). GBA mutations increase risk for Lewy body disease with and without Alzheimer disease pathology. *Neurology*, 79(19), 1944–1950.

Popular science journalism:

- Fritts-Penniman, A.** July 16, 2018. “Did ‘The Bachelorette’ just eat my research?”
<https://massivesci.com/articles/conch-bachelorette-colton-underwood/>
- Fritts-Penniman, A.** July 5, 2018. “What can ancient dog poop reveal about an ecosystem?”
<https://massivesci.com/articles/ancient-dog-fossils-bones/>

Invited Talks

- “Capturing 3D coral models for education and conservation.” Invited panelist, Panel on Education, Smithsonian Digitization Conference. Smithsonian Institution, Washington, DC. 2 October 2019.
- “Coral-eating nudibranchs.” Hydrous Ocean Salon. Schmidt Marine, San Francisco, CA. 15 November 2018.
- “Ecological speciation and cryptic diversity of coral-associated nudibranchs.” Colloquium in Ecology, Evolution, and Conservation, San Francisco State University, San Francisco, CA. 31 October 2017.
- “Biodiversity and evolution of marine species.” Careers in Science Orientation, California Academy of Sciences, San Francisco, CA. 13 June 2017.
- “Evolution in the ocean.” Girls in Ocean Science Teen Conference, The Ocean Institute, Dana Point, CA. 20 February 2016.
- “Genetic signatures of ecological speciation in a coral-associated nudibranch.” Hawaii Institute of Marine Biology, University of Hawaii, Coconut Island, HI. January 2014.
- “Genomic signatures of ecological speciation in coral-associated nudibranchs.” Hawaii Institute of Marine Biology, University of Hawaii, Coconut Island, HI. September 2012.

Contributed Conference Presentations

- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Gosliner, Terrence M.; Barber, Paul H. "Integrating micro- and macroevolutionary approaches to understand the role of ecology in nudibranch diversification." Evolution 2017. Oregon Convention Center, Portland, OR. 26 June 2017. Oral presentation.
- Fritts-Penniman, Allison L.** "Investigating the relationship between ecological isolation and reproductive isolation in nudibranchs." Evolution 2017. Oregon Convention Center, Portland, OR. 25 June 2017. Lightning talk.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Gosliner, Terrence M.; Barber, Paul H. "Integrating micro- and macroevolutionary approaches to understand the role of ecology in generating coral reef biodiversity." Gordon Research Seminar on Speciation. Renaissance Tuscany Il Ciocco, Barga, Italy. 19 February 2017. Oral and poster presentations.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic signatures of adaptive divergence in a coral-associated nudibranch." American Genetics Association President's Symposium on Local Adaptation. 15 July 2016. Poster presentation.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic evidence for ecological speciation in coral associated nudibranchs" International Coral Reef Symposium. 21 June 2016. Hawaii Convention Center, Honolulu, HI. Oral presentation.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic evidence for ecological speciation in *Phestilla* nudibranchs." Molluscan Forum. London Museum of Natural History, London, UK. 19 November 2015. Oral presentation.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic signatures of ecological speciation in the coral associated nudibranch genus *Phestilla*." Evolution 2015. Casa Grande Resort, Guarujá, Brazil. 30 June 2015. Oral presentation
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic signatures of ecological speciation in the coral-associated nudibranch genus *Phestilla*." Ecology and Evolutionary Biology Research Symposium. UCLA, Los Angeles, CA. May 2015. Poster competition.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genomic signatures of ecological speciation in the coral-associated nudibranch genus *Phestilla*." Gordon Research Conference on Speciation. Four Points Sheraton Hotel, Ventura CA. 16-20 March 2015. Poster presentation.
- Fritts-Penniman, Allison L.;** Mahardika, Gusti Ngurah; Barber, Paul H. "Genetic signatures of ecological speciation in a coral-associated nudibranch." Society for Integrative and Comparative Biology. Hilton Austin Hotel, Austin, TX. 6 January 2014. Oral presentation.
- Fritts-Penniman, Allison L.** and Barber, Paul H. "Genetic signatures of ecological speciation in a coral-associated nudibranch." Benthic Ecology Meeting. Hyatt Regency Hotel, Savannah, GA. 23 March 2013. Oral presentation.
- Fritts-Penniman, Allison L.** "Genetic structure of coral-associated nudibranchs across the Pacific Ocean." Western Society of Naturalists Meeting. Embassy Suites, Seaside, CA. 9 November 2012. Poster presentation.

Department Seminars

- “Cryptic Coral Connoisseurs.” Infinite Enrichment Series, Mt. Hood Community College, Gresham, OR. 31 January 2020.
- “Cryptic Coral Connoisseurs: Natural history and evolution of coral-feeding nudibranchs.” Institute for Biodiversity Science and Sustainability Seminar Series, California Academy of Sciences, San Francisco, CA. 13 September 2018.
- “Ecological speciation and cryptic diversity of coral-associated nudibranchs.” Dissertation exit seminar. UCLA, Los Angeles, CA. 15 December 2016.
- “Broadening your research impacts through science communication.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. 18 February 2016
- “Genomic evidence for geographic and ecological isolation in a coral associated nudibranch.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. June 2015.
- “A genomic approach to elucidating speciation processes in the nudibranch genus *Phestilla*.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. May 2014.
- “Genetic signatures of ecological speciation in a coral-associated nudibranch.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. April 2013.

Certifications

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| 2012 | American Academy of Underwater Sciences Certification, UCLA
Dive Safety Officer and Instructor: Mike Anghera |
| 2011 | PADI Open Water Diving Certification, Dive ‘n Surf, Redondo Beach, CA |

Society Membership

American Society of Naturalists
World Congress of Malacology
500 Women Scientists