

Allison Fritts-Penniman
Curriculum Vitae

California Academy of Sciences
Invertebrate Zoology and Geology
55 Music Concourse Drive
San Francisco, CA 94122
Email: afritts-penniman@calacademy.org
Phone: (213) 200-3371
Web: <http://afpscience.com>

Education

2010-2016 University of California Los Angeles (UCLA)
Ph.D., Ecology and Evolutionary Biology (EEB)
2004-2008 Cornell University College of Agriculture and Life Sciences
B.S., Natural Resources and Biology with Distinction in Research

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

\$237,031

2017-2019	NSF Postdoctoral Fellowship	\$138,000
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	John M. Kingsbury Scholarship for Field Marine Science	

Peer-reviewed Publications

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.

Manuscripts in preparation

Fritts-Penniman, AL; Valdes, A.; Gosliner, TM (in prep, submitting to *Evolution*). “Molecular phylogenetics and systematics of nudibranchs specializing on scleractinian corals.”

Fritts-Penniman, AL; Mahardika, GN; Barber, PH. (in prep, submitting to *Molecular Ecology*). “The role of natural selection in genomic divergence across ecological and geographic barriers to gene flow.”

Fritts-Penniman, AL; Mahardika, GN; Barber, PH. (in revision for *Evolution*). “Cryptic ecological and geographic divergence of corallivorous nudibranchs in the Coral Triangle”

Invited Talks and Lectures

“Biodiversity and evolution of marine species.” Careers in Science Orientation, California Academy of Sciences, San Francisco, CA. 13 June 2017.

“Ecological speciation and cryptic diversity of coral-associated nudibranchs.” Dissertation exit seminar. UCLA, Los Angeles, CA. 15 December 2016.

“Evolution and climate change on coral reefs.” Honors Marine Biology, Animo Leadership High School, Inglewood, CA. 20 May 2016.

“Why are coral reefs so diverse?” UCLA Grad Slam, UCLA, Los Angeles, CA. 23 February 2016.

“Evolution in the ocean.” Girls in Ocean Science Teen Conference, The Ocean Institute, Dana Point, CA. 20 February 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.

“Using genetics to understand evolution of nudibranchs.” Science Fridays, University High School, Los Angeles, CA. January 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.” Hawaii Institute of Marine Biology, University of Hawaii, Coconut Island, HI. January 2014.

“Diversity and ecology of Aeolid nudibranchs.” Science Fridays, University High School, Los Angeles, CA. October 2013.

“Genetic signatures of ecological speciation in a coral-associated nudibranch.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. April 2013.

“Genomic signatures of ecological speciation in coral-associated nudibranchs.” Hawaii Institute of Marine Biology, University of Hawaii, Coconut Island, HI. September 2012.

“Ecological speciation through host shifts in coral-associated nudibranchs.” EcoEvoPub Seminar Series, UCLA, Los Angeles, CA. March 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. Conference 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. Conference 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. Conference 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.
- 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. Conference 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. Conference 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. Conference 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. Conference 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 Meeting. Hilton Austin Hotel, Austin, TX. 6 January 2014. Conference 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. Conference 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. Conference poster presentation.

Research

- 2017-present **NSF Postdoctoral Fellowship –
Broadening participation of groups underrepresented in biology**
California Academy of Sciences (CAS)
Sponsoring scientist: Dr. Terrence Gosliner
Project title: “Understanding the role of ecology in the evolution of high biodiversity on coral reefs”
- 2010-2016 **Ph.D. Dissertation**
Department of Ecology and Evolutionary Biology, UCLA
Committee Chair: Dr. Paul Barber

Title: "Genomic signatures of ecological speciation in the coral-associated nudibranch genus *Phestilla*"

2009-2010 **Laboratory Technician**
Seattle Institute for Biomedical and Clinical Research
Principle investigator: Dr. Cyrus Zabetian
Project: Investigating associations between GBA mutations and Lewy body disease.

2008-2012 **Conservation Genetics Intern**
Warm Springs Fish Technology Center, Warm Springs, GA
Principle investigator: Dr. Greg Moyer

2007-2008 **Undergraduate Honors Thesis**
Cornell University Department of Natural Resources, Ithaca, NY
Advisor: Dr. Janis Dickinson, Cornell Laboratory of Ornithology
Title: "Neophobia and Personality in Western Bluebirds, *Sialia mexicana*."

Teaching

2017 **Careers in Science Mentor**
California Academy of Sciences
Providing an introductory research experience to a high school student, with a focus on molecular laboratory techniques in the Center for Comparative Genomics.

2016 **Entering Mentoring Training Program**
College of Life Sciences, UCLA
Participated in an 8-week course on mentorship in academia, while mentoring a lab technician and reflecting on the process. Produced a mentoring philosophy which focuses on how to establish expectations for both myself and the mentee and create a collaborative and welcoming environment in the lab.

2016 **Instructional Development Assistant**, EEBIOL 109/109L: Marine Science
Transformed this class from a traditional lecture to a highly structured class using active learning strategies and instructional technology in order to improve student performance on exams and reduce the number of students who drop the course so that more students from underrepresented and underserved backgrounds can proceed into the upper division EEB curriculum.

2014-2016 **Teaching Assistant Consultant**
Department of Ecology and Evolutionary Biology, UCLA
Instructor for TA training course, EEBIOL 495. Participated in campus-wide training seminar, producing a TA manifesto and online resource pool for future TACs. Overhauled course to include strategies for inclusive teaching and interactive engagement.

- 2012-2016 **Research Mentor**
 Barber Lab, Department of Ecology and Evolutionary Biology, UCLA.
 Advising undergraduate interns and lab technicians on individual marine population genetic studies. Mentees: Sutra Anjani, Paul Mendoza, Amanda Russell, Brian Dang, Chloe Henderson.
- 2011, 2015 **Teaching Assistant**, EEBIOL 109/109L: Marine Science
 Department of Ecology and Evolutionary Biology, UCLA
 Taught discussion section and lab each week. Section involved discussion of primary literature. Labs involved experiments using marine invertebrates and mentoring students on group research projects.
- 2012-2013 **Teaching Associate**, GE CLST 70: Evolution of the Cosmos and Life
 General Education Cluster Program, UCLA
 This cluster course focuses on the process of science and how we as citizens can interpret popular science with a critical mind. Taught 2 labs per week for 2 quarters; designed and taught a seminar, “Exploring California Ecosystems” for the 3rd quarter.
- 2011 **Project Advisor/Lab Teaching Assistant**
 Indonesian Biodiversity Research Center, Denpasar, Bali, Indonesia
 Assisted Dr. Paul Barber and Dr. Chris Meyer of the Smithsonian Institute with courses in molecular ecology and marine biodiversity surveying methods for American and Indonesian students. Acted as advisor for small group projects.
- 2006 **Teaching Assistant**, NTRES210: Field Biology
 Department of Natural Resources, Cornell University
 Taught identification and taxonomy of Northeastern trees and animals.

University and Community Service

- 2017 CAS Young Scientists: created peer mentorship group for graduate students and postdocs
- 2014-2016 UCLA EEB Teaching Assistant Consultant
- 2013-2016 826LA: tutoring middle and high school students from low-income families
- 2013-2016 Board member, 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

- 2017 NightLife- Designed and facilitated “find the nudibranch” game with museum visitors using photos from research of nudibranch camouflaged on their coral hosts.
- 2017 Launched citizen science project on iNaturalist, “Cryptic Coral Connoisseurs,” to collect observations of coral-associated nudibranchs from around the world.
- 2016 National Center for Science Education- Scientist in the Classroom. Paired with local teacher Mark Friedman at Animo Leadership Charter High School.
- 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 titled “Wallace Walks”
- 2014 Santa Monica Pier Aquarium Volunteer. Designed an education activity as part of the UCLA course Communicating Ocean Science to Informal Audiences.
- 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>

Certifications

- 2012 American Academy of Underwater Sciences Certification, UCLA
- 2011 PADI Open Water Diving Certification, Dive ‘n Surf, Redondo Beach, CA

Society Membership

American Society of Naturalists

References

Dr. Paul Barber, UCLA
paulbarber@ucla.edu

Dr. Thomas Smith, UCLA
tbsmith@ucla.edu

Dr. Terrence Gosliner, California Academy of Sciences
tgosliner@calacademy.org