

# Elora Hayter López-Nandam

## Appointments

2024- Research Professor, San Francisco State University  
2023- Research Scientist, California Academy of Sciences  
2021-2023 Hope for Reefs Postdoctoral Researcher, California Academy of Sciences

## Education

2021 Ph.D. Stanford University, Biology (Hopkins Marine Station)  
2015 B.A. Columbia University, Environmental Biology (Ecology and Evolution track)

## Fellowships

2015-2020 Morgridge Family Fellowship (Stanford Graduate Fellowship in Science and Engineering)  
2015-2018 NSF Graduate Research Fellowship  
2015 Ford Foundation Predoctoral Fellowship (declined)  
2013 NSF Biology REU at the American Museum of Natural History

## Grants, Honors, and Awards

2023-2024 CAS *Thriving California* Younger Funds. “Sea star rearing and genomics for the sake of California coastal regeneration.” PIs: Elora López-Nandam and Kylie Lev. \$50,000.  
2023-2026 Coral Research and Development Accelerator Program (CORDAP). “Interventions to improve the health, growth, and survival of larvae and settlers for sexual restoration of the Mesoamerican Reef (MAR).” PIs: Rebecca Albright, Elora López-Nandam, Francis Lean Bu, Gabriela Ochoa. \$1,459,454.  
2021 [Forbes 30 Under 30](#) in Science, Class of 2022  
2020 [Walter M. Fitch Award Finalist](#), Society for Molecular Biology and Evolution  
2018 [National Geographic Early Career Explorer Grant](#)  
2018 The Explorers Club Rolex Explorer Grant  
2018, 19 Society for Molecular Biology and Evolution Young Investigator Travel Award (2x)  
2016, 18 Stanford Office of Graduate Education Travel Grant Award (2x)  
2014 Dept. of Ecology, Evolution and Environmental Biology (E3B) Thesis Research Award  
2014 The Explorers Club Youth Activity Fund  
2014 Columbia Undergraduate Scholars Program (CUSP) Summer Enhancement Fellowship  
2014 Columbia College Class of 1939 Summer Research Fellowship  
2014 Columbia University Earth Institute Student Travel Grant  
2014 NSF Biology REU Mentor-Student Travel Scholarship (with Dr. Mary Blair)  
2011 John W. Kluge Scholar, Columbia Undergraduate Scholars Program (CUSP)

## Publications

Krol L, Dunker FH, LaDouceur E, Biswell E, Dilly GF, Delbeek JC, Albright R, **López-Nandam EH**, Reinbold N, Igel A, Larkin L, Hill J (2023). Milbemycin oxime (Interceptor) treatment of pycnogonid sea spider infestation in three species of corals. *Journal of Zoo and Wildlife Medicine* 54,2: 292-300. DOI: [10.1638/2022-0028](https://doi.org/10.1638/2022-0028)

Blair ME, Cao GTH, **López-Nandam EH**, Veronese-Paniagua DA, Birchette MG, Kenyon M, Md-Zain BM, Munds R, Nekaris KAI, Nijman V, Roos C, Thach HM, Sterling EJ, Le MD (2023). Molecular phylogenetic relationships and unveiling novel genetic diversity among slow and pygmy lorises, including resurrection of *Xanthonycticebus intermedius*. *Genes* 14, 63. DOI: [10.3390/genes14030643](https://doi.org/10.3390/genes14030643)

**López-Nandam EH**, Albright R, Hanson EA, Sheets EA, Palumbi SR (2023). Mutations in coral soma and sperm imply lifelong stem cell renewal and cell lineage selection. *Proceedings of the Royal Society B* 290:20221766. DOI: [10.1098/rspb.2022.1766](https://doi.org/10.1098/rspb.2022.1766)

**López-Nandam EH**, Payne CY, Delbeek JC, Dunker F, Krol L, Larkin L, Lev K, Ross R, Schaeffer R, Yong S, Albright R (2022). Kinship and genetic variation in aquarium-spawned *Acropora hyacinthus* corals. *Frontiers in Marine Science* 9:961106. DOI: [10.3389/fmars.2022.961106](https://doi.org/10.3389/fmars.2022.961106)

Bergeron LA, Besenbacher S, Turner TN, Versoza CJ, Wang R, Price AL, Armstrong E, Riera M, Carlson J, Chen H, Hahn MW, Harris K, Kleppe ASLNM, **López-Nandam EH**, Moorjani P, Pfeifer SP, Tiley GP, Yoder AD, Zhang G, Schierup MH (2022). The mutationathon highlights the importance of reaching standardization in estimates of pedigree-based germline mutation rates. *eLife* 11:e73577. DOI: [10.7554/eLife.73577](https://doi.org/10.7554/eLife.73577)

**López EH** & Palumbi SR (2020). Somatic mutations and genome stability maintenance in clonal coral colonies. *Molecular Biology and Evolution* 37:828-838. DOI: [10.1093/molbev/msz270](https://doi.org/10.1093/molbev/msz270)

Thomas L\*, **López EH\***, Morikawa MK, Palumbi SR (2019). Transcriptomic resilience, symbiont shuffling, and vulnerability to recurrent bleaching in reef-building corals. *Molecular Ecology* 28:3371-3382. DOI: [10.1111/mec.15143](https://doi.org/10.1111/mec.15143)

**\*equal contributors**

Thomas L, Rose NH, Bay RA, **López EH**, Morikawa MK, Ruiz-Jones LJ, Palumbi SR (2018). Mechanisms of thermal tolerance in reef-building corals across a fine-grained environmental mosaic: lessons from Ofu, American Samoa. *Frontiers in Marine Science* 4:434. DOI: [10.3389/fmars.2017.00434](https://doi.org/10.3389/fmars.2017.00434)

Drew J, **López EH**, Gill L, McKeon M, Miller N, Steinberg M, Shen C, McClenachan L (2016). Collateral damage to marine and terrestrial ecosystems from Yankee whaling in the 19th century. *Ecology and Evolution*. 6:8181-8192. DOI: [10.1002/ece3.2542](https://doi.org/10.1002/ece3.2542)

Eastwood EK\*, **López EH\***, Drew JA (2016). Population connectivity measures of fishery-targeted coral reef species to inform marine reserve network design in Fiji. *Scientific Reports* 6:19318. DOI: [10.1038/srep19318](https://doi.org/10.1038/srep19318)

**\*equal contributors**

## Reports

**López EH**, Eastwood E, Drew J (2017). Genetic connectivity among populations of lollyfish (*Holothuria atra*). In S. Mangubhai, W. Lalavanua and S.W. Purcell (eds.). Fiji's Sea Cucumber Fishery: Advances in Science for Improved Management. Wildlife Conservation Society. [Report No. 01/17. Suva, Fiji. pp. 62–70.](#)

## Selected Presentations

Kapan DD, Gamber A, Lam AH, Grinter CC, Bettman DJ, **López-Nandam EH**, Henderson JB, Van Dam MW. Reversing extinction: seeking an 'ecological stand-in' for the extinct Xerces blue butterfly. Oral presentation for 11th Biennial San Francisco Bay Area National Parks Science Symposium in San Francisco, CA. November 8, 2023.

Falotico J\*, Love A\*, **López-Nandam EH**, Albright R. Analyzing effects of experimental treatments on growth and survivorship rates of stony coral recruits. Poster presentation for National Diversity in STEM (NDiSTEM) Conference in Portland, Oregon. October 26, 2023. \*student mentee

Ho I, **López-Nandam EH**, Albright R, Prakash M. Behavior plasticity in free swimming coral larvae via long term tracking microscopy. Oral presentation for American Physical Society in Las Vegas, NV. March 2023.

**López-Nandam EH**, Payne CY, Delbeek JC, Dunker F, Krol L, Larkin L, Lev K, Ross R, Schaeffer R, Yong S, Albright R. Kinship and genetic variation in aquarium-bred corals. Oral presentation for Reef Futures. September 28, 2022.

**López-Nandam EH**, Payne CY, Delbeek JC, Dunker F, Krol L, Larkin L, Lev K, Ross R, Schaeffer R, Yong S, Albright R. Kinship and selection in aquarium-bred corals. Oral presentation online for the International Coral Reef Symposium. July 2022.

**López-Nandam EH** & Albright R. Kinship and selection in aquarium-bred corals. Oral presentation for Reef Futures Virtual. December 16, 2021. [View on YouTube.](#)

**López-Nandam EH**, Albright R, Hanson EA, Sheets EA, Palumbi SR. Resilience of coral organisms on the molecular level, and adaptation on the cellular level. Oral presentation online for the International Coral Reef Symposium. July 22, 2021.

**López EH**, Albright R, Palumbi SR. Asexual and sexual mutation inheritance in clonal coral colonies. Oral presentation online for the SMBE Fitch Symposium. [View on YouTube.](#) June 30, 2020.

**López EH**, Albright R, Palumbi SR. Genome integrity and the heritability of somatic mutation in clonal, colonial corals. Poster presentation online for The Allied Genetics Conference. [View on FigShare.](#) April 2020.

**López EH** & Palumbi SR. Somatic mutations and genome stability maintenance in clonal coral colonies. Poster presentation at the Society for Molecular Biology and Evolution in Manchester, England. July 22, 2019.

**López EH** & Palumbi SR. Patterns and frequency of variation among asexual clones in a long-lived coral species. Oral presentation at the American Genetics Association Presidential Symposium in Portland, OR. June 3, 2019.

**López EH** & Palumbi SR. Considering somatic mutations and genome maintenance capacity in colonial cnidarians. Poster presentation at the Society for Molecular Biology and Evolution in Yokohama, Japan. July 9, 2018.

**López EH** & Palumbi SR. Uncovering within-colony coral diversity using high-throughput sequencing data. Oral presentation at the International Coral Reef Symposium in Honolulu, HI. June 20, 2016.

**López EH**, Le MD, Nguyễn TV, Dương HT, Cao GTH, Sterling EJ, Blair ME. Inferring molecular phylogenetic relationships among slow lorises (genus *Nycticebus*) with mitochondrial DNA sequence data. Poster presentation at the XXV International Primatological Congress in Hanoi, Vietnam. August 15, 2014.

**López EH** & Drew JA. Comparative phylogeography of Indo-Pacific marine taxa presents idiosyncratic genetic connectivity patterns. Oral presentation at the Society for Conservation Biology Oceania Section Meetings in Suva, Fiji. July 9, 2014.

## **Invited and Public Talks**

[“Spawning, genomics, and regeneration.”](#) Biodiversity Seminar Series at California Academy of Sciences. San Francisco, CA. March 21, 2024.

“Spawning, genomics, and regeneration.” Rosenberg Institute Seminar at San Francisco State University’s Estuary and Ocean Science Center. Tiburon, CA. February 28, 2024.

“Kinship and genetic variation in aquarium-spawned corals.” Webinar for Incorporating Molecular Data into Population Management - An Update from AZA's Molecular SAG. February 22, 2024.

[“Coral Regeneration Lab Update.”](#) Online talk for Cal Academy members. January 24, 2023.

“From variation in a colony to variation in populations: what SNPs tell us about coral biology.” Invited talk at the Congress of the European Society for Evolutionary Biology. Prague, Czech Republic. August 16, 2022.

[“Coral spawning, genomics, and hope for reefs.”](#) Public talk online for Cal Academy’s NightSchool. June 2, 2022.

Fireside Chat for Cal Academy’s Big Bang Gala, with Dr. Alison Gould and Dr. Shannon Bennett. April 28, 2022.

“Scales of genetic variation in corals, from clonal polyps to captive-bred populations” Invited seminar online for Iowa State University’s Genetics, Development, and Cell Biology Department. April 5, 2022.

[“Coral spawning, genomics, and hope for reefs.”](#) Public talk for Cal Academy’s Members Month. March 22, 2022.

“Kinship and selection in aquarium-bred corals.” Invited talk for Coral Reef Alliance online. August 4, 2021.

“Corals in a changing world.” Guest lecture for the Summer Systematics Institute Seminar Series at California Academy of Sciences. San Francisco, CA. June 29, 2021.

“Why mutations matter for corals.” Invited talk at California Academy of Sciences’ Institute for Biodiversity Science and Sustainability Seminar Series online. September 24, 2020.

“Asexual and sexual somatic mutation inheritance in a colonial coral.” Cnidarian Zoom Seminar. May 20, 2020.

“Paradise irradiated: The Marshall Islands 60 years after nuclear testing.” Invited talk at The Explorers Club headquarters. New York, NY. March 17, 2019.

“From climate change to nuclear bombs: using genomics to understand wildlife responses to environmental change.” Invited talk at The Explorers Club Northern California Chapter meeting. San Francisco, CA. May 25, 2018.

Moderator and organizer of the panel “Looking Forward: Marine Science & Policy in the New Administration.” Hopkins Marine Station of Stanford University. March 1, 2017.

“Marine conservation and genetic connectivity of marine taxa in Fiji.” Invited talk at the Global Vision International (GVI) Tovuto base on Nanuya Lai Lai, Fiji. August 5, 2014.

## Selected Media

- 2024 “Witness the Nighttime Magic of Spawning Coral,” [episode](#) on KQED’s *Deep Look*
- 2022 [Article](#) in *San Francisco Examiner* about aquarium-bred corals at California Academy of Sciences
- 2022 [Press release](#) from Cal Academy about coral spawning collaboration with Roatán Marine Park
- 2021 [Article](#) in *San Francisco Chronicle* about coral spawning at California Academy of Sciences
- 2021 [Press release](#) from Cal Academy about being selected for Forbes 30 Under 30 in Science
- 2020 [Meet Elora López-Nandam](#), profile in *STANFORD Magazine*
- 2019 Twitter [thread](#) on our coral bleaching paper in *Molecular Ecology*
- 2018 *High Tidings* [blog post](#) on Bikini Atoll research

- 2017 Appearance in Bikini Atoll segment of [episode 2](#) of PBS' *Big Pacific*
- 2017 [Quoted](#) in *USA Today* about Bikini Atoll research
- 2016 [Article](#) in *The Atlantic* about Yankee whaling research
- 2016 [Quoted](#) in *Columbia Magazine* about Yankee whaling research
- 2014 I wrote a [story](#) about my undergraduate thesis research in Fiji for Columbia's website

## Teaching and Mentoring Experience

- 2024- Advisor for a San Francisco State University M.S. in Integrative Biology student
- 2023 Led a 5-week computational genomics workshop series "[From fastq to VCF](#)" for Cal Academy students, staff, interns, curators, and affiliates
- 2023-2024 Mentored a Bryn Mawr College student on a coral growth and survival project (SSI program, then undergraduate thesis)
- 2022- Mentoring a City College of San Francisco student on coral recruitment and survival projects
- 2022 Mentored an Iowa State University undergraduate on a coral-algal bioinformatics project
- 2021 Mentored San Francisco State University graduate students to complete their theses
- 2019-2020 Polygence Mentor  
Mentored two high school students in Shanghai to design a research project in the Galápagos
- 2017-2019 Mentor, Salinas High School Marine Biology Internships at Hopkins Marine Station  
Mentored three high school students on projects on coconut crabs
- 2015-2019 NSF GRFP Mentorship Program, Stanford University  
Reviewed and edited NSF GRFP proposals for 1st and 2nd year Stanford PhD students
- Fall 2018 T.A. for Ecology of the Hawaiian Islands (BIO 116). Stanford Wrigley Field Program in Hawaii  
Taught and supervised marine fieldwork techniques, gave three lectures
- Spring 2018 T.A. for Evolution (BIOHOPK 85). Hopkins Marine Station of Stanford University  
Led interactive discussion sections and molecular labs, gave one lecture
- May 2016 Instructor for Stanford Science Circle Middle School Program  
Gave two lectures: conservation biology and coral reef ecology

Winter 2016 T.A. for Evolution (BIO 143). Stanford University  
Led discussion sections

## **Leadership and Service**

2023- Molecular Data for Population Management Scientific Advisory Group (Molecular SAG) member, Association for Zoos and Aquariums (AZA)

2023-2024 Biodiversity Seminar Series organizer, California Academy of Sciences

2022- Scientific computing steering committee member, California Academy of Sciences

2018-2019 President, Hopkins Marine Station Graduate Student Organization (HMSGSO)

2016-2018 Student Liaison, Monterey Area Research Institutions Network for Education (MARINE)

2016-2018 Secretary, Hopkins Marine Station Graduate Student Organization (HMSGSO)

2015-2016 Biology Eco-Evo Graduate Student Seminar Speaker Committee, Stanford University

## **Certifications**

AAUS Scientific Diver

CPR/First Aid