

SARAH GIGNOUX-WOLFSOHN

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EDUCATION

April 2016 PhD, Ecology, Evolution, and Marine Biology, Northeastern University
May 2010 B.A., Biology and French, Honors in Biology Wesleyan University

PROFESSIONAL APPOINTMENTS (2016-Present)

Sept. 2022-Present Assistant Professor, Department of Biological Sciences, University of Massachusetts Lowell

Oct. 2020-Present Postdoctoral Ecologist, Smithsonian Environmental Research Center.

April 2020-Present Woman in Ocean Sciences Scholar, Central Caribbean Marine Institute

Sept. 2018-Oct 2020 Postdoctoral Fellow, Smithsonian Environmental Research Center.

Sept. 2016-2018 Postdoctoral Associate, Rutgers University

PEER-REVIEWED PUBLICATIONS

- 2021* Rosenau N, **Gignoux-Wolfsohn SA**, Everett RA, Miller AW, Minton M, Ruiz GM (2021) Considering Commercial Vessels as Potential Stony Coral Tissue Loss Disease Vectors. *Frontiers in Marine Science*.
<https://doi.org/10.3389/fmars.2021.709764>
- 2021* Barley J, Cheng B, Sasaki M, **Gignoux-Wolfsohn SA**, Hays CG, Putnam A, Sheth S, Villeneuve A, Kelly M (2021) Limited Plasticity in Thermally Tolerant Populations: Evidence for a Trade-Off. *Proceedings of the Royal Society B*. <https://doi.org/10.1098/rspb.2021.0765>
- 2021* Leray M, Wilkins L...**Gignoux-Wolfsohn SA**...Eisen J (2021) Natural experiments in the sea as observatories of host-microbe ecology and evolution. *PLoS Biology*. <https://doi.org/10.1371/journal.pbio.3001322>
- 2021* Kong JD, Tekwa EW, **Gignoux-Wolfsohn SA** (2021) Social, economic, and environmental factors influencing the basic reproduction number of COVID-19 across countries. *PLoS One*.
<https://doi.org/10.1371/journal.pone.0252373>
- 2021* **Gignoux-Wolfsohn SA**, Pinsky ML, Herzog CJ, Bennett A, Kerwin K, Fefferman N, Hall M, Maslo B (2021) Genomic Signatures of Selection in Bats Surviving White-Nose Syndrome. *Molecular Ecology*.
<https://doi.org/10.1111/mec.15813>
Subject of a *Molecular Ecology* News and Views piece:
<https://doi.org/10.1111/mec.16181>
- 2020* **Gignoux-Wolfsohn SA**, Newcomb MSR*, Ruiz GM, Pagenkopp Lohan K (2020) Environmental factors drive release of *Perkinsus marinus* from infected oysters. *Parasitology*.<https://doi.org/10.1017/S0031182020002383>
- 2020* Arias M*, **Gignoux-Wolfsohn SA**, Kerwin K, Maslo B (2020) Factors Influencing Bat Occupancy of Artificial Roost Boxes. *Northeastern Naturalist*. <https://doi.org/10.1656/045.027.0203>

- 2020 Drake E, **Gignoux-Wolfsohn SA**, Maslo B (2020) Systematic Review of the Roost-Site Characteristics of North American Forest Bats: Implications for Conservation. *Diversity*. <https://doi.org/10.3390/d12020076>
- 2019 **Gignoux-Wolfsohn SA**, Precht WF, Peters EC, Gintert BE, Kaufman LS (2019) The Ecology, Microbial Ecology, and Histopathology of a White Band Disease Outbreak in the Threatened Staghorn Coral, *Acropora cervicornis*. *Diseases of Aquatic Organisms*. <https://doi.org/10.3354/dao03441>
- 2017 **Gignoux-Wolfsohn, SA**, Aronson FM*, Vollmer SV (2017) Complex interactions between potentially pathogenic, opportunistic, and resident bacteria emerge during infection on a reef-building coral. *FEMS Microbiology Ecology*. <https://doi.org/10.1093/femsec/fix080>
- 2017 Maslo B, **Gignoux-Wolfsohn SA**, Fefferman N (2017) Success of Wildlife Disease Treatment Depends on Host Immune Response. *Frontiers in Ecology and Evolution*. <https://doi.org/10.3389/fevo.2017.00028>
- 2015 **Gignoux-Wolfsohn SA** and Vollmer SV (2015) Identification of Candidate Coral Pathogens on White Band Disease-Infected Staghorn Coral. *PLoS One*. <https://doi.org/10.1371/journal.pone.0134416>
- 2015 Fuess L*, Eisenlord M*, Closek C*, Tracy A*, Mauntz R*, **Gignoux-Wolfsohn SA***, Moritsch MM*, Yoshioka R*, Burge CA, Harvell CD, Friedman CS, Hewson I, Hershberger PK, Roberts S (2015) Up In Arms: Immune and Nervous System Response to Sea Star Wasting Disease. *PLoS One*. <https://doi.org/10.1371/journal.pone.0133053> *Authors contributed equally to this work.
- 2012 **Gignoux-Wolfsohn SA**, Marks CJ, Vollmer SV (2012) White Band Disease Transmission in the Threatened Coral, *Acropora cervicornis*. *Scientific Reports*. <https://doi.org/10.1038/srep00804>
- 2011 Tipton M, **Gignoux-Wolfsohn SA**, Stonebraker P, Chernoff B (2011) Postglacial Recolonization of the Eastern Blacknose Dace, *Rhinichthys atratulus* (Teleostei: Cyprinidae), Through the Gateway of New England. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.31>
- ♣ Undergraduate author

TECHNICAL REPORTS

- 2021 Everett, RA, **Gignoux-Wolfsohn, SA**, Miller, AW, Minton, MS, Rosenau, NA, Ruiz, GM (2021) Patterns of ballast water management in US waters in the greater Caribbean during the Stony Coral Tissue Loss Disease outbreak (2014-2020): analyses of National Ballast Information Clearinghouse data. Effect of USCG MSIB. National Ballast Information Clearinghouse February 23, 2021 https://nbic.si.edu/wp-content/uploads/2017/09/MSIB.07.19_SCTLD_analysis.pdf

PUBLICATIONS IN REVIEW

- In Review* **Gignoux-Wolfsohn SA**, Dunn D, Cleary J, Halpin PN, Anderson CR, Bax NJ, Canonico G, Chaniotis P, Deland S, Diorio M, Gaines SD, Grorud-Colvert K, Johnson DE, Levin LA, Lundquist CJ, Manca E,

Metaxas A, Monaco ME, Morgan L, Mumby PJ, Nisthar D, Pashkow B, Pike EP, Pinsky ML, Ribera MM, Stanley RRE, Sullivan-Stack J, Sutton TT, Tittensor DP, Weatherdon LV, Wenzel L, Duffy JE (*In Review, Science*)
A scientific foundation for assessing and protecting marine biodiversity in United States waters

In Review Sasaki M, Barley J, **Gignoux-Wolfsohn SA**, Hays C, Kelly M, Putnam A, Seema N. Sheth , Andrew R. Villeneuve , and Brian S. Cheng (*In Review, Nature Climate Change*, preprint: <https://10.21203/rs.3.rs-987225/v1>)
Greater local adaptation to temperature in the ocean than on land

PUBLICATIONS IN PREP (*draft manuscripts available upon request*)

In Prep Pagenkopp Lohan KM, **Gignoux-Wolfsohn SA**, Ruiz GM, (*In Prep*)
Community Interactions Impact Marine Disease Dynamics

In Prep **Gignoux-Wolfsohn SA**, Pagenkopp Lohan KM (*In Prep*) Parasites
Transform Biodiversity-Ecosystem Function Relationships

GRANTS (\$722,793 to SGW)

Sept. 2022-Aug. 2026 NSF Organismal Response to Climate Change, Donelan S, Gignoux-Wolfsohn S, Miller T: Carryover effects of multiple climate change stressors in oysters: mechanisms and consequences across stages of ontogeny (\$1,267,102; \$502,628 to UML)

Dec 2021-Dec 2023 Paul Angell Family Foundation, **Gignoux-Wolfsohn S**: Identifying biomarkers of resistance to Stony Coral Tissue Loss Disease \$75,000

Oct 2021-Oct 2023 National Institutes of Health, Lohan K, **Gignoux-Wolfsohn S**, Burge C, Dikow R: Employing biofilters to detect human pathogens in Mid-Atlantic US waters \$105,252

Feb. 2017-2018 U.S. Fish and Wildlife Service. Maslo B, **Gignoux-Wolfsohn S**, Pinsky M, and Hines B: Identifying Genetic Signatures of Selection in Multiple Bat Hosts \$39,913

SUBMITTED GRANTS (*Submission date listed*)

Feb. 2022 Disney conservation Fund, **Gignoux-Wolfsohn S**, Pizzarro V, Dahlgren C: Restoring Disease Resistant Coral Reefs in The Bahamas \$50,000

FELLOWSHIPS (\$206,230 plus tuition and travel awards)

May 2020-May 2022 Women in Ocean Sciences Scholar, Central Caribbean Marine Institute \$40,000

Aug. 2019-2020 Smithsonian Institutional Postdoctoral Fellowship \$54,000

Aug 2018-2019 The George Burch Fellowship in Theoretical Medicine and Affiliated Theoretic Science (Smithsonian Institution) \$64,000

Jan.-May 2016 Dissertation Completion Fellowship (Northeastern University) \$10,930

Sept. 2011-May 2016 University Excellence Fellowship (Northeastern University) \$25,000

May 2014 Experiment.com campaign \$6,300
<https://experiment.com/projects/what-is-killing-caribbean-corals-investigating-a-devastating-coral-disease>

Apr. 2013 Honorable Mention, NSF Graduate Research Fellowship Program
 Sept.-Dec. 2009 Mellon Foundation Fellowship (Wesleyan University) \$3,000
 June-Aug. 2009 Howard Hughes Foundation Fellowship (Wesleyan University) \$3,000

TEACHING EXPERIENCE

April 2021 Guest lecture, Parasitology, St. Mary’s College of Maryland
 Oct. 2017 Guest lecture, Wildlife Management, Rutgers University
 Feb. 2018 Guest lectures, Molecular Ecology, Rutgers University
 Feb.-Mar. 2017
 Sept.-Dec. 2015 & **Instructor**, Genetics Lab, Northeastern University.
 Sept.-Dec. 2014 & *Duties*: Created and presented lectures and examinations, led lab activities.
 Sept.-Dec. 2013 &
 Sept.-Dec. 2012
 Jan.-Mar. 2015 & **Teaching Assistant**, Biology of Corals
 Jan.-Mar. 2013 & Three Seas Program, Bocas Del Toro, Panama
 Jan.-Mar. 2012 *Duties*: Created and presented some lectures, led lab activities.
 Jan.-Apr. 2014 **Instructor**, Bioinformatics Seminar (online), Northeastern University.
Duties: Created syllabus, created and presented discussion modules and examinations.
 Sept.-Dec. 2011 **Instructor**, Principles of Biology I, Northeastern University.
Duties: Created and presented lectures and examinations, led lab activities.

MENTORING EXPERIENCE

June-Aug. 2021 **Monserrat Garcia Ruiz**. UCSB Smithsonian scholar and Smithsonian
 June-Nov. 2022 Women’s Committee Scholar. 2022: advised on an independent project
 examining coral-associated microbes. 2021: remotely advised independent
 project on relationship between oyster growth and microbiomes using R.
 June-Aug. 2021 **Diana Portugal Barron**. UCSB Smithsonian scholar. 2022: advised on an
 June-Aug. 2022 independent project examining coral genetic signatures associated with
 resistance. 2021: remotely advised independent project on effect of
 parasitism on oyster microbiomes using R.
 Feb.-July 2022 **Thijs Stegmann**. Masters student at Wageningen University, The
 Netherlands. Supervised his externship at SERC developing a pipeline for
 analyzing coral microbiome data.
 June-Aug. 2021 **Monserrat Garcia Ruiz**. UCSB Smithsonian scholar and Smithsonian
 June-Nov. 2022 Women’s Committee Scholar. 2022: advised on an independent project
 examining coral-associated microbes. 2021: remotely advised independent
 project on relationship between oyster growth and microbiomes using R.
 Sept. 2018-2021 **Petra Byl** University of Hawaii Manoa, PhD. student. remote mentoring
 through Society of Women in Marine Science.
 June-Aug. 2019 & **Matilda Newcomb** SERC intern. Advised independent project looking at
 June-Aug. 2018 rate of perkinsus release over a daily cycle. Co-author on 2020 publication.
 Jan.-May 2018 **Michelle Arias** Undergraduate, Rutgers University. Advised independent
 senior honors capstone project evaluating bat box use. First author on 2020
 publication.

- May-Sept. 2016* **Clinton Arriola** Supervised Clinton as a SERC intern during the summer field season.
- Sept. 2011-Sept. 2016* **Felicia Aronson** Undergraduate, Northeastern University.
- Sept. 2012-May 2014* **Kara Wiggin** Undergraduate, Northeastern University. Advised independent senior thesis on transmission of white band disease.
- Jan.-Dec. 2014* **Jennifer Davidson** Masters student in Northeastern University's Three Seas Program. Advised independent masters project on microbes associated with lobster shell disease.

ACADEMIC SERVICE

- Journal review* Microbiome, Environmental Microbiology, ISME journal, Global Change Biology, Scientific Reports, Ecosphere, Frontiers in Microbiology, Microbiology Open, Journal of Invertebrate Pathology, Frontiers in Marine Science, Journal of Natural History, PeerJ, Diseases of Aquatic Organisms
- Grant review* NSF Ocean Sciences Postdoctoral Research Fellowship, Seagrant/Ocean Acidification Program Shellfish Aquaculture (**Panel**), NOAA Ocean Acidification Program, NOAA Small Business Innovation Research Program, Florida DEP SCTL, Rhode Island Seagrant, North Pacific Research Board, University of Guam Seagrant
- October 2021-Present* External PhD Committee Member, Robert Kwait, Rutgers University Department of Ecology, Evolution, and Natural Resources
- October 2021-2022* Member, Local Organizing Committee, 11th International Marine Bioinvasions Conference
- May 2021-2022* Member, National Coral Reef Task Force Coral Disease Working Group, Pacific preparedness and transmission teams
- January 2021-Present* Member, Florida DEP/NOAA Stony Coral Tissue Loss Disease Advisory Committee, pathogen ID/microbiome subteam
- Sept. 2020-Present* Guest Associate Editor in coral reef research, Stony Coral Tissue Loss Disease in the Caribbean. Frontiers in Marine Science
- Sept. 2020-2022* Member, Invasions Lab Diversity Equity and Inclusion Committee
- July 2019* Member, ASP Student Awards Committee
- November 2017* *Co-chair:* Factors affecting host-pathogen dynamics in foundation species across marine ecosystems. Coastal and Estuarine Research Federation Biennial, Providence RI.
- Aug. 2016* Experiment.com grants officer, coral reef challenge grant

PRESENTATIONS

- June 2022* Capitol Hill Ocean Week. Wild waters. **Invited Panel**
<https://www.youtube.com/watch?v=0LgW85D2KWk>
- Feb. 2022* Disease risks and outcomes: Understanding mechanisms of variation from individuals to ecosystems. University of Massachusetts Lowell. **Invited Seminar**
- September 2021* Disease in a changing world: ecological and evolutionary dynamics. University of North Carolina Wilmington Biology and Marine Biology. **Invited Seminar**

- June 2021* Using 'Omics To Identify Obligate, Beneficial, and Transient Microbes in Marine Foundation Species. NOAA 'Omics Science Series. **Invited Talk**
- May 2021* Genomic Signatures of Selection in Bats Infected with White Nose Syndrome. Temporal Genomics Roundtable. **Invited Talk**
- February 2021* Disease in a Changing Ocean: Interactions Between the Environment, Pathogens, and Commensals Drive Disease Patterns. North Carolina State University College of Marine Sciences and Technology. **Invited Seminar**
- Nov. 2019* Salinity Alters the Effects of Host Community Diversity on Oyster Microbial Communities. Coastal and Estuarine Research Federation Biennial, Mobile AL. **Talk**
- October 2019* Diversity and Disease: Eco-Evolutionary Feedback. Virginia Institute of Marine Science Animal Health. **Invited Seminar**
- July 2019* Biodiversity in a Changing Ocean: Salinity Alters the Effects of Host Diversity and Density on Oyster Parasite Prevalence. American Society of Parasitologists Annual Meeting, Rochester MN. **Talk**
- Nov. 2017* Interactions Between Foreign and Resident Bacteria Lead to Disease Signs in a Reef-Building Coral. Coastal and Estuarine Research Federation Biennial, Providence RI. **Talk**.
- Aug. 2017* Are Bat Populations Infected White-Nose Syndrome Undergoing Rapid Natural Selection? Ecological Society of America, Portland OR. **Talk**
- May 2017* Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection? White-Nose Syndrome Workshop, Nashville, TN. **Invited Talk**
- July 2015* Understanding the Time-Course of White Band Disease Infection in the Endangered Staghorn Coral Using 16S Sequencing. Applied and Environmental Microbiology GRC, Mount Holyoke, MA. **Poster**

OUTREACH

- Sept. 2020-May 2021* Host for RCN Evolving Seas virtual lab meeting training program
- April 2020-Present* Skype-a-scientist: *presentations to classrooms over virtual platforms about marine ecology, disease, and parasites*
- Feb. 2020* NMNH after hours. Outbreak: Disease detectives
Discussed coral disease with the public through hands-on displays at an after-hours event related to the Outbreak exhibit.
- Nov. 2016-2018* Rutgers representative, NSF INCLUDES
- Sept. 2016-2018* Member, Rutgers wildlife extension team
- Oct. 2015 &* Northeastern University Marine Science Center open house
- Oct. 2013 &*
- Oct. 2012*

CERTIFICATIONS, MEMBERSHIPS, AND SKILLS

French fluency, basic Spanish
 Proficient in Linux, R, SQL, Python, Big Data, AWS
 AAUS certified scientific diver
 Society of Women in Marine Science, Coastal and Estuarine Research Federation

