

SARAH GIGNOUX-WOLFSOHN

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EDUCATION

April 2016 PhD, Ecology, Evolution, and Marine Biology
Northeastern University, Boston, MA
Thesis title: Towards a Better Understanding of White Band Disease:
Transmission, Causes, and Effects
Committee: Drs. Steven Vollmer, Geoffrey Trussell, Melissa Garren,
Jonathan Grabowski, and Yunrong Chai

May 2010 B.A., Biology and French, Honors in Biology
Wesleyan University, Middletown, CT
Thesis title: Methylation and Pigmentation in the Three-Spine Stickleback
Advisor: Dr. Barry Chernoff

PROFESSIONAL APPOINTMENTS

Sept. 2018-Present Smithsonian George E Burch Postdoctoral Fellow
Smithsonian Environmental Research Center, Edgewater, MD

Sept. 2016-2018 Postdoctoral Associate
Department of Ecology, Evolution, and Natural Resources Rutgers
University, New Brunswick, NJ

Sept. 2007-Oct. 2010 Chernoff Lab, Wesleyan University, Lab Assistant

Aug.-Dec. 2008 Eichmann Lab, Collège de France, Paris, France, Lab Assistant

*June-Aug. 2007 &
June-Aug. 2008* The Center For Applied Genomics, The Children's Hospital of
Philadelphia, Lab Assistant

GRANTS AND FELLOWSHIPS (\$206,143 plus tuition and travel awards)

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

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

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

PUBLICATIONS

- In Prep* **Gignoux-Wolfsohn SA**, Pinsky ML, Herzog CJ, Bennett A, Kerwin K, Fefferman N, Hall M, Maslo B (*In Prep for PNAS*) Genomic Signatures of Evolutionary Rescue in Bats Surviving White-Nose Syndrome. Preprint: *BioRxiv* DOI: 10.1101/470294
- In Review* **Gignoux-Wolfsohn SA**, Precht WF, Peters EC, Gintert BE, Kaufman LS (*In Review, Diseases of Aquatic Organisms*) The Ecology, Microbial Ecology, and Histopathology of a White Band Disease Outbreak in the Threatened Staghorn Coral, *Acropora cervicornis*.
- In Review* Arias, M, **Gignoux-Wolfsohn SA**, Kerwin K, Maslo B (*In Review, Human Dimensions of Wildlife*) Factors Influencing Bat Occupancy of Artificial Roost Boxes.
- 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* 93, 7.
- 2017 Maslo B, **Gignoux-Wolfsohn SA**, Fefferman N (2017) Success of Wildlife Disease Treatment Depends on Host Immune Response. *Frontiers in Ecology and Evolution* 5, 28.
- 2015 **Gignoux-Wolfsohn SA** and Vollmer SV (2015) Identification of Candidate Coral Pathogens on White Band Disease-Infected Staghorn Coral. *PLOS ONE* DOI: 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* DOI: 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* 2: 804 DOI: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* 1, 3: 343-358 DOI:10.1002/ece3.31.

PRESENTATIONS

Invited

- March 2019* Smithsonian Environmental Research Center Seminar
Title: Infectious disease in the anthropocene: ecological and evolutionary dynamics
- April 2018* Rutgers University Department of Ecology and Evolution Seminar
Title: Infectious disease in the anthropocene: ecological and evolutionary dynamics
- Feb. 2018* Princeton HTSeq Seminar Princeton, NJ
Title: Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection?
- May 2017* White-Nose Syndrome Workshop, Nashville, TN
Title: Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection?

Contributed

Talks:

- July 2019* American Society of Parasitologists Annual Meeting, Rochester MN
Title: Biodiversity in a Changing Ocean: Salinity Alters the Effects of Host Diversity and Density on Oyster Parasite Prevalence.
- Nov. 2017* Coastal and Estuarine Research Federation Biennial Conference, Providence, RI
Title: Interactions between Foreign and Resident bacteria lead to disease signs in a reef-building coral
Co-chair: Factors affecting host-pathogen dynamics in foundation species across marine ecosystems
- Aug. 2017* Ecological Society of America, Portland, OR
Title: Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection?
- Jan. 2017* New York Area Population Genomics Workshop, NYC, NY
Title: Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection?
- Jan. 2017* Northeast Bat Working Group, Amherst, MA
Title: Are Bat Populations Infected with White-Nose Syndrome Undergoing Rapid Natural Selection?
- March 2016* Benthic Ecology Meeting, Portland, ME
Title: Who, Where, When? Using Time Series Data to Understand the Roles of Bacteria in Diseased and Healthy *Acropora cervicornis*

Posters:

- Feb. 2016* Ocean Sciences Meeting, New Orleans, LA
Title: Temporal Sampling of White Band Disease Infected Corals Reveals Complex and Dynamic Bacterial Communities

- July 2015* Applied and Environmental Microbiology GRC, Mount Holyoke, MA
Title: Understanding the Time-Course of White Band Disease Infection in the Endangered Staghorn Coral Using 16S Sequencing
- May 2015* American Society of Microbiology Meeting, New Orleans, LA
Title: Understanding the Time-Course of White Band Disease Infection in the Endangered Staghorn Coral Using 16S Sequencing
- May 2014* American Society of Microbiology General Meeting, Boston, MA
Title: White Band Disease Bacterial Communities in the Threatened Staghorn Coral
- May 2013* American Society of Microbiology General Meeting, Denver, CO
Title: Next Generation 16s Profiles of White Band Disease in the Threatened Coral, *Acropora cervicornis*
- July 2010* Joint Meeting of Ichthyologists and Herpetologists, Providence, RI
Title: Methylation and Pigmentation in the Three-Spine Stickleback, *Gasterosteus aculeatus*

OUTREACH, MENTORSHIP, AND SERVICE

- July 2019* ASP Student Awards Committee Member
Served on committee to distribute student travel funds to the annual meeting based on abstract merit as well as award best student talk at the meeting.
- Nov. 2016-2018* Rutgers representative, NSF INCLUDES
I represented Rutgers in a design and development launch pilot awarded to Columbia University as part of the NSF program Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science. The objective is to create a network of research-based programs for high school students from underserved and underrepresented communities that all share resources, methods, and philosophies. I designed and helped run a pilot summer program for 6 rising seniors from New Jersey high schools that combined hands-on experiential learning with online discussions and lectures. We are currently using the results of this pilot to plan future programs.
- Sept. 2016-2018* Member, Rutgers wildlife extension team
Built and distributed bat houses to local community members and conduct outreach events focused on the importance of bats to our ecosystems at local schools.
- Sept. 2017* Marine Life Day
Participated in the Virginia Institute of Marine Science Eastern Shore Lab annual open house, discussed the effects of disease on the local intertidal ecosystem with members of the community, school children, and watermen.
- Aug. 2016* Experiment.com grants officer, coral reef challenge grant
- Oct. 2015 &* Northeastern University Marine Science Center open house

- Oct. 2013 & Oct. 2012* *Designed and implemented an activity about the impacts of plastic waste on marine ecosystems by creating a coral reef out of beach waste.*
- Jan. 2015* *Biology of corals student blog: <http://3seascorals.tumblr.com/>*
- April 2014* *Hadley Elementary School Science Night*
Recreated plastic waste activity focusing on the local rocky intertidal ecosystem
- 2013-2016* *Presentations on coral disease to Swampscott High School students*
- Mentoring* *Petra Byl (University of Hawaii Manoa, current PhD. student remote mentoring through Society of Women in Marine Science)*
Matilda Newcomb (SERC intern, current undergraduate, Vassar College)
Ariel Kruger (Current PhD student, Rutgers University)
Michelle Arias (B.S. 2018, Rutgers University)
Hannah Adickman (Current undergraduate, Rutgers University)
Clinton Arriola (SERC intern, B.S. 2017, Temple University)
Jessica Ray (Current undergraduate, Rutgers University)
Kara Wiggin (B.S. 2014, Northeastern University)
Stephen Heck (M.S. 2014, Northeastern University)
Jennifer Davidson (M.S. 2014, Northeastern University)
- Peer review* *Global Change Biology, Scientific Reports, Ecosphere, Frontiers in Microbiology, Microbiology Open, Journal of Invertebrate Pathology, Frontiers in Marine Science, Journal of Natural History*

TEACHING EXPERIENCE

Rutgers University

- Oct. 2017* *Guest lecture, Wildlife Management*
- Feb. 2018* *Guest lectures, Molecular Ecology*
- Feb.-Mar. 2017*

Northeastern University

- Sept.-Dec. 2015 & Sept.-Dec. 2014 & Sept.-Dec. 2013 & Sept.-Dec. 2012* *Teaching Assistant, Genetics Lab*
Sole instructor
- Jan.-Mar. 2015 & Jan.-Mar. 2013 & Jan.-Mar. 2012* *Teaching Assistant, Biology of Corals*
Three Seas Program, Bocas Del Toro, Panama
Designed and taught lab
- Jan.-Apr. 2014* *Teaching Assistant, Bioinformatics seminar*
Sole instructor, designed course
- Sept.-Dec. 2011* *Teaching Assistant, Principles of Biology I*

CERTIFICATIONS, MEMBERSHIPS, AND SKILLS

French fluency, basic Spanish

Proficient in Linux, R, SQL, Python, Big Data, AWS

AAUS certified scientific diver

American Society of Parasitology, Helminthological Society of
Washington, D.C., Society of Women in Marine Science, Coastal and
Estuarine Research Federation