

RACHAEL W. HERMAN

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EDUCATION

2017 – 2023	Ph.D. Ecology & Evolution ; Advisor: Professor Heather J. Lynch Department of Ecology & Evolution; Stony Brook University, Stony Brook, NY Dissertation Title: <i>Colonization, Gene Flow, and Range Expansion in a Pioneering Seabird Species</i>
2018 – 2023	STRIDE Advanced Graduate Certificate in Science Communication Institute for Advanced Computation Sciences (IACS); Stony Brook University, Stony Brook NY
2014 – 2016	M.S. Oceanography & Coastal Sciences ; Advisor: Professor Michael Polito Dept. of Oceanographic & Coastal Sciences; Louisiana State University, Baton Rouge, LA Thesis Title: <i>Investigating Species and Population Level Foraging Variation and Individual Specialization in Pygoscelis Penguins Using Stable Isotope Analysis</i>
2005 – 2009	B.S. in Biology , Magna Cum Laude in Biology; <i>University of Massachusetts, Amherst, MA</i>

ACADEMIC POSITIONS

10/2023 – Present	NSF Office of Polar Programs Postdoctoral Research Fellow ; Stony Brook University (<i>Krishna Veeramah Lab</i>)
09/2020 – 09/2023	NASA FINESST Fellowship : Future Investigators in NASA Earth, Space, Science, & Technology; Stony Brook University (<i>Heather Lynch Lab</i>)
09/2018 – 08/2020	STRIDE Fellowship : Science Training in Research to Inform Decisions; Institute for Advanced Computational Sciences at Stony Brook University (<i>Heather Lynch Lab</i>)
07/2018 – 05/2019	Graduate Research Assistant ; School of Marine and Atmospheric Sciences; Stony Brook University (<i>Lesley Thorne Lab</i>)
08/2016 – 07/2017	Research & Lab Technician ; Department of Ecology & Evolutionary Biology; University of Michigan (<i>Ben Winger Lab</i>)
08/2014 – 08/2016	Graduate Research Assistant ; Department of Oceanography & Coastal Sciences; Louisiana State University (<i>Michael Polito Lab</i>)

PEER-REVIEWED PUBLICATIONS

Gallagher, K, **Herman, R**, Walton, K, Dinniman, MS, Lynch, H. (2024) *Pygoscelis* penguins prefer different oceanographic and terrestrial habitats during the austral summer. *Ecosphere*.

Herman, R, G. Clucas, J. Younger, J. Bates, B. Robinson, S. Reddy, J. Stepanuk, K. O'Brien, K. Veeramah, H. Lynch. 2024. Whole genome sequencing reveals stepping-stone dispersal buffered against founder effects in a range-expanding seabird. *Molecular Ecology*.

Herman R, Winger BM, Dittmann DL, Harvey MG (2022). Fine-scale population genetic structure and barriers to gene flow in a widespread seabird (*Ardena pacifica*). Biological Journal of the Linnean Society.

Herman R, and HJ Lynch. (2022). Age-structured model reveals prolonged immigration is key for colony establishment in Gentoo Penguins. Ornithological Applications

Herman R, Borowicz A, Lynch M, Trathan P, Hart T, Lynch HJ (2020). Update on the global abundance and distribution of gentoo penguins (*Pygoscelis papua*). Polar Biology

Kalvakallva R, Clucas G, **Herman R**, Hart T, Polito MJ (2020). Late Holocene Variation in the Hard Prey Remains and Stable Isotope Values of Penguin and Seal Tissues from the Danger Islands, Antarctic. Polar Biology.

Borowicz A, McDowall P, Youngflesh C, Sayre-McCord T, Clucas G, **Herman R**, Forrest S, Rider M, Schwaller M, Hart T, Jenouvrier S, Polito M, Singh H, and Lynch HJ (2018). Multi-modal survey of Adélie penguin mega-colonies reveals the Danger Islands as a seabird hotspot. Scientific Reports.

Herman R, Valls FC, Hart T. Petry MV, Trivelpiece WZ, Polito, MJ (2017). Seasonal consistency and individual variation in foraging strategies differ among and within *Pygoscelis* penguin species in the Antarctic Peninsula region. Marine Biology.

GRANTS & AWARDS

2023	NSF Office of Polar Programs Postdoctoral Research Fellowship	\$324,787
2022	American Ornithological Society Student Travel Award	\$530
2020	Staff Faculty Research Scholarship – Stony Brook University	\$10,000
2020	NASA FINESST Award – Stony Brook University	\$134,852
2018, 2019	STRIDE Fellowship – Stony Brook University, IACS	\$68,400
2019	Bioinformatics Summer Institute Scholarship Award – U. Washington	\$2250
2019	Ecology and Evolution Student Excellence Award – Stony Brook University	\$975
2018	IACS Student Travel Award – Stony Brook University	\$905
2017	Recruitment Fellowship – Stony Brook University	\$2000
2016	American Ornithological Union Travel Award	\$300
2016	2 nd place for best student oral presentation, Pacific Seabird Conference	---
2016	Pacific Seabird Group Conference Student Travel Award	\$500

PRESENTATIONS

Herman, R, Clucas G, Younger J, Bates, Robinson BJ, Reddy S, Stepanuk J, Veeramah, K, Lynch, H. 2024. Whole genome sequencing reveals stepping-stone dispersal buffered against founder effects in a range-expanding seabird. *Pacific Seabird Group Conference, Seattle* (2024)

Herman R, Bates, J. Penguin fieldwork and data collection in the age of extended specimens. *Digital Data in Biodiversity Research Conference* (2023) (**Invited Plenary Speaker**)

Herman R, Lynch H. Extended Early Immigration is Key for Colony Establishment in a Site-faithful Seabird. *American Ornithological Conference, Puerto Rico* (2022)

Herman R, Harvey MG, Dittman D. Phylogeography of a widespread seabird (*Ardena pacifica*) using genome-wide markers. *Pacific Seabird Group Conference, Kaua*. (2019)

Herman R, Harvey MG, Dittman D. Phylogeography of a widespread seabird (*Ardeanna pacifica*) using genome-wide markers. *International Ornithological Conference, Vancouver* (2018)

Herman R, Polito MJ. Individual specialists, population generalists, and gentoo penguin foraging ecology across the Scotia Arc during a time of rapid environmental change. *American Ornithological Conference, DC* (2016)

Herman R, Polito MJ. Individual specialists, population generalists, and gentoo penguin foraging ecology across the Scotia Arc during a time of rapid environmental change. *2nd World Seabird Conference, Cape Town, South Africa* (2015)

POSTERS

Herman, R. Veeramah, K. An epigenetic comparison of two sympatrically breeding penguins in a rapidly warming region of Antarctica. *Evolution Conference, Montreal*. 2024

Herman R, Lynch H. Population Structure and Demography of Gentoo Penguins (*Pygoscelis papua*) in an Area of Range Expansion. *NASA Biodiversity & Ecological Forecasting Meeting, DC*. 2022

Herman R, Polito MJ. Individual specialists, population generalists, and gentoo penguin foraging ecology across the Scotia Arc during a time of rapid environmental change. *Ocean Sciences Meeting, New Orleans*. (2015)

TEACHING EXPERIENCE

2025	Guest Lecturer – Introduction to Epigenetics; Genomics Laboratory (Stony Brook University)
2025	Guest Lecturer – Biology and Conservation of Marine Birds (Stony Brook University)
2024	Guest Lecturer – Climate Change Unit (Bard Microcolleges located in Harlem & Brooklyn)
2022	Guest Lecturer – Biology and Conservation of Marine Birds (Stony Brook University)
2016	Guest Lecturer – Ornithology (Undergraduate Biology; University of Michigan)
2016	Guest Lecturer – Biological Oceanography (Graduate Oceanography Program, LSU)
2018, 2019	Teaching Assistant - BIO20: Organisms to Ecosystems (Stony Brook University) Assisted professor with fielding questions during lectures; graded essays and provided feedback; graded assignments and quizzes; proctored and graded exams, held office hours
2017	Teaching Assistant – BIO312 Bioinformatics and Computational Biology (Stony Brook University); Instructor for weekly laboratory; graded lab reports; research paper grading and feedback; proctored and graded exams; held office hours

OUTREACH & SERVICE

- Developed an Ecology & Evolution Mentorship Program for Bard Microcollege students (2024)
- GWISE graduate mentor for female undergraduate STEM students at Stony Brook University (2018)
- Visiting Scientist & Guest Lecturer on various Antarctic tour ship operators (2015-2023)
- Reviewer for Biology Letter, Communications Biology, Nature Scientific Reports, Ecosphere, Polar Biology, PeerJ, Ecology and Evolution

REFERENCES

Krishna Veeramah, Associate Professor (*Current PI*)

Department of Ecology & Evolution

Stony Brook University

Phone: (631) 632-1101

Email: Krishna.veeramah@stonybrook.edu

Heather J. Lynch, Professor | IACS Endowed Chair (*PhD Advisor*)

Institute for Advanced Computational Sciences

Stony Brook University

Phone: (631) 632-2384

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Sushma Reddy, Associate Professor | Curator of Birds (*PhD Committee Member | Mentor*)

Bell Museum of Natural History

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