

GEMMA SAHWELL

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EDUCATION

PhD Candidate, Princeton University, Department of Geosciences | Present
M.A., Princeton University, Department of Geosciences | 2020-2022
B.A., Barnard College, Department of Environmental Science | 2015-2019

RESEARCH

Current Research:

Princeton University, Department of Geoscience, Higgins Lab

- Carbonate Diagenesis: How the extent and style of diagenesis affects the carbonate record from the first major mass extinction at the end of the Ordovician
- Coral Calcification: Stable Sr isotopes in fossil coral spanning 160 My

Princeton University, High Meadows Environmental Institute, Blue Lab

- Coral Archives: An interdisciplinary research project on the archival nature of coral

Past Research

K=1 Project: Columbia University Center for Nuclear Studies

Research Fellow | 2016 - 2019

- Participated in two field expeditions to Marshall Islands (Summers 2017 & 2018)
- Analyzed fruit sample data using Ortec's Gamma Vision software to locate peaks of different radionuclides, focusing on ¹³⁷Cs
- Analyzed land survey data of 15 islands spanning four northern atolls using Python and ArcGIS
- Incorporated radiation survey and archival elevation data into senior thesis: *Gamma Radiation in the Face of a Rising Sea: The Northern Atolls of the Republic of the Marshall Islands*

INVITED TALKS AND LECTURES

Northeastern University | April 12, 2024

- Invited to guest teach in Graduate seminar course designed by Alison Glassie PhD, 'Environment in the Archive'

Northeastern University | March 11, 2024

- Invited to guest lecture in Undergraduate course designed by Alison Glassie PhD, 'Opening the Archive'

Barnard Alumna panel | July 20, 2021

- Invited to speak to Barnard undergraduates in the summer research institute program.

Association of Filipino Scientists in America | December 7, 2019

- Invited to speak at a symposium held at Columbia University about solidarity among Palestinian and Filipino communities relating to environmental activism. Title of event: Environmental Rights are Human Rights.
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SELECTED
CONFERENCE
PRESENTATIONS

- Goldschmidt Geochemical Conference | August 2024
- Session Title:
Poster Presentation: ‘ $\delta^{88}\text{Sr}$ Seawater reconstruction from well-preserved Fossil Coral over the last 161 Myr’
- ASLE and AESS Joint Conference | July 2023
- Conference theme: Reclaiming the Commons
Talk: The Coral Archive
- The British Society for the History of Science Digital Festival | July 2023
- Roundtable Presentations: ‘Coral Across Disciplines’
Talk: The Coral Archive Perspectives from the Natural Sciences and Humanities

GRANTS AND
AWARDS

- Mary and Randall Hack '69 Graduate Award for Water and the Environment High Meadows Environmental Institute, Princeton University | 2024-2025
- Graduate Summer Research Fund | Summer 2023
- Geosciences Diversity Committee fund | Summer 2022, Summer 2023
- Sustainable Ocean Alliance Microgrant | Summer 2021-Spring 2022
- President's Fellowship, Princeton University | 2020-2022

OUTREACH

- Member of NYC chapter of Sustainable Ocean Alliance | 2021- Present
- Director and Board Member, NYC Hub | August 2021- April 2022
 - Awarded SOA microgrant for ‘The Marine City’, a New York City based outreach and educational program that sought to teach about the marine history and infrastructure of NYC and make the marine environments more accessible to the community.
 - Produced an art exhibition in partnership with the Greenpoint Art Circle as a part of the Marine City Project. The Marine City Art Show featured artists local to the North Brooklyn area (Opening reception March 12, 2022, show ran until April 3, 2022)
 - Invited as a resident Mentor for SOA NYC Hub's ‘Wavemakers Impactathon’ to mentor small groups competing for \$500 award to fund social impact project related to ocean conservation, hosted at Columbia University (January 27, 2024)
- Princeton Geoscience DEIA Committee | 2021- 2022
- Elected as Graduate Student Representative
 - Attended AGU's Chapman conference, second national conference for Justice in Geosciences as a committee representative.
- Unlearning Racism in Geosciences (URGE) Pod Leader | Spring 2021
- Lower East Side Harm Reduction Center | October 2019 – March 2020
- Responsibilities included: checking clients in, registering new clients, working the needle exchange station, and providing materials and information for safe drug use practices.

PUBLISHED
ABSTRACTS

- Burke, B., McNeill, D. F., Klaus, J. S., Swart, P. & Sahwell, G. Calibrating Deposition of a Tropical Mixed System: Cibao Basin, Dominican Republic. AAPG Annual Convention and Exhibition. April 2-5, 2017; Houston, Texas.

MEDIA

Featured in:

- Princeton Correspondents on Undergraduate Research (PCUR) Blog entry by Rebecca Cho: Research Insights Series: An Interview with Gemma M. Sahwell. May 10, 2024
- Los Angeles Times article by Susanne Rust: Radiation in parts of the Marshall Islands is far higher than Chernobyl, Study Says. July 15, 2019; Los Angeles, CA.
- Columbia University Magazine under Science and Technology, article by David J. Craig: Dangerous Radiation Lingers for Decades. Fall 2019, New York, NY.

Princeton University, High Meadows Environmental Institute, Blue Lab

- Graduate Researcher | 2021-Present
- Assistant Producer for 'Coastal Futures', a Climate Change story incubator | Summer 2022
- Assistant Coordinator | Fall 2021-Spring 2022

Orion Magazine Environmental Writers' Workshop

- Attendee of the Writers' workshop to work on 'Coral Archives' Project The Omega Institute, Rhinebeck, NY | June 2024

MENTORING AND TEACHING

Teaching Assistant

- Princeton University, *Environmental Movements: From Wilderness Protection to Climate Justice* | Spring 2024
- Princeton University, *The Habitable Planet* | Fall 2023
- Princeton University, *Topics in Environmental Justice in the Geosciences* | Spring 2023
- Columbia University, *Earth: Origin, Evolution, Processes, and Future* | Spring 2019
- Barnard College, *Introduction to Environmental Science Lab* | Fall 2018

Students Mentored

- Nabaa Al Hashimi, High Meadows Environmental Institute Sponsored Internship (Princeton University, Higgins Lab) | Summer 2024
- Celia Murphy-Braunstein (Princeton University, Higgins Lab) | Fall 2023 - Spring 2024
- Noa Greenspan (Princeton University, Blue Lab) | Summer 2022
- Magdalena Poost (Princeton University, Blue Lab) | Summer 2022
- Celine Ho (Princeton University, Blue Lab) | Summer 2022
- Bassel El-Rewini (Columbia University, K=1 Lab) | Summer 2018
- Matthew Zinman (Columbia University, K=1 Lab) | Summer 2018
- Katherine Elise Malus (Columbia University, K=1 Lab) | Summer 2018

FIELD EXPERIENCE

Subsampling drill cores Vilnius, Lithuania | July 2023

Subsampling drill cores Särghaua and Arbavere core facilities, Estonia | April 2023

Teaching Assistant for class excursion to Navajo Nation | March 2023

- Assisted in Organizing field trip for class GEO360 *Topics in Environmental Justice in the Geosciences*

K=1 Project: Marshall Islands fieldwork and Dive training based in Mexico |
2017-2019

- Organized field expedition to the Marshall Islands. Collected samples for an ocean sediment radiation survey of the Marshall Islands | Summer 2018
- Conducted field work in Marshall Islands, collecting samples to create a terrestrial and food web survey of radiation in the northern atolls | Summer 2017

SKILLS AND
CERTIFICATIONS

- Proficient in Spanish
- Scuba Certifications: Open Water, Advanced, NITROX, Rescue Diver, Tec 40, 45, and 50 (last dive in 2018) Playa del Carmen, Mexico | Summers 2017, 2018