

Mariya Galochkina

PH.D. CANDIDATE · MIT-WHOI JOINT PROGRAM IN OCEANOGRAPHY

Woods Hole Oceanographic Institution, 266 Woods Hole Rd MS #23, Woods Hole, MA 02543

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Education

Massachusetts Institute of Technology/Woods Hole Oceanographic Institution

Woods Hole, MA

PHD CLIMATE SCIENCE

2020 - present

- Thesis: "Spatiotemporal scales of ocean warming and their impact on coral reefs"
- Advisors: Dr. Anne Cohen and Dr. Delia Oppo

Rutgers University - Honors College

New Brunswick, NJ

BS GEOLOGICAL SCIENCES

2016 - 2020

- Minors in Physics and Marine Science
- Thesis: "Intensification of the North Atlantic subtropical thermocline during the Mid Miocene Climate Transition"
- Advisors: Dr. Kenneth Miller and Dr. James D. Wright

Professional Experience

- 2025–2026 **MathWorks Science Fellow**, MIT-WHOI Joint Program in Oceanography
- 2022–2025 **NSF Graduate Research Fellow**, MIT-WHOI Joint Program in Oceanography
- 2020–p **Graduate Research Assistant**, MIT-WHOI Joint Program in Oceanography
- 2017–2020 **Undergraduate Research Assistant**, Rutgers University Department of Earth and Planetary Sciences
- 2019 **Summer Student Fellow**, Woods Hole Oceanographic Institution
- 2018 **Seismology and Natural Hazards Intern**, Costa Rican National Seismological Network (RSN-UCR)

Publications

PUBLISHED

- Galochkina, M.**, Cohen, A. L., Oppo, D. W., Mollica, N., & Horton, F. (2023). Coral Sr-U thermometry tracks ocean temperature and reconciles Sr/Ca discrepancies caused by Rayleigh fractionation. *Paleoceanography and Paleoclimatology*, 38, e2022PA004541. <https://doi.org/10.1029/2022PA004541>
- Galochkina, M.**, Makarova, M., Miller, K. G., Browning, J. V., Keating, R. S., & Wright, J. D. (2023). Multispecies Planktonic and Benthic Foraminiferal Stable Isotopes from North Atlantic Subtropical Site 558: Thermocline Intensification During the Mid-Miocene Climate Transition. *Journal of Foraminiferal Research*, 143–156. <https://doi.org/10.2113/gsjfr.53.2.143>

IN PREP/SUBMITTED

- Galochkina, M.**, Cohen, A. L., Oppo, D. W., & Ummenhofer, C. Leveraging climate modes to forecast coral bleaching months in advance. In review at *Science Advances*

Fellowships and Grants

2025	MathWorks Science Fellowship , MathWorks	\$ 107,000
2023	Ocean Ventures Fund , Woods Hole Oceanographic Institution, <i>Does the future of Caribbean reefs lie in the Pacific Ocean? Exploring the roles of ENSO, AMV, and global warming on coral bleaching in Curaçao</i>	\$ 7,500
2022	NSF Graduate Research Fellowship , National Science Foundation	\$ 147,000
2021	Ocean Ventures Fund , Woods Hole Oceanographic Institution, <i>Toward monthly resolved SST records of the Last Interglacial in the Western Tropical Atlantic: a feasibility study</i>	\$ 10,000
2020	Dean's Fellowship , Columbia University (<i>declined</i>)	\$ 96,615
	Henry Rutgers Scholar , Rutgers University	\$ 1,000
	Vinton Gwinn Award , RU Department of Earth and Planetary Sciences	\$ 1,000
2019	Academic Programs Office Travel Award , Woods Hole Oceanographic Institution	\$ 1,000
	Summer Student Fellowship , Woods Hole Oceanographic Institution	\$ 9,640
	Barry Goldwater Scholar , Barry Goldwater Scholarship Foundation	\$ 7,500
2018	Sparks Undergraduate Research Fund , RU Department of Earth and Planetary Sciences	\$ 750
	School of Arts & Sciences Excellence Award , Rutgers University	\$ 1,000
2017	Aresty Conference Travel Fund , Rutgers University	\$ 500
	Sparks Undergraduate Research Fund , RU Department of Earth and Planetary Sciences	\$ 1,500
	School of Arts & Sciences Excellence Award , Rutgers University	\$ 1,000
2016	Henry Rutgers & Rutgers Trustee Scholar , Rutgers University	\$ 84,000
2016	Freshman Undergraduate Scholar , American Meteorological Society	\$ 5,000

Honors and Awards

2025	Best Student Presentation , Association of Marine Laboratories of the Caribbean
2020	Matthew Leydt Society , Rutgers University (<i>top 2% of graduating class</i>)
2020	Paul Robeson Scholar , Rutgers University
2019	Chancellor's Leadership Award for Research Excellence , Rutgers University
2019	Phi Beta Kappa , Rutgers University

Presentations, Panels, and Workshops

SEMINARS AND INVITED TALKS

May 2025. *Using climate patterns to forecast coral bleaching months in advance*. Seminar: The Weather and Climate Livestream, virtual.

August 2024. *Climate detectives: using coral skeletons to reconstruct coral reef history*. Invited talk: Wildlands Studies Field School, Tobacco Caye, Belize.

July 2024. *The contribution of climate variability to coral bleaching in the Caribbean*. Invited talk: MIT Alumni Association, Woods Hole, MA.

January 2019. *New constraints on the upper mantle properties beneath Cordillera Talamanca*. Seminar: University of Costa Rica, San Jose, Costa Rica.

CONFERENCE PRESENTATIONS

* *presenting author*

Galochkina, M*, Cohen, A. L., Oppo, D. W., Ummenhofer, C. (2025). "CBAP: An accurate 6-month advance forecast of coral bleaching. Association of Marine Laboratories of the Caribbean 2025 Meeting, San Juan, PR. [talk]

Galochkina, M*, Cohen, A. L., Oppo, D. W., Ummenhofer, C. (2024). Leveraging climate variability to forecast coral bleaching months in advance. AGU 2024 Fall Meeting, Washington, DC. [poster]

Galochkina, M*, Cohen, A. L., Oppo, D. W., Ummenhofer, C. (2024). The contribution of climate variability to coral bleaching in the Caribbean. Ocean Sciences Meeting, New Orleans, LA. [poster]

Wang, S*, **Galochkina, M.**, Liu, A., Mahesh, A., Moskvichev, R., Nsude, C., Puxley, B. (2023). The Graduate Climate Conference: Insights on a Community-Driven Student Conference and its Merits for Early-Career Researchers. American

Geophysical Union Fall Meeting, San Francisco, CA. [talk]

Galochkina, M*, Cohen, A. L., Oppo, D. W., Mollica, N. R., Horton, F. (2022). Sr-U thermometry captures ocean temperatures and corrects for Sr/Ca vital effects in a slow-growing Atlantic coral. American Geophysical Union Fall Meeting, Chicago, IL. [talk]

Galochkina, M*, Cohen, A. L., Oppo, D. W., Mollica, N. R., Horton, F. (2022). Accurate seawater temperatures from coral Sr-U. Graduate Climate Conference, Pack Forest, WA. [poster]

Galochkina, M*, Cohen, A. L., Oppo, D. W., Mollica, N. R., Horton, F. (2022). Accurate seawater temperatures from coral Sr-U. Ocean Sciences Meeting, *virtual*. [poster]

Galochkina, M*, Oppo, D. W., Gebbie, G., Thornalley, D., Keigwin, L. D., (2019). Benthic $\delta^{18}\text{O}$ evidence for the transfer of Common Era surface temperature anomalies via North Atlantic Deep Water, American Geophysical Union Fall Meeting, San Francisco, CA. [poster]

Galochkina, M*, Miller, K. G., Makarova, M., Browning, J. V., Wright, J. (2018). Miocene North Atlantic Sea Surface and Thermocline Temperature Variations (20-8 Ma). American Geophysical Union Fall Meeting, Washington, DC. [poster]

Galochkina, M*, Miller, K. G., Makarova, M., Browning, J. V., Wright, J. (2017). North Atlantic sea surface and thermocline temperature variations during the Middle-Late Miocene (16-8 Ma). Geological Society of America Fall Meeting, Seattle, WA. [poster]

OTHER

Workshop Facilitator, 2024 Digital Reefs Workshop and User Trials, Honolulu, HI.

Session Chair (Session: CDR Technologies and Climate Solutions), 2023 Graduate Climate Conference, Woods Hole, MA.

Session Chair (Session: Paleoclimate), 2022 Graduate Climate Conference, Pack Forest, WA.

Fieldwork

Jul 2024	Belize , coral coring and instrument deployment, <i>science lead</i>	16 days
Sept 2023	Marshall Islands , coral coring, benthic surveys, and instrument deployment, <i>science lead</i>	29 days
Aug 2023	Curaçao , coral coring and instrument deployment, <i>chief scientist</i>	9 days
Jul 2023	Hawaii , benthic surveys and instrument deployment	9 days
Jan 2023	Little Cayman , AAUS SCUBA certification and reef surveys	8 days
Jan 2019	Costa Rica , seismometer maintenance	9 days
July 2018	Costa Rica , seismometer deployment and gravimetry	42 days

Outreach & Professional Development

SERVICE AND TEACHING

2024	WHOI Summer Math Review , Instructor
2024 – p	WHOI Climate and Paleo Seminar , Lead Organizer
2023	Graduate Climate Conference , Conference Co-Chair
2022 - 2024	Graduate Climate Conference , Organizer and Session Chair
2020 - p	JP Applicant Support and Knowledgebase , Mentor
2021 - 2024	JP Applicant Support and Knowledgebase , Executive Officer
2020 - 2022	MIT Office of Minority Education , MAP Mentor
2018-2020	Rutgers University Aresty Research Center , Senior Peer Instructor & Teaching Assistant

SCIENCE ADVOCACY

Congressional Meeting Lead, 2025 MIT Science Policy Initiative Congressional Visit Days, Washington D.C. *advocated for continued funding for scientific research and for federal agencies such as NSF, NOAA, and USFWS*

NGO Observer, 2022 UNFCCC Conference of the Parties (COP27), Sharm El Sheikh, Egypt. *helped organize and host the inaugural Ocean Pavilion.*

MENTORSHIP

Graduate Students trained: Rosa Festa (M.S. University of Pavia '23, WHOI Gori Fellow, 2025 – present)

Research Assistants trained: Evii Tong (Unity Environmental University '25, WHOI RA, 2022 – present)

Undergraduate Students mentored: Symantha Sanders (Savannah College of Art and Design '26, Black Girls Dive-IMPETUS Internship, 2024); Ronan Keating (Rutgers University '21, 2019–2020); Lucia Bellino (Rutgers University '21, 2018–2019)

High School Students mentored: Maverick Pil (Falmouth Academy, 2025 — present); Robert Ronan (Falmouth Academy, 2025 — present)

REVIEW ACTIVITIES

Peer Reviewer: *Paleoceanography and Paleoclimatology*

Technical Skills

Computing: MATLAB, Python, CDO, shell scripting (BASH, Slurm), Git

Data: reanalysis, gridded satellite, GCM ensembles, hydrodynamic models (ROMS, SCHISM)

Fieldwork: AAUS Scientific Diver and NAUI Advanced Open Water Diver (100+ scientific dives, 80+ hours), DAN First Aid certified, regulatory compliance for CITES-listed wildlife sample import/export

Lab: LA-ICP-MS, dual-inlet mass spectrometry

Languages: English (native), Russian (native), Spanish (intermediate working proficiency), Ukrainian (basic)

References

Anne L. Cohen, Ph.D.

Associate Scientist With Tenure
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Delia W. Oppo, Ph.D.

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