Mariya Galochkina

PhD Candidate · MIT-WHOI Joint Program in Oceanography

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Education

Massachusetts Institute of Technology/Woods Hole Oceanographic Institution *Woods Hole, MA*

PhD Oceanography *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"
- Thesis advisors: Dr. Kenneth Miller and Dr. James D. Wright

Professional Experience

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)

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

Galochkina, M, Cohen, A. L., Oppo, D. W., & Ummenhofer, C. (to be submitted Apr 2025). Leveraging climate modes to forecast coral bleaching months in advance. *Science Advances (target journal)*

Fellowships and Grants

2024	**Supporting grants for AGU Fall Meeting**, $1000 WHOI Academic Programs, $875 MIT Student Assistance Fund	*$ 1,875*
	Supporting grants for Ocean Sciences Meeting, $1000 WHOI Academic Programs, $1000 MIT Student Assistance Fund	*$ 2,000*
2023	**Ocean Ventures Fund**, Woods Hole Oceanographic Institution, *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*	*$ 7,500*

2022	**NSF Graduate Research Fellowship**, National Science Foundation	*$ 147,000*
	GCC Travel Grant, Graduate Climate Conference	*$ 450*
	Supporting grants for American Geophysical Union Fall Meeting, $1000 WHOI Academic Programs	*$ 1,000*
2021	**Ocean Ventures Fund**, Woods Hole Oceanographic Institution, *Toward monthly resolved SST records of the Last Interglacial in the Western Tropical Atlantic: a feasibility study*	*$ 10,000*
2020	**Dean's Fellowship**, Columbia University *(declined)*	*$ 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

2020	**Matthew Leydt Society**, Rutgers University, top 2% of graduating class
	Paul Robeson Scholar, Rutgers University
2019	**Chancellor's Leadership Award for Research Excellence**, Rutgers University
	Phi Beta Kappa, Rutgers University

Presentations, Panels, and Workshops

** presenting author*

Invited Talks

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

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*. Invited talk: University of Costa Rica, San Jose, Costa Rica.

Conference Presentations

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 δ18O 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, *science lead*	*16 days*
Sept 2023	**Marshall Islands**, coral coring, benthic surveys, and instrument deployment, *science lead*	*28 days*
Aug 2023	**Curaçao**, coral coring and instrument deployment, *chief scientist*	*9 days*
Jul 2023	**Hawaii**, benthic surveys and instrument deployment	*9 days*
Jan 2023	**Little Cayman**, AAUS SCUBA certification	*8 days*
Jan 2019	**Costa Rica**, seismometer maintenance	*9 days*
July 2018	**Costa Rica**, seismometer deployment and gravimetry	*34 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 Research Instructor & TA

Science Advocacy

Congressional Meeting Lead, 2025 MIT Science Policy Initiative Congressional Visit Days, Washington D.C. *advocated for increased funding for scientific research, NOAA, and USFWS*

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

Mentorship

Research Technicians trained: Evii Tong (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)

Peer Review

Paleoceanography and Paleoclimatology (x2)

Technical Skills

Computing: MATLAB (highly proficient; intro course instructor, experienced in netCDF analysis, m_map, GUI & app development), Python (novice), R (novice), CDO, shell scripting (BASH, Slurm), Adobe Suite, Microsoft Office Suite

Fieldwork: AAUS Scientific Diver and NAUI Advanced Open Water Diver (100+ scientific dives, 80+ hours), coral reef surveying and monitoring methods, CPR/First Aid/Oxygen Administration, regulatory compliance for CITES-listed wildlife sample import/export through USFWS

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

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