

Ellen Park

PhD Candidate in the MIT-WHOI Joint Program

MIT: Earth, Atmospheric and Planetary Sciences; WHOI: Marine Chemistry & Geochemistry

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EDUCATION

June 2020-Present PhD Candidate: Chemical Oceanography
Massachusetts Institute of Technology-Woods Hole Oceanographic
Institution Joint Program, Woods Hole, MA
Research Advisor: David Nicholson

Sept 2016-May 2020 B.S. Chemical Engineering and B.S. Earth and Atmospheric Sciences
Cornell University, College of Engineering, Ithaca, NY
Summa Cum Laude

HONORS

2020 Merrill Presidential Scholar
2020 Frank H.T. Rhodes Award

PROFESSIONAL EXPERIENCE

June 2020-Present **Graduate Research Assistant**
Woods Hole Oceanographic Institution, Woods Hole, MA
Advisor: David Nicholson
Quantification of biological carbon pump parameters from the global
Biogeochemical-Argo float array. Characterization of oxygen optode
response times for profiling float applications. Gridding of moored oxygen
data in the subpolar North Atlantic using machine learning.

June 2019-Aug 2019 **Summer Student Fellow**
Woods Hole Oceanographic Institution, Woods Hole, MA
Supervisor: Anne Cohen
An investigation into a coral's recovery from apparent death using CT
imaging and MATLAB analysis of skeletal to discover coral mechanisms
for surviving extreme heat

May 2018-Aug 2018 **Nakatani RIES Fellow**
Nagoya University, Department of Chemistry & Institute for Advanced
Research, Nagoya, Japan
Supervisor: Yusuke Nakanishi
Synthesized tungsten disulfide nanoribbon peapods and confirmed results
using transmission electron microscope

PUBLICATIONS

In-Prep:

[1] **Park, E.**, Nicholson, D., Dever, M., Atamanchuk, D., and Richards, C. Characterizing the dynamic response time of oxygen optodes. In prep for Limnology and Oceanography: Methods.

Published:

[1] Miller UK, Fogaren KE, Atamanchuk D, Johnson C, Koelling J, Le Bras I, Lindeman M, Nagao H, Nicholson DP, Palevsky H, **Park E**, Yoder M and Palter JB (2024) Oxygen optodes on oceanographic moorings: recommendations for deployment and in situ calibration. *Front. Mar. Sci.* 11:1441976. <https://doi.org/10.3389/fmars.2024.1441976>

[2] Wirth, T., Takeshita, Y., Davis, B., **Park, E.**, Hu, I., Huffard, C.L., Johnson, K.S., Nicholson, D., Staudinger, C., Warren, J.K. and Martz, T. (2024), Assessment of a pH optode for oceanographic moored and profiling applications. *Limnol Oceanogr Methods*, 22: 805-822. <https://doi.org/10.1002/lom3.10646>

[3] **Park E**, Kim JD, Aoki N, Cao Y, Arefeen Y, Beveridge M, Nicholson DP, Drori I (2021), Predicting critical biogeochemistry of the Southern Ocean for climate monitoring. *NeurIPS Tackling Climate Change with Machine Learning*. <https://arxiv.org/abs/2111.00126>

POSTERS & PRESENTATIONS

[1] **Park E**, Nicholson DP, Cetinic I, Estapa M, Fassbender A. Quantifying biological carbon pump parameters from the global Biogeochemical Argo float array. 2024. Ocean Sciences Meeting 2024, New Orleans, LA (Talk).

[2] **Park E**, Nicholson DP, Cetinic I, Estapa M, Fassbender A. Quantifying biological carbon pump parameters from the global Biogeochemical Argo float array. 2024. Ocean Carbon & Biogeochemistry GO-BGC Webinar on Carbon Export Dynamics ([Invited Virtual Talk](#)).

[3] **Park E**, Nicholson DP, Cetinic I, Estapa M, Fassbender A. Quantifying biological carbon pump parameters using particulate backscatter data from Biogeochemical Argo floats. 2023. Graduate Climate Conference, Woods Hole, MA (Poster).

[4] **Park E** & Nicholson DP. 2022. An oxygen mass balance of the Labrador Sea from Biogeochemical-Argo Float and hydrographic data. 7th Argo Science Workshop, Brussels, Belgium (Poster).

[5] **Park E**, Kim JD, Aoki N, Cao Y, Arefeen Y, Beveridge M, Nicholson DP, Drori I. 2021. Virtual. Predicting critical biogeochemistry of the Southern Ocean for climate monitoring. *NeurIPS Tackling Climate Change with Machine Learning*. <https://arxiv.org/abs/2111.00126> (Virtual Poster).

FIELD EXPERIENCE (89 days)

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| 2023 | GO-SHIP A16N Leg 1, NOAA Ship <i>Ronald H. Brown</i> , Port Suape Brazil - Rota, Spain, 31 days. Biogeochemical Argo Float deployments and <i>Sargassum</i> sampling |
| 2022 | AR69-01 OOI Irminger 9-OSNAP GDWBC, R/V Neil Armstrong, Woods Hole, MA - Reykjavik, Iceland, 29 days. CTD watch stander |
| 2021 | HLY2101, USCGC Healy, Nuuk, Greenland - Boston, MA, 29 days. CTD watch stander, Winkler oxygen sample collector and titrator |

WORKSHOPS & TRAININGS/PROFESSIONAL DEVELOPMENT

- 2024 PACE Hackweek, University of Maryland, Baltimore County, Baltimore, MD. August 4-8.
- 2023 GO-BGC Float Data Workshop (Project Co-Lead). University of Massachusetts Boston, Boston, MA. August 21-23.
- 2023 IOCCP-ICOS Instrumenting Our Ocean for Better Observation: A Training Course on a Suite of Biogeochemical Sensors. Kristineberg Center for Marine Research and Innovation, Kristineberg, Sweden. June 5-17.
- 2022 PACE Summer Graduate Course. University of Maryland, Baltimore County, Baltimore, MD. August 1-5.
- 2021 Ocean Optics Class: Calibration & Validation for Ocean Color Remote Sensing. Bowdoin College Schiller Coastal Studies Center, Orr's Island, ME. July 19-August 14.

TEACHING & MENTORSHIP EXPERIENCE

- 2022 MIT-WHOI Joint Program Peer Mentor (2022-2023)
- 2021 WHOI Summer Student Fellow Mentor (Summer 2021, 2023)
- 2016 Engineering Peer Advisor (Cornell University, 3 years),
- 2020 AIChE Upperclassman Mentor (Cornell University, 1 year)
- 2020 Undergraduate Teaching Assistant for Chemical Process Design & Analysis (Cornell University, 1 semester)
- 2019 Undergraduate Teaching Assistant for Introduction to Chemical Engineering (Cornell University, 1 semester),
- 2017 Multivariable Calculus for Engineers Course Assistant (Cornell University, 3 semesters),
- 2018 Engineering General Chemistry Academic Excellence Workshop Facilitator (Cornell University, 3 semesters)

ACADEMIC SERVICE & COMMUNITY ENGAGEMENT

- 2024 GO-BGC Summer 2025 workshop organizer
- 2024 GO-BGC webinar organizer
- 2023 Interview for Curiosity Stream's [The Great Seaweed Invasion](#)
Was interviewed for a short documentary about the Sargassum belt
- 2023 GO-SHIP A16N Leg 1 Cruise Blog
Wrote [blog posts](#) for the first leg of the cruise
- 2022 OSNAP GDWC Cruise Blog
Wrote blog posts about [mooring recovery/deployment](#) and [life underway](#) for the cruise.