Andrew Margolskee

Seattle, WA, 98103 | (973) 979-0804 | amarg9753@princeton.edu

EDUCATION

University of Washington Seattle — Seattle, WA
Ph.D. in Chemical Oceanography — (*December'17 - December'21)*

University of Washington Seattle — Seattle, WA
M.S. in Chemical Oceanography — (*September'15 - December'17)*

University of Pennsylvania — Philadelphia, PA
M.S.Ed. in Secondary Education — (*September'11 - June'12)*

University of Chicago — Chicago, IL
B.A. in Chemistry and B.S. in Geophysical Sciences — (*September'07 - June'11)*

PUBLICATIONS AND CONFERENCES

- **Margolskee, A.**, 2022: Evaluating Physical and Biogeochemical Controls on Ocean Oxygen, Nitrate, and Carbon in Coupled Biogeochemical Ocean Circulation Models. *University of Washington ProQuest Dissertations Publishing, 2022.*
- **Margolskee, A., S. Emerson, and C. A. Deutsch**, 2022: Estimating the Biological Pump in the Eastern Equatorial Pacific with in-situ measurements and a high-resolution ocean model. *Global Biogeochemical Cycles, (in prep).*
- **Margolskee, A., T. Ito, M. Long, and C. A. Deutsch**, 2022: Multi-decadal oxygen loss in the North Atlantic enhanced by surface nutrient depletion under increased thermal stratification. *Global Biogeochemical Cycles, (in prep).*
- **Margolskee, A., H. Frenzel, S. Emerson, and C. A. Deutsch**, 2019: Ventilation Pathways for the North Pacific Oxygen Deficient Zone. *Global Biogeochemical Cycles*, 30 June 2019. https://doi.org/**10.1029/2018GB006149**.
- **Margolskee, A., H. Frenzel, S. Emerson, and C. A. Deutsch,** Talk: The Strength and Efficiency of the Biological Carbon Pump in the Tropical Pacific, *Ocean Sciences Meeting 2022.*
- **Margolskee, A., T. Ito, M. Long, and C. A. Deutsch,** Talk: Multi-decadal oxygen loss in the North Atlantic driven by stratification and surface nutrient depletion**,** *Ocean Sciences Meeting 2020.*
- **Margolskee, A., H. Frenzel, S. Emerson, and C. A. Deutsch,** 2018, Talk: Ventilation pathways for the Pacific Oxygen Deficient Zone revealed by secondary oxygen maxima and Lagrangian particle tracking, *Kiel Deoxygenation Conference, 2018.*
- **Margolskee, A., H. Frenzel, S. Emerson, and C. A. Deutsch,** Talk: Ventilation pathways for the North Pacific Oxygen Deficient Zone revealed by secondary oxygen maxima and Lagrangian particle tracking. *Ocean Sciences Meeting 2018.*
- **Margolskee, A., R. Echols, T. Whorley, C. Miller, S. Seroy**, Poster presentation: A hands-on, student-centered approach to the exploration of Coriolis, 2019AGUFMED53D0884W (Presented by Theresa Whorley), *American Geophysical Union, Fall 2019.*

RESEARCH EXPERIENCE AND PROJECTS

Postdoctoral Research Associate | Deutsch Group | Princeton University | NJ *(July'22 - Present)*

Biogeochemical Controls on Productivity in the Southern Ocean

- As a part of SOCCOM project, I am using the coupled biogeochemical ocean model b-SOSE, I am evaluating the sensitivity of organic matter production and export to physical and biogeochemical controls using both Eulerian and Lagrangian methods.

Research Assistant | Deutsch Group | University of Washington Seattle | WA *(September'15- Dec'21)*

Oxygen Deficient Zone Ventilation

- I evaluated the mechanisms that control the Eastern Tropical North Pacific Oxygen Deficient Zone with data and high-resolution models. This research was selected as an EOS Research Spotlight in 2019.

North Atlantic Deoxygenation

- Using historical ocean databases and coupled biogeochemical circulation models, I demonstrated that temperature sensitivity of phytoplankton growth rates is a key control on interdecadal oxygen variability in a region that is critically important for ocean ventilation.

Equatorial Pacific Biological Carbon Pump project

- With a high-resolution ocean circulation model and the World Ocean Atlas, I demonstrated that the sampling depth for the biological carbon pump heavily biases biological carbon pump estimates with systematic biases resulting in both overestimates and underestimates, depending on the sampling region.

Lab Assistant | Emerson Group | University of Washington Seattle | WA
O_2/Ar gas analyst *(June'15-August'15)*

Lab Assistant | White Group | Haverford College | PA
Gulf of Mexico organic chemical analyst *(June'14-August'14)*

Lab Assistant | Hillhouse Group | University of Chicago | IL
Organometallic synthesis chemist *(September'10-June'11)*

TEACHING EXPERIENCE

University of Washington Seattle | WA
Teaching Assistant for OCN 330 (**Marine Biogeochemical Cycles**) *(Spring'15 and Spring'20)*

- Alex Gagnon, Gabrielle Rocap and I together wrote the OCN 330 curriculum in 2015. In 2019, I helped transition OCN 330 to remote learning. In both instances, I also lead taught the ocean ventilation unit.

Oratory Preparatory School | NJ
AP Environmental Science Teacher *(September'13-June'15)*
Environmental Science Teacher *(September'13-June'15)*
Honors/Standard Biology Teacher *(September'12-June'15)*
Honors/Standard Chemistry Teacher *(September'12-June'14)*

Central High School | PA
Chemistry Student Teacher (*September'11–December'11)*

George Washington High School | PA
Chemistry & Physical Sciences Student Teacher (*December'11–May'11)*

AWARDS, HONORS, AND ACCOMPLISHMENTS

EOS Research Spotlight, August 2019
UW Graduate School Fund for Excellence and Innovation, 2016
Teaching Certificate with Advanced Standing, Chemistry, New Jersey
Dean's List, University of Chicago, 2007-2011
Faculty Scholarship, University of Pennsylvania, 2011

VOLUNTEER AND PROFESSIONAL DEVELOPMENT

University of Washington | WA
Co-project lead for redesigning OCN 201 (*September'17-January'21)*

- Working with a group of four other graduate students, I redesigned the existing OCN 201 laboratory course, where we collected multiple years of student data to evaluate the effectiveness of our pedagogical changes and presented our findings and modified labs at the AGU Fall meeting in 2019.

University of Washington Institute for Science + Math Education | WA
Advising scientist participating in the Climate Science Curriculum Working Group *(January'17)*

- I joined an interdisciplinary team of scientists and educators to brainstorm and design curricular activities that are scientifically accurate to bring computational project-based learning to middle and high school students.

Oratory Preparatory School | NJ
Head Varsity Fencing Coach (*September'13-June'15)*
Environmental Science Club Moderator (*September'13-June'15)*

Exploratorium Teacher Summer Institute | CA
Participant (*Summer'13)*

University of Chicago | IL
Benzene, Chemistry Club President (*November'09-December'09)*

Hyde Park Jewish Community Center | IL
Youth Fencing Instructor (*November'09-December'09)*

Montclair High School | NJ
Youth Fencing Instructor (*2005-2007)*