

# ANDREW R. MARGOLIN

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## EDUCATION

2017	Ph.D.	Marine and Atmospheric Chemistry	University of Miami
2012	B.A.	Chemistry, <i>magna cum laude</i>	University of Colorado
	Minors	Atmospheric and Oceanic Sciences, and Geology	

## PROFESSIONAL EXPERIENCE

2019–present	Postdoctoral Research Fellow	University of British Columbia
2017–2018	Post-Doctoral Research Associate	Virginia Institute of Marine Science
2012–2017	NSF Graduate Research Fellow	University of Miami
2011–2012	Guest Student (summers)	Woods Hole Oceanogr. Institution
2009–2012	Undergraduate Research Assistant	University of Colorado

## FELLOWSHIPS AWARDED

2017	The Future Ocean	Kiel Marine Science
2015	Mary Roche	University of Miami
2014	NSF Graduate Research Fellowship Program	U.S. National Science Foundation
—	National Defense Science & Engineering Graduate	U.S. Department of Defense
2011	Air Pollution Education and Research	University of California, Davis

## SELECT AWARDS AND HONORS

2015	Arctic Service Medal	U.S. Coast Guard
2013	RSMAS Alumni Award	University of Miami
—	CFAMS Prize	Woods Hole Oceanogr. Institution
—	Antarctic Service Medal	U.S. National Science Foundation
2012	Graduate Certificate in Oceanography	University of Colorado
2011	Undergraduate Research Opportunities	—
—	J. Tour Scholarship	—
—	University Women's Club Scholarship	—
2011 & 2010	Hazel Gates Woodruff Memorial Scholarship	—
2010	Daniel L. Touff Junior Scholarship	—
—	Colorado Science Scholarship	—

## THESIS AND DISSERTATION

- 2017 | **Margolin, A.R.** *Environmental Impacts on Carbon Biogeochemistry in Marginal Seas*. Dissertation, Doctor of Philosophy, University of Miami, 137 pp. Advisor: Hansell, D.A.
- 2012 | **Margolin, A.R.** *Measured and Estimated pH Change and Trends Throughout the Southern Ocean, 1972-2011*. Honors Thesis, Bachelor of Arts, University of Colorado at Boulder, 57 pp. Advisor: Lovenduski, N.S.

## BOOK CHAPTERS

- 2019 | **Margolin, A.R.**, Millero, F.J. Physicochemical properties of Gulf of Mexico seawater. In: *Gulf of Mexico: Origin, Waters, and Biota vol. 5 Chemical Oceanography*. Bianchi, T. (Ed.) Texas A&M University Press, College Station, TX, USA.
- Osburn, C.L., **Margolin, A.R.**, Guo, L., Bianchi, T.S., Hansell, D.A. Dissolved, colloidal and particulate organic matter in the Gulf of Mexico. In: *Gulf of Mexico: Origin, Waters, and Biota vol. 5 Chemical Oceanography*. Bianchi, T. (Ed.) Texas A&M University Press, College Station, TX, USA.

## PEER-REVIEWED PUBLICATIONS

- 2020 | Torstensson, A., **Margolin, A.R.**, Showalter, G.M., Smith, Jr., W.O., Shadwick, E.H., Carpenter, S.D., Bolinesi, F., Deming, J.W. Sea-ice microbial communities in the central Arctic Ocean: Limited responses to short-term pCO<sub>2</sub> perturbations. *Limnology and Oceanography* (submitted).
- 2019 | Charette, M., Kipp, L., Jensen, L., Dabrowski, J., Whitmore, L., Fitzsimmons, J., ... **Margolin, A.**, et al. The Transpolar Drift as a source of riverine and shelf-derived trace elements to the central Arctic Ocean. *Journal of Geophysical Research: Oceans* (submitted).
- 2018 | **Margolin, A.R.**, Gonnelli, M., Hansell, D.A., Santinelli, C. **Black Sea dissolved organic matter dynamics: Insights from optical analyses**. *Limnology and Oceanography* 63(3):1425-1443.
- 2016 | Gerringa, L.J.A., Rijkenberg, M.J.A., Bown, J., **Margolin, A.R.**, Laan, P., de Baar, H.J.W. **Fe-binding dissolved organic ligands in the oxic and suboxic waters of the Black Sea**. *Frontiers in Marine Science* 3(84):1-16.
- **Margolin, A.R.**, Gerringa, L.J.A., Hansell, D.A., Rijkenberg, M.J.A. **Net removal of dissolved organic carbon in the anoxic waters of the Black Sea**. *Marine Chemistry* 183:13-24.
- 2014 | **Margolin, A.R.**, Robinson, L.F., Burke, A., Waller, R.G., Scanlon, K.M., Roberts, M.L., Auro, M.E., van de Flierdt, T. **Temporal and spatial distributions of cold-water corals in the Drake Passage: Insights from the last 35,000 years**. *Deep-Sea Research Part II: Topical Studies in Oceanography* 99:237-248.

## GUIDES AND REPORTS

- 2016 | Millero, F.J., Woosley, R.J., **Margolin, A.R.**, Huang, F. *Global Ocean Repeat Hydrography Study: pH, Total Alkalinity, and Total CO<sub>2</sub> Measurements in the Arctic Ocean During the R/V Healy Cruise ARC01 (9 August - 12 October, 2015): Technical Report*. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN, USA. 63 pp.
- 2015 | **Margolin, A.R.**, Chen, W., Custals, L., Hansell, D.A. *Sampling guide for determination of dissolved organic carbon and total dissolved nitrogen in seawater*. Hansell Lab, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL, USA. 10 pp.

## ANALYTICAL SKILLS

- 1) Chromophoric dissolved organic matter of discrete seawater samples.
- 2) Dissolved inorganic carbon concentration of discrete seawater samples.
- 3) Fluorescent dissolved organic matter of discrete seawater samples.
- 4) Nutrient (NO<sub>3</sub>+NO<sub>2</sub>, PO<sub>4</sub>, SiO<sub>2</sub>) concentrations of discrete seawater samples.
- 5) pH of discrete seawater samples by spectrophotometry.
- 6) Total alkalinity concentration of discrete seawater samples.
- 7) Underway partial pressure and discrete fugacity of CO<sub>2</sub> (*p*CO<sub>2</sub> and *f*CO<sub>2</sub>) of seawater.

## COMPUTER SKILLS

Adobe Creative Suite, CO2SYS, Google Earth, HTML, iMovie, L<sup>A</sup>T<sub>E</sub>X, MATLAB, Microsoft Office, Ocean Data View, Panoply, PARAFAC, web design.

## FIELD EXPERIENCE (253 DAYS AT SEA)

2018	Carbonate system in the Arctic Ocean (AO18)	IB Oden
—	Carbonate system in the Chesapeake Bay (CBP719, CBP713)	R/V <i>Fay Slover</i>
2017	Sampling the Straits of Florida (WS17-094)	R/V <i>F.G. Walton Smith</i>
2015	Carbon hydrography in the Arctic Ocean (HLY15-02)	USCGC <i>Healy</i>
2014	Sampling the Straits of Florida at 27°N (WS14-03)	R/V <i>F.G. Walton Smith</i>
2013	Hydrocarbon seeps in the Gulf of Mexico (PE14-11)	R/V <i>Pelican</i>
—	Deep ocean refractory carbon in the Gulf of Alaska (MV13-10)	R/V <i>Melville</i>
—	Sampling the Straits of Florida (WS13-10, WS13-06)	R/V <i>F.G. Walton Smith</i>
—	Tracing algal carbon export in the Ross Sea (NBP13-02)	RVIB <i>Nathaniel B. Palmer</i>
2012	2 <sup>nd</sup> Gulf of Mexico and East Coast Carbon Cruise (RB12-03)	R/V <i>Ronald H. Brown</i>
2011	Antarctic corals in the Drake Passage (NBP11-03)	RVIB <i>Nathaniel B. Palmer</i>

## TEACHING EXPERIENCE

6 Apr 2017	Special Topics (MSC 580): <i>Marginal Sea Biogeochemistry</i>	Guest Lecturer
Fall 2014	Chemical Oceanography Laboratory (MSC 216)	Teaching Assistant
6 Nov 2014	Biogeochemical Cycles (MSC 417): <i>Marginal Seas</i>	Guest Lecturer
28 Aug 2012	Biogeochemical Cycles (MSC 315): <i>Intro. to Ocean Data View</i>	Guest Lecturer

## ACADEMIC SUPERVISION

2019–present	Patrick Pata (academic mentee; Ph.D. student at University of British Columbia)
2017–2018	Jaclyn Friedman (academic mentee; since earned M.S. at College of William & Mary)
2014–2018	Mar Arroyo (academic mentee; since earned M.S. at College of William & Mary)
2014–2015	S. Carlisle Withers (laboratory assistant; since earned B.S. at University of Miami)
2014	Jeremy Whitehead (laboratory assistant; since earned B.S. at University of Miami)

## MEETINGS AND WORKSHOPS ATTENDED WITHOUT PRESENTING

2019	Postdoc Research Day, Vancouver, BC, Canada.
—	WestGrid Research Computing Summer School, Vancouver, BC, Canada.
2018	Ocean Sciences Meeting, Portland, OR, USA.
2017	Arctic GEOTRACES Early Career Researcher Workshop, Honolulu, HI, USA.
—	Dallas Murphy Writing Workshop, University of Miami, Miami, FL, USA.
2014	Ocean Sciences Meeting, Honolulu, HI, USA.

## SELECT PRESENTATIONS

2020	<b>Margolin, A.R.</b> , ... Hunt, B.P.V., Waterman, S. <i>Biogeochemical regionalization of British Columbia's coastal ocean</i> (oral). Coastal Margin Webinar Series, Vancouver, BC, Canada.
2019	<b>Margolin, A.R.</b> , Hunt, B.P.V., Waterman, S., Jackson, J.M. <i>Compilation of essential ocean variables for British Columbia based on nine decades of observations from disparate databases: Biogeochemical regionalization, variability and trends</i> (oral). North Pacific Marine Science Organization PICES 2019 Annual Meeting, Victoria, BC, Canada.
—	<b>Margolin, A.R.</b> <i>Arctic Andy's tales from a floe: Developing a YouTube miniseries to make education go viral</i> (oral). Aquatic Sciences Meeting, San Juan, PR, USA.
—	<b>Margolin, A.R.</b> <i>Environmental impacts on carbon biogeochemistry in marginal seas</i> (oral). Aquatic Sciences Meeting, San Juan, PR, USA.
2018	Torstensson, A. and <b>Margolin, A.R.</b> , et al. <i>The effect of carbonate chemistry on the sea ice community in the high Arctic</i> (oral). Science Seminar, AO18, IB Oden, Arctic Ocean.
2017	<b>Margolin, A.R.</b> <i>Environmental impacts on carbon biogeochemistry in marginal seas</i> (oral). Physical Sciences Seminar, Virginia Institute of Marine Science, Gloucester Point, VA, USA.

- 2017 **Margolin, A.R.**, Millero, F.J., et al. *CO<sub>2</sub> system along the GN01 cruise track and within the marginal ice zone* (oral). U.S. GEOTRACES Arctic Data Synthesis Meeting, Miami, FL, USA.
- **Margolin, A.R.**, Gerringa, L.J.A., Hansell, D.A., Rijkenberg, M.J.A. *Net removal of dissolved organic carbon in the anoxic Black Sea* (poster). Chemical Oceanography Gordon Research Conference and Seminar, Colby-Sawyer College, New London, NH, USA.
- **Margolin, A.R.** *The ocean's natural and anthropogenic carbon cycles constrained: Novel analysis of the total  $\delta^{13}\text{C}$  system in seawater* (oral). Advances in Integrated Ocean Research Towards Sustainable Development, The Future Ocean, Kiel Marine Sciences, Kiel, Germany.
- **Margolin, A.R.** *Environmental impacts on carbon biogeochemistry in marginal seas* (oral). Dissertation Defense, University of Miami, Miami, FL, USA.
- **Margolin, A.R.**, ... Hansell, D.A., Santinelli, C. *Optical properties of Black Sea dissolved organic matter: Origin and implications* (oral). Aquatic Sciences Meeting, Honolulu, HI, USA.
- 2016 **Margolin, A.R.** *Environmental impacts on carbon biogeochemistry in marginal seas* (oral). 10th Annual Graduate Climate Conference, University of Washington, Pack Forest, WA, USA.
- **Margolin, A.R.**, ... Santinelli, C. *Optical properties of Black Sea dissolved organic matter: Origin and implications* (oral). Biophysics Institute, National Research Council, Pisa, Italy.
- **Margolin, A.R.**, Gerringa, L.J.A., Hansell, D.A., Rijkenberg, M.J.A. *Net removal of dissolved organic carbon in the subsurface Black Sea* (poster and oral). Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA.
- **Margolin, A.R.**, Hansell, D.A. *Biogeochemical and physical controls on the distribution of nutrients and oxygen in the deep Gulf of Mexico and basins of the Caribbean* (poster). Ocean Sciences Meeting, New Orleans, LA, USA.
- 2015 **Margolin, A.R.**, ... Rijkenberg, M.J.A. *Net removal of dissolved organic carbon in the subsurface Black Sea* (poster). American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- **Margolin, A.R.** *Dissolved organic carbon and the Arctic Ocean* (oral). Crew Science Lecture, HLY15-02, USCGC Healy, Arctic Ocean.
- **Margolin, A.R.**, Hansell, D.A., Rijkenberg, M.J.A., Gerringa, L.J.A. *Distribution of dissolved organic carbon deficits in the Black Sea* (oral). Aquatic Sciences Meeting, Granada, Spain.
- 2014 **Margolin, A.R.**, Hansell, D.A., Swart, P.K. *Biogeochemistry of the deep Gulf of Mexico* (poster). Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA.
- **Margolin, A.R.** *Barite progress and plans* (oral). TRACERS Data Workshop, Ocean Sciences Meeting, Honolulu, HI, USA.
- **Margolin, A.R.**, Hansell, D.A., Swart, P.K. *Signatures for natural oil seeps in the biogeochemistry of the deep Gulf of Mexico* (poster). Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL, USA.
- 2013 **Margolin, A.R.**, et al. *Results from NBP11-03: Deep-sea coral age distributions* (oral). TRACERS Seminar Series, NBP13-02, RVIB Nathaniel B. Palmer, Ross Sea, Antarctica.
- 2012 **Margolin, A.R.** *Measured and estimated pH change and trends throughout the Southern Ocean, 1972-2011* (oral). Honors Thesis Defense, University of Colorado, Boulder, CO, USA.

- 2012 | **Margolin, A.R.**, Lovenduski, N.S., Pierpont, C.G. *Decadal change and regional trends of pH throughout the Southern Ocean* (poster). Ocean Sciences Meeting, Salt Lake City, UT, USA.
- 2011 | **Margolin, A.R.**, Robinson, L.F., Burke, A., Burton, J.R., Roberts, M.L., Waller, R.G. *Spatial and temporal distribution of scleractinian coral ecosystems from the Drake Passage over the past 35,000 years* (poster). American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- | **Margolin, A.R.**, et al. *Determining the change of pH in the under-sampled Southern Ocean* (poster). World Climate Research Programme Open Science Conference, Denver, CO, USA.
- | **Margolin A.R.**, et al. *The change of pH in the under-sampled Southern Ocean* (poster). Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA.

## PRESENTATION CONTRIBUTIONS

- 2019 | Hansell, D.A., **Margolin, A.R.**, Smethie Jr., W.M. *High resolution, transpolar distribution of DOC in the upper and deep Arctic Ocean: High concentrations and strong gradients* (poster). American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- | Torstensson, A., **Margolin, A.R.**, et al. *Sea-ice microbial communities: Larely unaffected by short-term pCO<sub>2</sub> perturbations in the central Arctic Ocean* (poster). Polar Marine Science Gordon Research Conference, Renaissance Tuscany II Ciocco, Lucca, Italy.
- 2015 | Rijkenberg, M.J.A., **Margolin, A.R.**, et al. *Distribution of dissolved organic carbon deficits in the Black Sea* (oral). MedBlack GEOTRACES Post Cruise Meeting, Royal Netherlands Institute for Sea Research, Texel, The Netherlands.
- 2013 | Spooner, P., Robinson, L., **Margolin, A.**, et al. *Speed dating in Palaeoceanography: Extending the Time Range of Reconnaissance Dating Techniques for Cold-Water Corals* (poster). 11<sup>th</sup> International Conference on Paleoceanography, Barcelona, Spain.
- 2012 | Santos, A., McKinley, G., Lovenduski, N.S., **Margolin, A.R.** *Impacts of changing circulation on North Atlantic productivity* (poster). Integrated Marine Biogeochemistry and Ecosystem Research ClimEco 3 Summer School, Akara, Turkey.
- | Santos, A., ... **Margolin, A.R.** *Impacts of changing circulation on North Atlantic productivity* (poster). NASA Air Quality Applied Sciences Team 3 Meeting, Madison, WI, USA.
- 2010 | Fox-Kemper, B., Bachman, S., **Margolin, A.R.**, et al. *Mixed layer eddy parameterization: Theory, impact, and comparison with mesoscale eddy parameterization* (invited). Ocean Sciences Meeting, Portland, OR, USA.

## PROFESSIONAL SERVICE

- 2019–present | Serving on the Local Safety Team for the Aquatic Ecosystems Research Laboratory, University of British Columbia, Vancouver, BC, Canada.
- 2017–2019 | Reviewed four scientific journal articles.
- 2019 | Chaired Special Session *Tracing the natural and anthropogenic carbon cycle across aquatic environments* and served as mentor. Aquatic Sciences Meeting, San Juan, PR, USA.
- 2018 | Served as mentor. Ocean Sciences Meeting, Portland, OR, USA.
- 2017 | Discussion Leader for *Tracing the Carbon Cycle*. Chemical Oceanography Gordon Research Seminar, Colby-Sawyer College, New London, NH, USA.

## SELECT OUTREACH

- 2015–present | Social media presence on Instagram ([#ArcticAndy](#)) and Twitter ([@arctic\\_andy](#)).
- 2019 | Interviewed for WaterToday article, [UBC researcher's biogeochemical approach to the environment](#).
- 2015–2019 | Produced educational videos on [YouTube channel](#).
- | Managed [The Adventures of Arctic Andy](#) blog, having written  $\geq 22$  posts.
- 2018 | Contributed to University of Miami press release, [New study in oxygen-deprived Black Sea provides insights on future carbon budget](#).
- 2017 | Featured in [AmeriCorps volunteer returns for visit](#), [Highlands News-Sun](#), Sebring, FL, USA.
- | Presented [Communicating climate change as Arctic Andy and beyond...](#) and led discussion in Writing and Reading (RHET 1040:064) at the University of Iowa.
- 2016 | Taught [The secrets and animals of the sea in English and Italian](#) at [BRIGHT: La Notte dei Ricercatori](#) in Toscana.
- | [Flying to Antarctica](#) featured in the 'Frozen Worlds' category of the U.S. Association of Polar Early Career Scientists [Polar Film Festival](#).
- | Presented [The Adventures of \(Ant\)Arctic Andy](#) at the Miami Seaquarium Summer Camp.
- 2015 | Featured in the [October](#) and [May](#) MESSAGES newsletters, University Women's Club, University of Colorado at Boulder.
- 2014 | Presented on the Intra-Americas Seas and demonstrated water mass mixing for the MAST Academy High School field trip.
- 2013 | Managed the [TRacing the fate of Algal Carbon Export in the Ross Sea, Antarctica: TRACERS – The NBP13-02 Cruise](#) blog, wrote six posts<sup>1,2,3,4,5,6</sup> and conducted five interviews<sup>1,2,3,4,5</sup>.
- 2012 | Wrote [My month at sea sampling coastal waters with NOAA](#).
- 2011 | Photographed for the [Corals in the Drake Passage - NBP11-03 Expedition](#) blog and wrote post<sup>1</sup>.

## NATIONAL SERVICE

- 2005–2006 | AmeriCorps National Direct, Habitat for Humanity, San Antonio, TX, USA.
- 2004–2005 | AmeriCorps National Civilian Community Corps, Southeast Region, Charleston, SC, USA.

## MEMBERSHIPS

American Association for the Advancement of Science  
American Geophysical Union  
Arctic Research Consortium of the United States  
Association for the Sciences of Limnology and Oceanography  
European Geophysical Union  
The Oceanography Society

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