

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 Geology	

PROFESSIONAL EXPERIENCE

2017-present	Post-Doctoral Research Associate	Virginia Institute of Marine Science
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FELLOWSHIPS AWARDED

2017	The Future Ocean (<i>declined</i>)	Kiel Marine Science
2015	Mary Roche	University of Miami
2014	NSF GRFP	U.S. National Science Foundation
	NDSEG (<i>declined</i>)	U.S. Department of Defense
2011	APER (<i>declined</i>)	University of California, Davis

AWARDS AND HONORS

2015	Arctic Service Medal	U.S. Coast Guard
2014	1 st Place in Ocean Photo Contest	CARTHE
2013	RSMAS Alumni Award	University of Miami
	CFAMS Prize	Woods Hole Oceanogr. Institution
	Antarctic Service Medal	U.S. National Science Foundation
	GOMURC Student Travel Award	University of South Florida
2012	Graduate Certificate in Oceanography	University of Colorado
2011	UROP & PACE Awards	University of Colorado
	J. Tour Scholarship	University of Colorado
	University Women's Club Scholarship	University of Colorado
	Undergraduate Poster Symposium Award	University of Colorado
2011 & 2010	Hazel Gates Woodruff Memorial Scholarship	University of Colorado
2010	Daniel L. Touff Junior Scholarship	University of Colorado
	Colorado Science Scholarship	University of Colorado
2008	Denver Geophysical Society Scholarship	Society of Explor. Geophysicists

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

- in press* | **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.
- in press* | 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

- 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.
- 2016 | **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 CO₂ 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

- 2018 | *Partial pressure of CO₂ (pCO₂) using a ProOceanus CO₂-Pro CV, modified for underway application.*

- 2018 *Total alkalinity concentration* (TA) of seawater by potentiometric titration in an open cell using a Metrohm 904 Titrando.
Dissolved inorganic carbon concentration (DIC) of seawater using an Automated Infra Red Inorganic Carbon Analyzer (AIRICA).
- 2016 *Chromophoric dissolved organic matter* (CDOM) in seawater using a Jasco V-550 UV-Vis Spectrophotometer.
Fluorescent dissolved organic matter (FDOM) excitation-emission matrices (EEMs) of seawater using a Horiba Scientific Dual-FL Fluorometer with Aqualog V3.6.
Parallel Factor Analysis (PARAFAC) for determining FDOM components.
- 2015 TA of seawater by potentiometric titration in a closed cell.
DIC of seawater by the coulometric analysis using a Single-Operator Multiparameter Metabolic Analyzer (SOMMA).
Discrete pH of seawater by spectrophotometry.
- 2014 *Phosphate concentration* in seawater by reaction with mixed reagent using a Shimadzu UV-1800 Spectrophotometer.
- 2013 *Nitrate + nitrite concentration* in seawater by vanadium(III) reduction using a Teledyne NO_x Analyzer - Model T200U with PeakSimple Chromatography Data System, SRI Model 203 Single Channel Serial Port Chromatograph.
Silicic acid concentration in seawater by metol and oxalic acid reduction using a Shimadzu UV-1800 Spectrophotometer.
- 2012 *Fugacity of CO₂* (*f*CO₂) in discrete seawater samples by recirculating sample gas through a LI-COR non-dispersive infrared gas analyzer (LI-840) system.
CO₂ System Calculations (CO2SYS) Program in MATLAB.
- 2011 *Sealed tube zinc reduction* method for converting CO₂ to graphite for accelerator mass spectrometry analysis of radiocarbon.

SEA EXPERIENCE (253 DAYS)

2018	Arctic Ocean 2018 Expedition	IB <i>Oden</i>
	Chesapeake Bay Program Cruise – Virginia Leg (CBP719)	R/V <i>Fay Slover</i>
	Chesapeake Bay Program Cruise – Virginia Leg (CBP713)	R/V <i>Fay Slover</i>
2017	DOC Consensus Reference Material Cruise (WS17-094)	R/V <i>F.G. Walton Smith</i>
2015	U.S. GEOTRACES Arctic Expedition (HLY15-02 / ARC01)	USCGC <i>Healy</i>
2014	AOML 27°N Survey (WS14-03)	R/V <i>F.G. Walton Smith</i>
2013	Research cruise in the Gulf of Mexico (PE14-11)	R/V <i>Pelican</i>
	Research cruise in the Gulf of Alaska (MV13-10)	R/V <i>Melville</i>
	DOC Consensus Reference Material Cruise (WS13-10)	R/V <i>F.G. Walton Smith</i>
	AOML 27°N Survey (WS13-06)	R/V <i>F.G. Walton Smith</i>

2013	TRACERS Cruise in the Ross Sea (NBP13-02)	RVIB <i>Nathaniel B. Palmer</i>
2012	AOML GOMECC-2 Cruise (RB12-03)	R/V <i>Ronald H. Brown</i>
2011	Research cruise in the Drake Passage (NBP11-03)	RVIB <i>Nathaniel B. Palmer</i>

TEACHING EXPERIENCE

4/6/2017	Special Topics (MSC 580): <i>Marginal Sea Biogeochemistry</i>	Guest Lecturer
Fall 2014	Chemical Oceanography Laboratory (MSC 216)	Teaching Assistant
11/6/2014	Biogeochemical Cycles (MSC 417): <i>Marginal Seas</i>	Guest Lecturer
8/28/2012	Biogeochemical Cycles (MSC 315): <i>Intro. to Ocean Data View</i>	Guest Lecturer

ACADEMIC SUPERVISION

2017–present	Jaclyn Friedman (academic mentee; M.S. student at VIMS, College of William & Mary)
2014–present	Mar Arroyo (academic mentee; M.S. student at VIMS, College of William & Mary)
2014–2015	S. Carlisle Withers (laboratory helper; recent graduate from University of Miami)
2014	Jeremy Whitehead (laboratory helper; since earned M.S. at University of Calgary)

WORKSHOPS ATTENDED

2017	Arctic GEOTRACES Early Career Researcher Workshop, Honolulu, HI, USA. Dallas Murphy Writing Workshop, University of Miami, Miami, FL, USA.
2016	Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA.
2014	Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA. TRACERS Data Workshop, Ocean Sciences Meeting, Honolulu, HI, USA.
2011	Ocean Carbon & Biogeochemistry Summer Workshop, Woods Hole, MA, USA.

PRESENTATIONS

2018	Margolin, A.R. , Shadwick, E.H., De Meo, O., Deming, J.W., Showalter, G.M., Smith, W.O., Torstensson, A. (<i>Chesapeake Bay +</i>) <i>High Arctic ocean acidification</i> (oral). VIMS Ocean Acidification Symposium, Virginia Institute of Marine Science, Gloucester Point, VA, USA. Torstensson, A. and Margolin, A.R. , Showalter, G.M., Smith, W.O., Shadwick, E.H., Deming, J.W. <i>The effect of carbonate chemistry on the sea ice community in the high Arctic</i> (oral). Science Seminar, <i>IB Oden</i> , Arctic Ocean.
2017	Margolin, A.R. <i>Environmental impacts on carbon biogeochemistry in marginal seas</i> (oral). Physical Sciences Seminar, Virginia Institute of Marine Science, Gloucester Point, VA, USA. Margolin, A.R. , Millero, F.J., Woosley, R.J., Huang, F. <i>CO₂ system along the GN01 cruise track and within the MIZ</i> (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. <i>Net removal of dissolved organic carbon in the anoxic Black Sea</i> (poster). Chemical Oceanography Gordon Research Conference and Seminar, Colby-Sawyer College, New London, NH, USA.

- 2017 **Margolin, A.R.** *Tracing the Carbon Cycle: Introduction by Discussion Leader* (oral). Chemical Oceanography Gordon Research 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.,** Gonnelli, M., Hansell, D.A., Santinelli, C. *Optical properties of Black Sea dissolved organic matter: Origin and implications* (oral). ASLO Aquatic Sciences Meeting, Honolulu, HI, USA.
- 2016 **Margolin, A.R.** Gonnelli, M., Hansell, D.A., Santinelli, C. *Optical properties of dissolved organic matter in the Black Sea: Results from spending 3 months in Italy* (oral). Applied Marine Physics and Chemistry Seminar Series, University of Miami, Miami, FL, USA.
- 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.,** Gonnelli, M., Hansell, D.A., Santinelli, C. *Optical properties of Black Sea dissolved organic matter: Origin and implications* (oral). Biophysics Institute, National Research Council, Pisa, Italy.
- 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.
- Margolin, A.R.** Environmental controls on the biogeochemistry of dissolved organic matter in marginal seas: A dissertation proposal (oral). Division of Marine and Atmospheric Chemistry, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL, USA.
- 2015 **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). AGU 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.
- Rijkenberg, M.J.A., **Margolin, A.R.,** Hansell, D.A., Gerringa, L.J.A. *Distribution of dissolved organic carbon deficits in the Black Sea* (oral). MedBlack GEOTRACES Post Cruise Meeting, Royal NIOZ, Texel, The Netherlands.
- 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). ASLO Aquatic Sciences Meeting, Granada, Spain.
- Margolin, A.R.,** Hansell, D.A., Rijkenberg, M., Gerringa, L.J. *Dissolved organic carbon deficits in the subsurface Black Sea* (oral). Ocean Sciences Student Seminar, University of Miami, Miami, FL, USA.
- 2014 **Margolin, A.R.,** Hansell, D.A. *Biogeochemically tracing deep exchanges between the Intra-Americas Seas* (oral). All-Hands Meeting, CARTHE, Hollywood, FL, USA.

- 2014 **Margolin, A.R.**, Hansell, D.A. *Biogeochemical tracers for deep exchanges between the Intra-Americas Seas* (oral). Marine and Atmospheric Chemistry Student Seminar, University of Miami, Miami, FL, 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 Spooner, P., Robinson, L., **Margolin, A.**, Burke, A., Coath, C., Scanlon, K., van de Flierdt, T. *Speed dating in Palaeoceanography: Extending the Time Range of Reconnaissance Dating Techniques for Cold-Water Corals* (poster). 11th International Conference on Paleoceanography, Barcelona, Spain.
- Margolin, A.R.**, Robinson, L.F., Burke, A., Waller, R.G., Scanlon, K.M., Roberts, M.L., Auro, M.E., van de Flierdt, T. *Results from NBP11-03: Deep-sea coral age distributions* (oral). TRACERS Seminar Series, NBP13-02, RVIB Nathaniel B. Palmer, Ross Sea, Antarctica.
- Margolin, A.R.**, Hansell, D.A. *Organic matter priming in the Gulf of Mexico?* (oral). Marine and Atmospheric Chemistry Student Seminar, University of Miami, Miami, FL, USA.
- 2012 Santos, A., McKinley, G., Lovenduski, N.S., **Margolin, A.R.** *Impacts of changing circulation on North Atlantic productivity* (poster). IMBER ClimECO₃ Summer School, Akara, Turkey.
- Santos, A., McKinley, G., Lovenduski, N.S., **Margolin, A.R.** *Impacts of changing circulation on North Atlantic productivity* (poster). NASA ACAST3 Meeting, Madison, WI, USA.
- Margolin, A.R.**, Lovenduski, N.S., Jimenez, J.-L., Pierpont, C.G. *Decadal change and regional trends of pH throughout the Southern Ocean* (poster). CIRES Rendezvous, University of Colorado, Boulder, CO, USA.
- 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.
- 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). AGU Fall Meeting, San Francisco, CA, USA.
- 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). Poster Conference for Atmospheric, Oceanic and Related Sciences, University of Colorado, Boulder, CO, USA.
- Margolin, A.R.**, Lovenduski, N.S., Pierpont, C.G., Robinson, L.F. *pH change and paleo proxies in the Southern Ocean* (oral). Southern Ocean Discussion Group, University of Colorado, Boulder, CO, USA.
- Margolin, A.R.**, Lovenduski, N.S., Pierpont, C.G. *Determining the change of pH in the under-sampled Southern Ocean* (poster). WCRP Open Science Conference, Denver, CO, USA.
- Margolin, A.R.**, Lovenduski, N.S., Fox-Kemper, B., Pierpont, C.G. *The change of pH in the under-sampled Southern Ocean* (poster). Chris Severy Undergraduate Poster Symposium, University of Colorado, Boulder, CO, USA.

- 2010 | Fox-Kemper, B., Bachman, S., **Margolin, A.R.**, Bryan, F.O., Dennis, J.M. *Mixed layer eddy parameterization: Theory, impact, and comparison with mesoscale eddy parameterization (invited)*. Ocean Sciences Meeting, Portland, OR, USA.

MEETINGS ATTENDED WITHOUT PRESENTING

- 2018 | Ocean Sciences Meeting, Portland, OR, USA.
2014 | Ocean Sciences Meeting, Honolulu, HI, USA.

OUTREACH

- 2015–present | Instagram; [#ArcticAndy](#), Twitter; [@arctic_andy](#) (>385 followers).
- 2015–present | Blogger; *The Adventures of Arctic Andy: Tales from a Floe* (>8,180 page views).
- 2015–2018 | YouTube; twelve educational videos on the [Andrew Margolin](#) channel (>3,580 views).
- 3/30/2018 | Press Release, University of Miami; *New study in oxygen-deprived Black Sea provides insights on future carbon budget*.
- 8/26/17 | Featured in *AmeriCorps volunteer returns for visit*, [Highlands News-Sun](#), Sebring, FL, USA.
- 4/26/2017 | Discussion leader, Writing and Reading (RHET 1040:064), University of Iowa; presented *Communicating climate change as Arctic Andy and beyond....*
- 2016 | Photos in children's book, *To the top of the world: One scientist's expedition to the North Pole*, Bowman, K., Saito, E.
- 9/30/2016 | [BRIGHT](#) – La Notte dei Ricercatori in Toscana; taught *The secrets and animals of the sea* in English and Italian.
- 9/19/2016 | [US Association of Polar Early Career Scientists Polar Film Fest](#); video *Flying to Antarctica* featured.
- 6/24/2016 | Miami Seaquarium Summer Camp; presented *The adventures of (Ant)Arctic Andy*.
- 6/2/2016 | MAST Academy High School; presented *The Adventures of (Ant)Arctic Andy* to two classes.
- 2015 | Featured in [October](#) and [May](#) MESSAGES newsletters, University Women's Club, University of Colorado at Boulder.
- 3/14/14 | MAST Academy High School field trip; presented on the Intra-Americas Seas and demonstrated water mass mixing.
- 8/7/13 | RSMAS Blog; *The Hansell Lab is at it again!*
- 2013 | Blogger; *TRacing the fate of Algal Carbon Export in the Ross Sea, Antarctica: TRACERS – The NBP13-02 Cruise* (>13,020 page views).
- 12/10/13 | RSMAS Blog; *My month at sea sampling coastal waters with NOAA*.
- 2011 | Blogger; contributed to *Corals in the Drake Passage - NBP11-03 Expedition* (>61,140 page views).

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

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.

COMPUTER SKILLS

Adobe Acrobat Reader, Illustrator, Lightroom, Photoshop; Google Earth; HTML; iMovie;
L^AT_EX; MATLAB; Microsoft Excel, OneNote, PowerPoint, Word; Ocean Data View; Panoply