

Abigail E. Noble, Ph.D.

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Dedicated scientist applying management and problem-solving skills to new projects and programs. Expert analytical chemist with a strong track record of collaborative success on multidisciplinary projects with teams from diverse backgrounds.

EDUCATION

Data Analytics Core Bootcamp - Level, by Northeastern University, Virtual	Expected 2/2019
PhD in Chemical Oceanography - MIT-WHOI Joint Program, Cambridge, MA	2012
BS in Chemistry - Haverford College, Haverford, PA	2004

PROFESSIONAL EXPERIENCE

Independent Contractor

Environmental Scientist, Researcher, Writer 2014 – present

- Collaborate with scientists, analyze data, write and edit for publication, draft proposals and budgets.

Gradient, Cambridge, MA

Associate Consultant, Environmental Chemist 2014 – 2017

- >3 years experience managing fast turnaround and multi-year environmental consulting projects.
- Negotiated with contractors, lawyers, and outside experts to win a contract to execute sewer surveys for a case involving an EPA Superfund site, and led a team to map the sewer system's historical development.
- Collaborated with outside consultants, chemists, and toxicologists to develop a categorization framework for a >2,000-chemical portfolio to accommodate scaling and optimization for hazard assessments.
- Evaluated and reviewed accepted regulatory and government sampling methods to support a data quality assessment of various investigations conducted in response to the Deepwater Horizon oil spill.
- Drafted proposals, scopes and budgets, and managed project progress and client communications.
- Engaged with federal and state regulations and criteria (*e.g.*, TSCA, EPA Safer Choice, CARB, Natl. Primary and Secondary Drinking Water, State level DEP/DEQ water quality, NPDES permitting, National Recommended Aquatic Life Criteria, NOAA SMART protocol for oil spills)
- Contributed as a team member on projects involving data quality assessment, international chemical registration, regulatory research, green chemistry initiatives, and environmental sampling methods.

Massachusetts Institute of Technology, Cambridge, MA

Postdoctoral Associate 2012 – 2014

- Investigated the evolution of dissolved lead and lead isotopes at ppt concentrations in the Atlantic Ocean using pre-concentration techniques and analyses by Quadrupole ICP-MS and multi-collector ICP-MS.
- Participated in interdisciplinary research expeditions in the Pacific Ocean.
- Mentored graduate and undergraduate students, meeting regularly to discuss research progress.

Teaching Assistant, Graduate-level Aquatic Chemistry course 2010

- Ran weekly recitation session, graded problem sets, met with students privately and in groups.

Woods Hole Oceanographic Institution, Woods Hole, MA

Postdoctoral Investigator 2011 – 2012

- Investigated dissolved metals in the North Atlantic as part of a \$300 million international collaboration.

Graduate Research Scientist, Research Assistant 2006 – 2011

- Executed complex tasks as a part of multidisciplinary teams on international research expeditions.
- Completed a successful and challenging Antarctic sea ice field expedition as a part of a small team.
- Developed expertise in the analysis of metals (Co, Fe, Mn, Cu, Cd, Zn, Ni) at trace (ppt) concentrations in complex aqueous media by inductively coupled plasma mass spectrometry and electrochemistry.
- Designed, organized, and executed experiments in a timeframe determined externally.
- Investigated metal nutrient cycling in the Antarctic, Arctic, Equatorial Pacific, and South Atlantic to identify metal sources and sinks and develop hypotheses for future trends in dynamic environments.

Research Assistant 2004 – 2006

- Coordinated packing, ordering, shipping for, and participated in five research expeditions.
- Measured trace level (ppt) concentrations of dissolved metals in environmental samples.

RELATED SKILLS AND CONTRIBUTIONS

- Collaborated on >10 field expeditions with international research teams, totaling > 7 months at sea
- Authored 20 peer-reviewed publications with almost 800 citations. Example journals: *Nature Geoscience*, *Frontiers in Chemistry*, *Marine Chemistry*, *Limnology and Oceanography*, *Deep-Sea Research II*
- Presented original research at >15 national and international research conferences
- Won proposals three for research grants and two consulting projects
- Completed Networking Leadership 101: Building Your Core Professional Network with +Acumen
- Completed Project Management bootcamp training with PSMJ Resources, Inc.
- Designed and constructed specialized lab spaces for contamination-sensitive analyses
- >10 years experience working long weeks in isolated environments with researchers and ship's crew
- >10 years experience as an expert analyst of trace level constituents in complex aqueous matrices
- Experience with ICP-MS, electrochemical analyses, spectroscopy techniques (UV-Vis, FT-IR, gamma ray detection, NMR), spectrophotometry, column chromatography, reagent purification and distillation, electronics soldering, and safe deployment of research equipment at sea
- Proficient at Excel, Word, PowerPoint, Ocean Data View, Sigmaplot, MacOS, Trello, and Windows
- Basic mastery of HTML, CSS, Adobe Illustrator, and Slickplan
- Currently learning R, MySQL, and Tableau.

Selected Publications and Presentations

- **Noble, AE**; Tuit, CB; Maney, JP; Wait, AD. "A Review of Marine Water Sampling Methods for Trace Metals", in review at *Environmental Forensics*.
- **Noble, AE**; Ohnemus, DC; Lam, PJ; Saito, MA. 2017, "[Coastal sources, sinks and strong organic complexation of dissolved cobalt within the US North Atlantic GEOTRACES transect GA03.](#)" *Biogeosciences* 14:2715-2739.
- **Noble, AE**; Butler, C; Lunsman, T; Verslycke, T; Lewis, A. "A Comprehensive Approach to Evaluating the Hazards of Microplastics in the Marine Environment." *A.S.L.O. Ocean Sciences Meeting, New Orleans, LA. February 2016, Oral Presentation.*
- **Noble, AE**; Echegoyen-Sanz, Y; Boyle, EA; Ohnemus, DC; Lam, PJ; Kayser, R; Reueur, M; Wu, J; Smethie, W. 2015, "[Dynamic variability of dissolved Pb and Pb isotope composition from the U.S. North Atlantic GEOTRACES Transect.](#)" *Deep-Sea Res. II.* 116(208–225).
- **Noble, AE**; Lamborg, CH; Ohnemus, DC; Lam, PJ; Goepfert, TJ; Measures, CI; Frame, CH; Casciotti, KL; DiTullio, GR; Jennings, J; Saito, MA. 2012. "[Basin-scale inputs of cobalt, iron, and manganese from the Benguela-Angola front to the South Atlantic Ocean.](#)" *Limnol. and Oceanogr.* 57(4):989-1010.
- **Noble, AE**; Saito, MA; Lamborg, C; Goepfert, T. "Dissolved cobalt distributions in the North and South Atlantic Oceans." *A.S.L.O. Aquatic Sciences Meeting. San Juan, Puerto Rico. February 2011. Oral Presentation, recipient of A.S.L.O. Outstanding Student Talk Award.*
- [Full publication and presentations list](#)

Professional Activities and Contributions

- Member, American Chemical Society
- Member, Association for the Sciences of Limnology and Oceanography
- Invited manuscript reviewer for peer reviewed scientific journals: *Marine Chemistry*, *Biogeosciences*, *Global Biogeochemical Cycles*, *Chemical Geology*, *Deep-Sea Research II*, and *Earth and Planetary and Science Letters*.
- Invited grant proposal reviewer for the *National Science Foundation*.
- WHOI/MIT Joint Program Treasurer

2008 – 2009

Community Service

- Volunteer Boston Cyclists Union
- Fundraiser and rider: Bikes not Bombs Bike-A-Thon
- Fundraiser and rider: 175 mile National Multiple Sclerosis Society, Cape Cod Getaway
- Fundraiser and rider: Vermont Foodbank Harpoon Point to Point ride

2018

2016 – 2017

2014 – 2018

2014