

Abigail E. Noble, Ph.D.

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Dedicated professional looking to apply leadership and problem-solving skills to new projects and programs in climate and sustainability. More than 10 years of experience collaborating with international research teams on expeditions, totaling > 7 months working at sea. Expert analytical chemist with a strong track record of collaborative success on multidisciplinary projects with teams from diverse backgrounds.

PROFESSIONAL EXPERIENCE

Independent Contractor, Boston, MA

Environmental Scientist, Researcher, Writer

2014 – present

- Collaborate with scientists, analyze data, write for publication, draft proposals, scopes 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 accepted regulatory and government sampling methods to support a data quality assessment in anticipation of Natural Resource Damage claims resulting from 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

- Collaborated with interdisciplinary research teams on expeditions in the Pacific Ocean.
- Mentored graduate and undergraduate students, meeting regularly to discuss research progress.
- Investigated the imprint of fossil fuel sources and emissions on the Atlantic Ocean.

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 their sources and sinks and develop hypotheses for future changes in our changing climate.

Research Assistant

2004 – 2006

- Managed packing, ordering, shipping for, and participated as a team member in five expeditions.
- Measured concentrations of dissolved metal micronutrients in environmental samples.
- Performed lab maintenance and inventoried supplies.

EDUCATION

PhD in Chemical Oceanography - MIT-WHOI Joint Program, Cambridge, MA

2012

BS in Chemistry - Haverford College, Haverford, PA

2004

RELATED SKILLS AND CONTRIBUTIONS

Leadership and Teamwork

- >10 years experience working 60+ hour weeks in isolated environments with researchers and ship's crew.
- Collaborated on >10 field expeditions with international research teams, totaling > 7 months at sea.
- Composed three successful proposals for research grants and two consulting projects.
- Completed Networking Leadership 101: Building Your Core Professional Network with +Acumen 2017
- Completed Project Management bootcamp training with PSMJ Resources, Inc. 2015
- Interviewed by Science Magazine with collaborators on project to evaluate lead in the Atlantic 2014
- Treasurer for WHOI/MIT Joint Program, organized socials, managed the budget 2008 – 2009
- Tutored General Chemistry and Organic Chemistry 2002 – 2004
- Resident Assistant and mentor for college freshmen 2001 – 2002
- Musical director, college a cappella group 2002 – 2003
- Captained NCAA Varsity Cross Country Team, member of three varsity athletic teams 2000 – 2004

General and Technical

- >10 years experience as an expert analyst of trace level constituents in complex aqueous matrices
- Authored 20 peer-reviewed publications with over 650 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
- Designed and constructed specialized lab spaces for contamination-sensitive analyses.
- 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, MacOS, iOS, and Windows
- Basic mastery of HTML and CSS

Selected Publications and Presentations

- **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.*

Professional Activities

- Member, American Chemical Society 2004-present
- Member, Association for the Sciences of Limnology and Oceanography
- Invited manuscript reviewer for several 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*.

Community Service

- Volunteer Boston Cyclists Union 2018 – present
- Fundraiser and rider: Bikes not Bombs Bike-A-Thon 2016 – present
- Fundraiser and rider: 175 mile National Multiple Sclerosis Society, Cape Cod Getaway 2014 – present
- Fundraiser and rider: Vermont Foodbank Harpoon Point to Point ride 2014