Abigale M. Wyatt

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Research Interests

Biogeochemical ocean modeling. Coupled models of ocean and climate interaction. Upper ocean ecosystem dynamics and nutrient cycling.

Education

	Princeton University, Princeton, NJ	
Ph.D.	Department of Geosciences Advisor: Laure Resplandy Thesis Title: Reinterpreting observation of ocean biological carbon fluxes and ecosystem dynamics using model frameworks	**2018 – Present**
	Columbia University in the City of New York, NY	**2014**
B.A.	Department of Mathematics Magna Cum Laude; NROTC	
	Defense Language Institute, Monterey, CA	**2010**
A.A.	Arabic Language, Degree with honors	

Awards/Distinctions

Princeton Energy & Climate Fellow ($1,000)	**2021 - Present**
National Science Foundation Graduate Research Fellow (NSF-GRFP, $150,000)	**2019 - 2022**
American Geophysical Union Voices for Science Policy Fellow ($2,000)	**2019 - 2020**
William G. Bowen Merit Fellowship ($50,000)	**2018**
Geosciences Chairman Fellowship ($2,500)	**2018**
Columbia University Honors Society	**2014**
Seaman to Admiral Selectee, US Navy	**2012**
Commandant's Award, Defense Language Institute	**2010**

Publications

Peer Reviewed:

1. Samantha J Clevenger, Claudia R. Benitez-Nelson, Montserrat Roca-Martí, Wokil Bam, Margaret Estapa, Jennifer A Kenyon, Steve Pike, Laure Resplandy, **Abigale Wyatt,** Ken O. Buesseler: Carbon and silica fluxes during a declining North Atlantic spring bloom as part of the EXPORTS program. (*In review,* Marine Chemistry).

2. **Abigale M Wyatt**, Laure Resplandy, Adrian Marchetti: Ecosystem impacts of marine heat waves in the northeast Pacific, Biogeosciences, 19, 5689–5705, https://doi.org/10.5194/bg-19-5689-2022, 2022

3. Roca-Martí M, Benitez-Nelson CR, Umhau BP, **Abigale M Wyatt,** Samantha J Clevenger, Steven Pike, Tristan J Horner, Margaret L Estapa, Resplandy Laure, Ken O Buesseler: Concentrations, ratios, and sinking fluxes of major bioelements at Ocean Station Papa. Elementa: Science of the Anthropocene 9:00166. https://doi.org/10.1525/elementa.2020.00166, 2021

4. Ken O Buesseler, Claudia R Benitez-Nelson, Montserrat Roca-Martí, **Abigale M Wyatt**, Laure Resplandy, Samantha J Clevenger, Jessica A Drysdale, Margaret L Estapa, Steven Pike, Blaire P Umhau: High-resolution spatial and temporal measurements of particulate organic carbon flux using thorium-234 in the northeast Pacific Ocean during the EXport Processes in the Ocean from RemoTe Sensing field campaign. Elementa: Science of the Anthropocene:. https://doi.org/10.1525/elementa.030, 2020

NON-REFEREED:

1. Field Report: Saturdays at Seaport Museum's "Fisharium" in Philadelphia, PA, DIYnamics Blog Post. https://diynamics.github.io/blog/philly-museum-2019.html **2019**

2. "Seeing Stars at Sea" NASA Earth Expeditions blog post **2018**
https://blogs.nasa.gov/earthexpeditions/2018/08/27/seeing-stars-at-sea-the-start-of-a-new-career-in-ocean-science/

PROFESSIONAL ACTIVITIES

CONFERENCES

1. "Ecosystem Impacts of Marine Heatwaves in the NE Pacific." Oral presentation at PICES Meeting, Busan, South Korea. **2022**

2. "Ecosystem Shifts in Response to Warming Events in NE Pacific." Poster presentation at Ocean Carbon and Biogeochemistry Meeting, Woods Hole, MA. **2021**

3. "Particle Export and Plankton Spatio-Temporal Variability." Poster presentation at Ocean Carbon and Biogeochemistry Meeting, Woods Hole, MA. **2019**

TEACHING EXPERIENCE & PROFESSIONAL DEVELOPMENT

Princeton University, Princeton, NJ

1. Teaching Transcript Program **Ongoing**

Voluntary program to develop teaching pedagogy and skills. Program entails 5 teaching workshops and an in-class observation and evaluation of teaching by McGraw center professionals.

2. Assistant Instructor (ENV 367) **2022-2023**

Assisted in organization of syllabus and course curriculum. Designed original activities to teach basic Python coding, plotting, figure analysis, hands-on observational measurements, and understanding of future climate and mitigation strategies via the Intergovernmental Panel on Climate Change (IPCC) report.

3. Teacher Prep Instructor (QUEST) **2022-2023**

Designed original activities for local area teachers to learn about climate change and modeling. Activities included several data interpretation and graphing activities, a modeling simulation game, and a tour of the Princeton high performance research computing facility.

Jefferson University, Philadelphia, PA

4. Adjunct Instructor- Precalculus Math **2017**

Working from prepared syllabus, provided instruction for 3 sections (60+ students)

5. Camp EdVenture

A voluntary one-day intensive on course design, active learning and assessment ideas for the classroom.

Riverbend Environmental Education Center, Gladwyne, PA

6. Lead Environmental Educator **2017**

Created and implemented age appropriate 1 and 2-week curricula for ages 3-17. Worked with 2-3 subordinate instructors and occasionally student volunteers.

UNDERGRADUATE RESEARCH PRESENTATIONS

1. "Primitive solutions of Fermat's Last Theorem. Proof for n=4." – Columbia University, Undergraduate Mathematics Colloquium, NY, NY. **2014**

2. "A Survey of Giant Clams *tridacna maxima, tridacna squamosa* in the Gulf of Aqaba." – Columbia University, SEE-U Jordan, Amman, Jordan. **2013**

MENTORSHIP PROGRAMS

- Informal mentorship of five junior Resplandy-lab members, and two junior grad students in neighboring departments including one military veteran. **2019 – Present**

- Princeton Women in Geosciences (PWiGs) mentor to one junior grad student or undergraduate student in the Geoscience department every year for four years. **2019 – Present**

- Geoscience Education & Mentorship Support (GEMS) mentor to two undergraduate students at University of Nevada. **2022 – Present**

OTHER PROFESSIONAL EXPERIENCE

1. Riverbend Environmental Education Center, Gladwyne, PA

Camps/Programs Manager **2017**

2. US Naval Flight School, Various Locations, USA

Student Naval Aviator **2014 – 2017**

3. US Navy/National Security Agency, Augusta, GA

Intelligence Analyst/Arabic Linguist **2010 – 2012**

PUBLIC ENGAGEMENT

1. "Skype a Scientist" volunteered to talk with US grade school classrooms about current research and life as a scientist **2020- 2021**
2. Weather in a tank experiments as River Docent Volunteer and organizer, Independence Seaport Museum, "River Alive" exhibit. Philadelphia. PA **2019 - 2020**
3. Great Plankton Race, volunteer at Young Women's Conference in STEM, Princeton University, Princeton, NJ **2019**
4. AGU Congressional visit day, Voices for Science workshop, Washington, DC. **2019**
5. "Voice of the Sea", Season 6, episode 4, "EXPORTS: On Board The Sally Ride" photo/video content contributor. http://seagrant.soest.hawaii.edu/exports-sally-ride/ **2019**
6. "Life in the Universe" 3-part lecture series on the science of discovering, exploring and understanding life. Waverly Heights, Gladwyne, PA. **2018**

OTHER PROFICIENCIES

English- Native language

Arabic- Modern Standard, Iraqi and Levantine dialects. Conversational fluency in reading, writing and speaking

Technical Proficiencies: Python- moderate, LaTex- Moderate, MATLAB- functional, Fortran- beginner