

## Henry Cameron Holm - CURRICULUM VITAE

### Address

Dept. of Marine Chemistry and Geochemistry  
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### EDUCATION

**Doctoral Candidate**, Chemical Oceanography June 2018 to present  
MIT-WHOI Joint Program in Oceanography  
Advisor: Benjamin A. S. Van Mooy

**Bachelor of Arts**, Molecular and Cellular Biology May 2016  
Colorado College, Colorado Springs, CO

### PROFESSIONAL EXPERIENCE

*Graduate Student* June, 2018  
Benjamin Van Mooy's Lab at Woods Hole Oceanographic Institution

- Participant in multiple scientific collaborations including NASA EXPORTS mission and research at Palmer Station LTER.
- Analyzed a large global survey of ocean lipidomes spanning Bermuda to Antarctica.

*Guest Investigator* May, 2017  
Benjamin Van Mooy's Lab at Woods Hole Oceanographic Institution

- Contributed to projects related to phosphorus cycling and lipidomics of the surface ocean.
- Continued software and lab protocol development.

*Guest Investigator*  
Amy Apprill's Lab at Woods Hole Oceanographic Institution Oct, 2016

- Worked on multiple projects investigating the microbiome of corals and whales.

*Lab Research Intern* July, 2016  
Lumio Health, Inc.

- Ran lab experiments to optimize and develop a new diagnostic technology.
- Helped gather and identify relevant literature to inform research directions.

### PAPERS IN REFEREED JOURNALS

4. **H. C. Holm**, H. F. Fredricks, S. M. Bent, D. P. Lowenstein, J. E. Ossolinski, K. W. Becker, W. M. Johnson, K. Schrage, B. A. S. V. Mooy, *Global ocean lipidomes show a universal relationship between temperature and lipid unsaturation*. *Science*. 376, 1487–1491 (2022).

3. A. Apprill, **H. Holm**, A. Santoro, C. Becker, M. Neave, K. Huguen, A. Richards Donà, G. Aeby, T. Work, L. Weber, S. McNally, *Microbial ecology of coral-dominated reefs in the Federated States of Micronesia*. *Aquat. Microb. Ecol.* 86, 115–136 (2021).
2. R. A. Glabonjat, G. Raber, **H. C. Holm**, B. A. S. Van Mooy, K. A. Francesconi, *Arsenolipids in Plankton from High- and Low-Nutrient Oceanic Waters Along a Transect in the North Atlantic*. *Environ. Sci. Technol.* 55, 5515–5524 (2021)
1. C. A. Miller, **H. C. Holm**, L. Horstmann, J. C. George, H. F. Fredricks, B. A. S. Van Mooy, A. Apprill, *Coordinated transformation of the gut microbiome and lipidome of bowhead whales provides novel insights into digestion*. *ISME J.* 14, 688–701 (2020)

## CRUISE AND FIELD WORK PARTICIPATION

LMG2301 - West Antarctic Peninsula; Southern Ocean. 2023. R/V *Laurence M. Gould*  
 EN667 - Gulf of Maine; North Atlantic. 2021. R/V *Endeavor*  
 SG2105 - North Atlantic. 2021. R/V *Sarmiento de Gamboa*  
 LMG1810 - West Antarctic Peninsula; Southern Ocean. 2018. R/V *Laurence M. Gould*  
 AR30-3 - Irminger Sea; North Atlantic. 2018. R/V *Neil Armstrong*  
 AE1812 - Sargasso Sea; North Atlantic. 2018. R/V *Atlantic Explorer*  
 Whale Microbiome Sampling - Cape Cod Bay. Spring 2017. R/V *Rosita*

## INVITED LECTURES

**Holm**, Henry C. (2022) Global ocean lipidome reveals compositional controls of temperature, depth, and inorganic nutrients. *Gordon Research Conference - Organic Geochemistry*. Holderness, NH.

**Holm**, Henry C. (2022) The effects of temperature and depth on ocean planktonic glycerolipids. *International Symposium of Plant Lipids*. Grenoble, France.

## OTHER LECTURES AND MEETING PRESENTATIONS

### Talks

**H. Holm** (2022) Glycerolipid diversity and dynamics in the global ocean. *Department of Marine Chemistry and Geochemistry, WHOI*. Woods Hole, MA.

**H. Holm**, H.F. Fredricks, S.M. Bent, D.P. Lowenstein, J.E. Ossolinski, K.W. Becker, W.M. Johnson, K. Schrage, B.A.S. Van Mooy. (2022) Global ocean lipidome reveals a universal relationship between temperature and lipid unsaturation. *ASLO Ocean Science Meeting*. Virtual Meeting.

### Posters

B.A.S. Van Mooy and **H. Holm**. (2019) Lipidomics of suspended and sinking POC during EXPORTS. *EXPORTS PI Meeting*. Williamsburg, VA.

## PROFESSIONAL ACTIVITIES

Core Student Committee - WHOI MC&G Department Candidate Search, 2020

Participant - OCB Scoping Workshop 2021: "Laying the foundation for a potential future Bio-GeoSCAPES program."

Member - Association for the Sciences of Limnology and Oceanography - Since 2022

Member - American Association for the Advancement of Science - Since 2022

Journal Reviewer - *Marine Chemistry*, *Geochimica et Cosmochimica Acta*

## PROGRAMMING

- Maintainer for **LOBSTAHS** package with Van Mooy Lab.
- Highly experienced in **R language** including development of packages and **R shiny** apps.
- Highly experienced with mass spectral specific programming including the packages **XCMS** and **CAMERA**.
- Some experience with **Matlab**, **Python**, **HTML**, and **LaTeX**.
- See [github.com/hholm](https://github.com/hholm) for public software contributions.

## MENTORING and SUPERVISION

Joint Program Student Mentor for Sabrina Elkassas, 2020-2022

Provided mentorship via the JP-ASK program for multiple applicants, 2021-2023.

Mentorship and Training of undergraduates in the Van Mooy Lab: Kelsey Perry (2019), Merissa Small (2019), Noa Shevchuk (2022), Mackenzie Curtice (2022).