

# Sarah K. Hu, Ph.D.

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Postdoctoral Research Fellow  
Center for Dark Energy Biosphere Investigations  
Woods Hole Oceanographic Institution

## Professional Preparation

University of Washington, Seattle, WA

University of Southern California, Los Angeles, CA

University of Southern California, Los Angeles, CA

Woods Hole Oceanographic Institution, Woods Hole, MA

B.S., 2011

Ph.D., 2018

Postdoctoral Research Associate, 2018

Postdoctoral Research Fellow, 2018

## Publications

1. Dominique Boeuf, Bethanie R. Edwards, John M. Eppley, **Sarah K. Hu**, Kirsten Poff, Anna Romano, David A. Caron, David M. Karl, and Edward F. DeLong. *Biological composition and microbial dynamics of sinking particulate organic matter at abyssal depths in the open ocean*. In press.
2. David A. Caron & **Sarah K. Hu**. *Are we overestimating protistan diversity in nature?* (2018). Trends in Microbiol. 27(3):197-205.
3. Alexis Pasulka, **Sarah K. Hu**, Lisa Mesrop, Craig Cary, Kathryn Coyne, Karla Heidelberg, Peter Countway, & David A. Caron. (2019). *SSU-rRNA sequencing survey of sediment-hosted microbial eukaryotes from Guaymas Basin hydrothermal vent*. J Eukaryot Microbiol. doi: 10.1111/jeu.12711.
4. Zhenfeng Liu, Lisa Mesrop, **Sarah K. Hu**, David A. Caron. *Transcriptome of Thalassicolla nucleata holobiont reveals details of a radiolarian symbiotic relationship*. In revision.
5. **Sarah K. Hu**, Lisa Mesrop, Paige Connell, & David A. Caron. (2018). *A Hard Day's Night: Shifts in microbial eukaryotic activity in the North Pacific Subtropical Gyre*. Frontiers in Mar. Sci. doi: 10.3389/fmars.2018.00351.
6. **Sarah K. Hu**, Zhenfeng Liu, Harriet Alexander, Victoria Campbell, Paige Connell, Karla B. Heidelberg, Sonya Dyhrman, & David A. Caron. (2018). *Shifting metabolic priorities among key protistan taxonomic groups within and below the euphotic zone*. Environ. Microbiol. 20(8): 2865-2879. doi: 10.1111/1462-2920.14259.
7. Zhenfeng Liu, **Sarah K. Hu**, Victoria Campbell, Avery O. Tatters, Karla B. Heidelberg, & David A. Caron. (2017). *Single-cell transcriptomics of small microbial eukaryotes: insights and limitations*. ISME J. 11: 1282-1285.
8. Paige Connell, Victoria Campbell, Alyssa Gellene, **Sarah K. Hu**, & David A. Caron. (2017). *Planktonic food web structure at a coastal time-series site: II. Spatiotemporal variability of microbial trophic activities*. Deep Sea Res Part I. 121: 210-223.
9. **Sarah K. Hu**, Victoria Campbell, Paige Connell, Alyssa Gellene, Zhenfeng Liu, Ramon Terrado, & David A. Caron. *Protistan diversity and activity inferred from RNA and DNA at a coastal ocean site in the eastern North Pacific*. (2016). FEMS Microbiol Ecol. 92(4) doi: 10.1093/femsec/fiw050.
10. **Sarah K. Hu**, Zhenfeng Liu, Alle A. Y. Lie, Peter D. Countway, Diane Y. Kim, Adriane C. Jones, Rebecca J. Gast, S. Craig Cary, Evelyn B. Sherr, Barry F. Sherr, & David A. Caron. (2015). *Estimating Protistan Diversity using High-throughput Sequencing*. J Eukaryot Microbiol. 62(5): 688-693.
11. Alle A. Y. Lie, Zhenfeng Liu, **Sarah K. Hu**, Adriane C. Jones, Diane Y. Kim, Peter D. Countway, Linda A. Amaral-Zettler, S. Craig Cary, Evelyn B. Sherr, Barry F. Sherr, Rebecca J. Gast, & David A. Caron. (2014). *Investigating Microbial Eukaryotic Diversity from a Global Census: Insights from a Comparison of Pyrotag and Full-Length Sequences of 18S rRNA Genes*. (2015). Appl Environ Microbiol, 80(14): 4363-4373.

## Publications in preparation

1. Ashley Coenen, Daniel Muratore, **Sarah K. Hu**, Elaine Luo, Joshua Weitz. *Best Practices for the Analysis of Longitudinal and Time Series Microbiological Data*. In prep, expected submission May 2019.
2. **Sarah K. Hu**, Harriet Alexander, Zhenfeng Liu, Karla B. Heidelberg, Sonya Dyhrman, & David A. Caron. *Distinct transcriptional signatures of the protistan community define SPOT and ALOHA time-series stations*. Expected submission in 2019.

## **Presentations & Posters**

- 2018 **C-DEBI Annual Meeting**, Monterey, CA  
*Poster Presentation*: Probing seafloor microbial interactions via hydrothermal vent fluids: a focus on protists  
**OSM 2018**, Portland, OR  
*Oral Presentation*: A Hard Day's Night: Shifts in microbial eukaryotic activity in the North Pacific Subtropical Gyre  
**Ph.D. dissertation defense**, Los Angeles, CA  
*Oral Presentation*: Genetic characterization of microbial eukaryotic diversity and metabolic potential
- 2017 **WiSE STEM Bytes Seminar**, Los Angeles, CA  
*Oral Presentation*: Characterizing microbial eukaryotic diversity and metabolic potential in the Eastern North Pacific  
**Invited department seminar speaker**, Cal Poly Pomona, CA  
*Oral Presentation*: Characterizing microbial eukaryotic diversity and metabolic potential in the Eastern North Pacific  
**ASLO 2017**, Mountains to the Sea, Honolulu, HI  
*Poster Presentation*: ALOHA & SPOT: A metatranscriptomic comparison of key protistan taxonomic groups and processes within and below the euphotic zone  
**Graduate student department seminar**, Los Angeles, CA  
*Oral Presentation*: A taste of Station ALOHA: microbial eukaryotic diversity and function
- 2016 **Graduate student department seminar**, Los Angeles, CA  
*Oral Presentation*: Metabolic potential of microbial eukaryotic community off the coast of Southern California  
**Ocean Sciences Meeting**, New Orleans, Louisiana  
*Poster Presentation* (presented by Paige Connell): Microbial mortality rates in support of model development in three distinct ocean regimes  
**A New Age of Discovery: Aquatic Microeukaryotes**, Heidelberg, Germany  
*Poster Presentation*: Metabolic potential of microbial eukaryotic community off the coast of Southern California
- 2015 **San Pedro Ocean Time-series station workshop**, Los Angeles, CA  
*Oral Presentation*: Protistan diversity and activity inferred from RNA and DNA at a coastal ocean site in the Eastern North Pacific
- 2014 **Graduate student department seminar**, Los Angeles, CA  
*Oral Presentation*: Protistan diversity and activity inferred from RNA and DNA at a coastal ocean site in the Eastern North Pacific
- 2014 **Gordon Conference: Marine Microbes**, Waltham, MA  
*Poster Presentation*: Sequencing meets ecology: deciphering the active component of protistan assemblages
- 2013 **International Congress of Protistology**, Vancouver, B.C.  
*Poster Presentation*: Diversity of Marine Microbial Eukaryotes from a full-length rDNA sequence database: a new look at diversity analysis
- 2011 **Undergraduate Research Symposium – UW**  
*Oral Presentation*: Selective distribution of *Vibrio parahaemolyticus* in oyster harvesting areas of Washington  
**Pacific Coast Shellfish Growers Association**, Salem, Oregon  
*Oral Presentation*: Selective distribution of *Vibrio parahaemolyticus* in oyster harvesting areas of Washington  
**Salish Sea Ecosystem Conference**, Vancouver, B.C.  
*Oral presentation*: Selective distribution of *Vibrio parahaemolyticus* in oyster harvesting areas of Washington

## **Awards & Fellowships**

2018-2020	<b>C-DEBI Postdoctoral Fellowship</b> – WHOI
2018	<b>Katrina J. Edwards Memorial Dissertation Award</b> – USC
2017-2018	<b>Tyler Environmental Fellowship</b> for PhD students – USC
2016-2017	<b>WiSE Merit Award for Current Doctoral Students</b> – USC
2013-2016	<b>WiSE Travel Grants</b> – USC
2014	<b>Graduate Student Travel Grant</b> – USC
2014	<b>Honorable Mention</b> – NSF Graduate Research Fellowship Program
2013	<b>USC Wrigley Summer Fellowship</b> – WIES, Catalina Island, CA
2012	<b>Outstanding Teaching Assistant Award</b> – USC (General Biology)
2011	<b>Undergraduate Commencement speaker</b> – UW SAFS, Class of 2011

## **Research & Professional Experience**

2012-2013	<b>Teaching Assistant</b> – USC, Los Angeles, CA
2011-2012	<b>Marine Technologist I</b> , Scientific diver – UW SAFS, Seattle, WA
2011-2012	<b>Exhibit diver</b> – Seattle Aquarium, Seattle, WA
2010-2011	<b>Research Intern</b> – Northwest Fisheries Science Center, NOAA, Seattle, WA
2009-2010	<b>Research Intern</b> – Fisheries Acoustics Research Lab, UW SAFS, Seattle, WA

## **Professional Service & Mentorship**

2014-present	<b>Invited peer reviewer</b> – including: ISME Journal, Molecular Ecology, Environmental Microbiology, Aquatic Microbial Ecology, & Microbial Ecology
2017	<b>WiSE Guest Speaker</b> – Outreach to undergraduates in STEM, USC
2017-present	<b>Protocols.io ambassador</b> – Online contributor ( <a href="https://www.protocols.io/researchers/sarah-hu">https://www.protocols.io/researchers/sarah-hu</a> )
2016-2018	<b>Co-founder &amp; Chair Grad Student Association</b> – USC
2015-present	<b>American Society of Limnology and Oceanography</b> , member
2015-2016	<b>Graduate student faculty liaison</b> – USC
2016	<b>Invited Guest Speaker</b> – Yorkdale Elementary, LA
2015	<b>Invited Guest Speaker</b> – Port of Los Angeles High School, LA <b>Presenter</b> – Outreach with STEM Chattanooga High School, USC
2013	<b>Teaching Assistant</b> – Introduction to Microbiology, USC <b>NSF REU Mentor</b> – Mentor for undergraduate students, USC
2012	<b>Teaching Assistant</b> – Organismal Biology and Evolution, USC
2011-2012	<b>Underwater Interpreter</b> – Seattle Aquarium, Seattle, WA