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PROFESSIONAL PREPARATION

Upcoming: 2023	Assistant Professor Texas A&M, College Station, TX *Department of Oceanography*
2020 - Present	Postdoctoral Research Investigator Woods Hole Oceanographic Institution, Woods Hole, MA *Marine Chemistry & Geochemistry*, PI: Dr. Julie Huber
2018 - 2020	Postdoctoral Research Fellow, Center for Dark Energy Biosphere Investigations Woods Hole Oceanographic Institution, Woods Hole, MA *Marine Chemistry & Geochemistry*, PI: Dr. Julie Huber
2018	Postdoctoral Research Associate University of Southern California, Los Angeles, CA *Marine Environmental Biology*, PI: Dr. David Caron
2018	Ph.D. Marine Biology and Biological Oceanography University of Southern California, Los Angeles, CA *Marine Environmental Biology*, Dissertation advisor: Dr. David Caron
2011	B.S. Aquatic & Fishery Sciences, Minor: Microbiology University of Washington, Seattle, MA

PUBLICATIONS

1. Hammond, S.W., Lodolo, L., **Hu, S.K.,** & Pasulka, A.L. (*In Press*) Methodological 'lenses' influence the characterization of phytoplankton dynamics in a coastal upwelling ecosystem. Environmental Microbiology Reports.
2. Cohen, N.R., Alexander, H., Krinos, A.I., **Hu, S.K.**, and Lampe, R.H. (2022) Marine Microeukaryote Metatranscriptomics: Sample Processing and Bioinformatic Workflow Recommendations for Ecological Applications. *Front Mar Sci* **9**: 867007.
3. Ollison, G.A., **Hu, S.K.**, Hopper, J.V., Stewart, B.P., Smith, J., Beatty, J.L., et al. (2022) Daily dynamics of contrasting spring algal blooms in Santa Monica Bay (central Southern California Bight). *Environmental Microbiology* 1462-2920.16137.
4. Tully, B.J., Buongiorno, J., Cohen, A.B., Cram, J.A., Garber, A.I., **Hu, S.K.**, *et al.* The Bioinformatics Virtual Coordination Network: an open-source and interactive learning environment. (2021) *Front. Educ. 6:711618*. DOI: 10.3389/feduc.2021.711618
5. **Hu, S.K.**, Herrera, E., Smith, A., Pachiadaki, M.G., Edgcomb, V.P., Sylva, S.P., Chan E.W., Seewald, J.S., German, C.R., & Huber, J.A. (2021) Protistan grazing impacts microbial communities and carbon cycling at deep-sea hydrothermal vents. *Proc Natl Acad Sci USA* 118(29). DOI: 10.1073/pnas.2102674118
6. Ollison G., **Hu, S.K.**, Mesrop, L.Y., Delong, E. & Caron, D. A. (2021) Come Rain or Shine: Depth Not Season Shapes the Protistan Community at Station ALOHA in the North Pacific Subtropical Gyre. *Deep-Sea Res I.* 120, 103494. DOI: 10.1016/j.dsr.2021.103494

7. Coesel, S.N., Durham, B.P., Groussman, R.D., **Hu, S.K.**, Caron, D.A., Morales, R.L., *et al.* (2021) Diel transcriptional oscillations of light-sensitive regulatory elements in open-ocean eukaryotic plankton communities. *Proc Natl Acad Sci USA* 118 (12). DOI: 10.1073/pnas.2011038118
8. Krinos, A., **Hu, S.K.**, Cohen, N.R. & Alexander, H. (2021) EUKulele: Taxonomic annotation of the unsung eukaryotic microbes. *J Open Source Softw* 6(57), 2817.DOI: 10.21105/joss.02817
9. Coenen, A.R., **Hu, S.K.**, Luo, E., Muratore, D., and Weitz, J.S. (2020) A Primer for Microbiome Time-Series Analysis. *Front Genet* 11: 310. DOI: 10.3389/fgene.2020.00310
10. Boeuf, D., Edwards, B.R., Eppley, J.M., **Hu, S.K.**, Poff, K.E., Romano, A.E., *et al.* (2019) Biological composition and microbial dynamics of sinking particulate organic matter at abyssal depths in the oligotrophic open ocean. *Proc Natl Acad Sci USA* 116(24): 11824–11832. DOI: 10.1073/pnas.1903080116
11. Liu, Z., Mesrop, L.Y., **Hu, S.K.**, & Caron, D.A. (2019) Transcriptome of *Thalassicolla nucleata* Holobiont Reveals Details of a Radiolarian Symbiotic Relationship. *Front Mar Sci* 6: 284. DOI: 10.3389/fmars.2019.00284.
12. Pasulka, A., **Hu, S.K.**, Countway, P.D., Coyne, K.J., Cary, S.C., Heidelberg, K.B., & Caron, D.A. (2019) SSU rRNA Gene Sequencing Survey of Benthic Microbial Eukaryotes from Guaymas Basin Hydrothermal Vent. *J Eukaryot Microbiol* 66(4):637-653. DOI: 10.1111/jeu.12711
13. Caron, D.A. & **Hu, S.K.** (2019) Are We Overestimating Protistan Diversity in Nature? *Trends in Microbiology* 27(3): 197–205. DOI: 10.1016/j.tim.2018.10.009
14. **Hu, S.K.**, Liu, Z., Alexander, H., Campbell, V., Connell, P.E., Dyhrman, S.T., *et al.* (2018) Shifting metabolic priorities among key protistan taxa within and below the euphotic zone. *Environ Microbiol* 20: 2865–2879.
15. **Hu, S.K.**, Paige E. Connell, Mesrop, L.Y., & Caron, D.A. (2018) A Hard Day's Night: Diel Shifts in Microbial Eukaryotic Activity in the North Pacific Subtropical Gyre. *Front Mar Sci* 5:251. DOI: 10.3389/fmars.2018.00351
16. Liu, Z., **Hu, S.K.**, Campbell, V., Tatters, A.O., Heidelberg, K.B., & Caron, D.A. (2017) Single-cell transcriptomics of small microbial eukaryotes: limitations and potential. *ISME J.*11: 1282–1285.
17. Connell, P.E., Campbell, V., Gellene, A.G., **Hu, S.K.**, & Caron, D.A. (2017) Planktonic food web structure at a coastal time-series site: II. Spatiotemporal variability of microbial trophic activities. *Deep Sea Res Part I Oceanogr Res Pap* 121: 210–223.
18. **Hu, S.K.**, Campbell, V., Connell, P., Gellene, A.G., Liu, Z., Terrado, R., & Caron, D.A. (2016) Protistan diversity and activity inferred from RNA and DNA at a coastal ocean site in the eastern North Pacific. *FEMS Microbiol Ecol* 92(4). DOI: 10.1093/femsec/fiw050
19. **Hu, S.K.**, Liu, Z., Lie, A.A.Y., Countway, P.D., Kim, D.Y., Jones, A.C., *et al.* (2015) Estimating Protistan Diversity Using High-Throughput Sequencing. *J Eukaryot Microbiol* 62: 688–693. DOI: 10.1111/jeu.12217
20. Lie, A.A.Y., Liu, Z., **Hu, S.K.**, Jones, A.C., Kim, D.Y., Countway, P.D., *et al.* (2014) Investigating Microbial Eukaryotic Diversity from a Global Census: Insights from a Comparison of Pyrotag and Full-Length Sequences of 18S rRNA Genes. *Appl Environ Microbiol* 80(14):4363. DOI: 10.1128/AEM.00057-14

PUBLICATIONS IN PROGRESS

1. **Hu, S.K.,** Alexander, H.**,** Liu, Z., Heidelberg, K.B., Dyhrman, S. & Caron, D.A. Distinct transcriptional signatures of the protistan community at the SPOT and ALOHA ocean time-series stations. (*In Review*).
2. Hammond, W., Lodolo, L., **Hu, S.K.**, & Pasulka, A. Methodological "lenses" influence the characterization of phytoplankton dynamics in a coastal upwelling ecosystem. (*In Review*).
3. Ollison, G.A., **Hu, S.K.**, Hopper, J.V., Stewart, B., Smith, J., Beatty, J.L., Rink, L., & Caron, D.A. Daily Dynamics of Contrasting Spring Algal Blooms in Santa Monica Bay (central Southern California Bight). (*In Review*).
4. Alexander, H., **Hu, S.K.**, Pachidaki, M, Krinos, A.I., Tully, B.J., Neely, C.J., & Reiter, T. Eukaryotic genomes from a global metagenomic dataset illuminate trophic modes and biogeography of ocean plankton. (*In Review*). *bioRxiv*: 2021.07.25.453713

5. Neely, C.J., **Hu, S.K.**, Alexander, H., Tully, B.J. The high-throughput gene prediction of more than 1,700 eukaryote genomes using the software package EukMetaSanity. (*In Review*) *bioRxiv*: 2021.07.25.453296
6. Beckett, S.J., Demory, D., Coenen, A.R., Casey, J.R., Follet, C.L., Dugenne, M., Connell, P., Carlson, Michael C.G., **Hu, S. K.,** *et al*. Nonlinear feedbacks and diel population dynamics of cyanobacteria, viruses, and grazers in the North Pacific Subtropical Gyre. (*In Review*).
7. Cohen, N. R., Alexander, H., Krinos, A. I., **Hu, S.K.**, & Lampe, R.H. Marine microeukaryote metatranscriptomics: sample processing and bioinformatic workflow recommendations for ecological applications. (*Submitted*).
8. **Hu, S.K.,** *et al.* Globally-distributed microbial eukaryotes exhibit endemism at deep-sea hydrothermal vents. (*In prep).*

NON-REFEREED PUBLICATIONS

1. Goordial, J., **Hu, S.,** & Tully, B. (2020). C-DEBI NextGen 2019 Early Career perspective on 'What's Next?': Upcoming Challenges and Opportunities. DOI: 10.31219/osf.io/7xkpq
2. Lim, Darlene S.S., Raineault, N.A., Brier, J.A., Chan, E., Chernov, J., Cohen, T., Deans, M., Garcia, A., German, C. R., Hauer, M., **Hu, S.K.,** Huber, J.A., Kane, R., Kobs Nawotniak, S., Lees, D., Lowe, J., Lubetkin, M., Marsh, L., Milesi, V., Miller, M., Miramalek, Z., Saunders, M., Sharif, K., Shields, A., Shock, E., Smith, A.R., and Sylva, S. (2020), SUBSEA 2019 Expedition to the Gorda Ridge, *Oceanography* 33(1), Supplement Pages 36 – 37.

PRESENTATIONS & POSTERS

2022 **Marine Microbes Gordon Research Conference**, Les Diablerets, VD, Switzerland
Invited Speaker: Ecological Roles of Microbial Eukaryotes at Hot Spots of Primary Production in the Deep Sea

2021 **Texas A&M University,** College Station, TX
Invited Speaker: The interconnected microbial eukaryome

BioGeoSCAPES scoping workshop, virtual
Invited Speaker: Capturing microbial trophic interactions in the food web

2021 **Deep-Sea Biology Society Symposium**, Brest, FR
Oral Presentation: Microbial eukaryotic diversity & grazing activity at deep-sea hydrothermal vents

OSU Microbiology Spring Research Symposium, Corvallis, OR
Invited Speaker: Ecological significance of microeukaryotes at deep-sea hydrothermal vents

Microbiology Society Annual Conference, UK
Invited Speaker: A eukaryotic heist: Scalable and automated retrieval of eukaryotic metagenome assembled genomes (MAGs) from large-scale datasets

2021 **University of Rhode Island GSO Department seminar**, Narrangansett, RI
Invited Speaker: The Impact of Phagotrophic Protists at Hot Spots of Primary Production in the Deep Sea

2020 **WHOI Biology Department**, Woods Hole, MA
Invited Speaker: The impact of phagotrophic protists at hot spots of primary production in the deep sea

WHOI Postdoctoral Symposium, Woods Hole, MA
Oral Presentation: Protistan Predation Pressure at Hydrothermal vents

Online poster session #ProtistSession – ISOP/ISEP
Poster Presentation: Protistan Predation Pressure at Hydrothermal vents

Global Environmental Microbiology Summer Course, Los Angeles, CA
Invited Speaker: Buckets & Robots: oceanographers in the field

WHOI Marine Chemistry & Geochemistry Department, Woods Hole, MA
Invited Speaker: The impact of phagotrophic protists at hot spots of primary production in the deep sea

UGA Skidaway Department Seminar, Savannah, GA
Invited Speaker: Ecological roles of microbial eukaryotes

Ocean Sciences Meeting, San Diego, CA
Oral Presentation: The impact of phagotrophic protists at hot spots of primary production in the deep sea

2019 **C-DEBI Annual Meeting**, Monterey, CA
Oral Presentation: Ecological roles of microbial eukaryotes at hot spots of primary production in the deep sea

WHOI Postdoctoral Symposium, Woods Hole, MA
Oral Presentation: Ecological roles of microbial eukaryotes at hot spots of primary production in the deep sea

2018 **C-DEBI Annual Meeting**, Monterey, CA
Poster Presentation: Probing subseafloor microbial interactions via hydrothermal vent fluids: a focus on protists

Ocean Sciences Meeting, 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
Invited Speaker: Characterizing microbial eukaryotic diversity and metabolic potential in the Eastern North Pacific

Biology department seminar, Cal Poly Pomona, CA
Invited Speaker: Characterizing microbial eukaryotic diversity and metabolic potential in the Eastern North Pacific

2017 **Ocean Sciences Meeting**, 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

2016 **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

TEACHING & MENTORSHIP (*denotes one-on-one mentoring)

2021	**Advanced data visualization in R** – One day workshop open for technical staff, scientists, students, and postdocs at WHOI. Taught methods in data visualization and ways to make figures in R.
	Introduction to R programming language – 4-day workshop introduction to R programming. Open to summer students and interns, and students and postdocs at WHOI.
	Certified Software Carpentries Instructor – Completed training specific to teaching bioinformatics and coding through Software Carpentries. Teaches workshops in the R programming language and application of R for ecological studies at WHOI.
2020	**Guest lecturer MESA Community College** – Introduction to deep-sea hydrothermal vents and hydrothermal vent food web ecology.
	Instructor for Bioinformatics Virtual Coordination Network – Lead instructor and organizer for the R coding topic of the BCVN effort. BVCN was launched at the start of the COVID-19 pandemic, when in-person work at research labs was suspended. BVCN is an open-access online educational resource for learning computational methods and bioinformatics.
2019	***Summer Student Fellow Mentor** – Advised a student for WHOI's undergraduate summer program. Student was awarded travel grants to present at SACNAS 2019 (Honolulu, HI) and OSM 2020 (San Diego, CA).
2013	**Teaching Assistant** – Introduction to Microbiology, USC
2013	***NSF REU Mentor** – Mentor for undergraduate students, USC
2012	**Teaching Assistant** – Organismal Biology and Evolution, USC
2011-2012	**Underwater Interpreter** – Exhibit SCUBA Diver, Seattle Aquarium, Seattle, WA

PROFESSIONAL ACTIVITIES & SERVICE

2021	**URGE Leader & DEI actions at WHOI** – Led discussion group for Unlearning Racism in the Geosciences to deepen the community's understanding of racism on historically excluded people in STEM. Developing department and institution-wide anti-racist policies and strategies at WHOI.
2020	**Ocean Sciences Meeting session co-chair** – Primary liaison for session entitled: *Coupling meta'omics and biochemical measurements to understand trophic strategies or physiological adaptations among marine organisms (micro- to macro-)* (*February 16-21)*
2019	**C-DEBI Early Career Workshop** – Organizer and participant for workshop devoted to enhancing early career scientists' success related to deep-sea research. Outcomes include white paper addressing challenges in deep biosphere research and proposals.
2019	**NSF Ideas Lab EukHiTS** – Workshop participant on *Research Frontiers and Grand Challenges in Microbial Eukaryote -Omics*. Outcomes: lead author and co-author on opinion and review manuscripts, respectively.
2018	**Ecological Dissertations in Aquatic Sciences** – Participant, microbial group leader. Outcomes: lead author and co-author on perspective and review manuscripts, respectively.
2014-present	**Invited peer reviewer** – including: *ISME Journal, Nature Communications, Molecular Ecology, Environmental Microbiology, Aquatic Microbial Ecology, mSystems, Deep Sea Research II, & Limnology & Oceanography*
2017	**WiSE Guest Speaker** – Presenter and panelist for Women in STEM group, USC
2017-present	**Protocols.io** – Ambassador, protist working group, & contributor
2016-2018	**Co-founder & Chair Grad Student Association** – USC
2015- 2017	**Graduate student faculty liaison** – USC
2016	**Invited Guest Speaker** – Yorkdale Elementary, LA
2015	**Invited Guest Speaker** – Panel participant for careers in STEM at Port of Los Angeles High School, LA

Presenter – Introduction to microscopy and protistology with Chattanooga High School, USC

2011-2012 **Marine Technologist I** – Scientific diver – UW SAFS, Seattle, WA

2010-2011 **Research Intern –** Northwest Fisheries Science Center, NOAA, Seattle, WA

2009-2010 **Research Intern** – Fisheries Acoustics Research Lab, UW SAFS, Seattle, WA

SELECTED GRANTS, AWARDS, & FELLOWSHIPS

2022 NSF OCE – PI, July 2022 - June 2024
Proposal title: Collaborative Research: Microbes need frenemies: unveiling microbial relationships with protists and viruses that support deep-sea hydrothermal vent food webs (*$341,325*)

2020 International Society for Evolutionary Protistology Prize for Creativity in Online Presentation (*$200*) – ISEP

2019 NSF OCE – Named Postdoctoral Investigator (current funding)
Proposal title: Characterizing and quantifying the impact of phagotrophic protists at hot spots of primary production at Axial Seamount

2019 Schmidt Ocean Institute (*Ship time*) – Co-PI
Proposal title: Characterizing and quantifying the impact of phagotrophic protists at hot spots of primary production at deep-sea hydrothermal vents

2018-2020 C-DEBI Postdoctoral Fellowship (*$58,000/year*) – WHOI

2018 Katrina J. Edwards Memorial Dissertation Award (*$500*) – USC

2017-2018 Tyler Environmental Fellowship for PhD students (*$28,500*) – USC

2016-2017 WiSE Merit Award for Current Doctoral Students (*$1,500*) – USC

2013-2016 WiSE Travel Grants (Total *$1,500*) – USC

2014 Graduate Student Travel Grant (*$500*) – USC

2014 Honorable Mention – NSF Graduate Research Fellowship Program

2013 USC Wrigley Summer Fellowship – WIES, Catalina Island, CA

2012 Outstanding Teaching Assistant Award – USC (General Biology)

2011 Undergraduate Commencement speaker – UW SAFS, Class of 2011

MAJOR FIELD OPERATIONS

2021 **PROTATAX (Protists at Axial Seamount**) – RV Thomas G. Thompson
Deployment of instrumentation to carry out *in situ* grazing experiments with the miniSID. ROV Jason dives to explore Axial Seamount and collect samples for shipboard experiments and vent fluid collection for downstream metagenomics and metatranscriptomics. *Cruise not completed, due to COVID-19.*

2020 **Mid-Cayman Rise Hydrothermal Vent** – RV Atlantis
Exploration of Von Damm and Piccard hydrothermal vent fields using ROV Jason. Support: NSF, NASA, WHOI

2019 **Gorda Ridge Hydrothermal Vent** – EV Nautilus
Investigated hydrothermal vent associated microbial populations using ROV Hercules. Support: NASA SUBSEA, NOAA, WHOI, URI, OET

2018 **Daily Santa Monica Pier Sampling –** Santa Monica, CA
Planned, organized, and led daily field sampling for several weeks to monitor spring-time coastal algal blooms. Support: NSF

2018 **Hawaii Ocean Time-series #300** – RV Kilo Moana
Conducted plankton tows and sample collection to sort single cells belonging to the Rhizaria group of microbial eukaryotes. Support: Simons Foundation

2015 **Hawaii Ocean Time-series #273** – RV Kilo Moana
Participated in regular monthly sampling for the long-running time series program at station ALOHA. Conducted size fractionation and water sample collection to

study the seasonal and spatial changes of microbial eukaryotic populations in the oligotrophic ocean. Support: Simons Foundation

2012-2014 **Dimensions of Biodiversity** – RV Yellowfin & Wrigley Marine Science Center
Planned, organized, and led seasonal operations to conduct grazing and growth experiments and molecular surveys of microbial eukaryotes at the Port of Los Angeles, the SPOT station, and Catalina Island. Support: NSF

2012-2018 **San Pedro Ocean Time-series program** – RV Yellowfin
Planned, organized, and led monthly operations at the coastal time-series site (SPOT station). Monthly cruises sampled the entire water column mid-way between the Port of Los Angeles and Catalina Island. Support: NSF
