

**JULIA (GRACE) KLINGES**  
**PhD candidate, Department of Microbiology, Oregon State University**  
226 Nash Hall, Corvallis, Oregon 97331 • [klingesj@oregonstate.edu](mailto:klingesj@oregonstate.edu) •

## RESEARCH INTERESTS

---

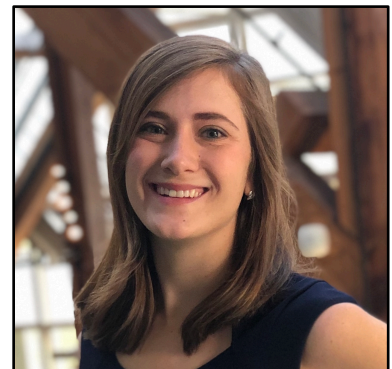
Examining influences of anthropogenic stressors and microbial dysbiosis on coral health and disease susceptibility

## EDUCATION

---

2016 – present **Oregon State University**, Corvallis, OR  
PhD candidate in Microbiology (GPA 3.99)  
Minor in Biological Data Sciences  
Expected degree August 2021  
NSF Graduate Research Fellow

2011 – 2015 **Haverford College**, Haverford, PA  
B.S. in Geology with Honors (GPA 3.6)  
Minors in Environmental Studies and Biology



## PUBLICATIONS

---

- 2020 **Klinges JG\***, Maher RL\*, Vega Thurber RL, Muller EM. 2020. Parasitic "*Candidatus Aquarickettsia rohweri*" is a marker of disease susceptibility in *Acropora cervicornis* but is lost during thermal stress. *Environ. Microbiol.*
- 2019 Planes S, Allemand D, **the Tara Pacific Consortium**. 2019. The Tara Pacific expedition—A pan-ecosystemic approach of the “-omics” complexity of coral reef holobionts across the Pacific Ocean. *PLoS Biology*, **17** (9), e3000483
- 2019 Gorsky G, Bourdin G, Lombard F, Pedrotti ML, **the Tara Pacific Consortium**. 2019. Expanding Tara Oceans Protocols for Underway, Ecosystemic Sampling of the Ocean-Atmosphere Interface During Tara Pacific Expedition (2016–2018). *Frontiers in Marine Science.*, **6**, p 750
- 2019 **Klinges JG**, Rosales SM, McMinds R, Shaver EC, Shantz AA, Peters EC, Eitel M, Wörheide G, Sharp KH, Burkepille DE, Silliman BR, and Vega Thurber RL. 2019. Phylogenetic, genomic, and biogeographic characterization of a novel and ubiquitous marine invertebrate-associated Rickettsiales parasite, *Candidatus Aquarickettsia rohweri*, gen. nov., sp. nov. *The ISME Journal.*, **13** (12), pp 2938-2953
- 2018 Mumford AC, Akob DM, **Klinges JG**, and Cozzarelli IM. 2018. Common Hydraulic Fracturing Fluid Additives Alter the Structure and Function of Anaerobic Microbial Communities. *Appl. Environ. Microbiol.*, **84** (8) e02729-17.
- 2016 Akob DM, Mumford A, Cozzarelli IM, Orem WH, Engle M, **Klinges JG**, Kent DB. 2016. Wastewater Disposal from Unconventional Oil and Gas Development Degrades Stream Quality at a West Virginia Injection Facility. *Environ. Sci. Technol.*, **50** (11), pp 5517–5525.
- 2014 Cull S, Cravotta CA, **Klinges JG**, and Weeks C. 2014. Spectral masking of goethite in abandoned mine drainage systems: Implications for Mars. *Earth and Planetary Science Letters* **403**, pp 217-224.

## SELECTED GRANTS AND AWARDS

---

- 2018 – NSF Graduate Research Fellowship (GRFP) (3 years PhD stipend and tuition)
- 2018 N.L Tartar Graduate Fellowship (\$7,000)

2018	Global Invertebrate Genomics Association Student Travel Support (\$900)
2018	College of Science Graduate Student Travel Award (\$500)
2017	President's Commission on the Status of Women Scholarship (\$500)
2016	President's Commission on the Status of Women Scholarship (\$500)
2016 – 2017	Provost's Distinguished Graduate Fellowship (\$28,000)
2015	Haverford College Honors in Geology
2015	John G. Wallace Class Night Award (to student with greatest contribution to performing arts on campus)
2013	Bryn Mawr Summer Science Research Award

## SYNERGISTIC ACTIVITIES

---

2019 – present	Mentoring OSU undergraduate student (Shalvi Patel) conducting molecular biology labwork at OSU, currently serving as Honors thesis committee member
2019 – 2020	Mentored OSU undergraduate student (William Duke) for nine weeks of fieldwork at Mote Marine Laboratory and two terms of microscopy analysis at OSU, served as Honors thesis committee member
2019	Co-led NSF GRFP and graduate school application workshop for ~30 Mote interns and staff members
2019	Developed and executed microbiology-focused labwork mini-rotation for students in Mote Ocean Acidification and Coral Restoration internship programs
2019	Reviewer for ISME Journal
2019	Co-led NSF GRFP application workshop for ~35 OSU graduate students and undergrads
2018	Co-led NSF GRFP application workshop for ~35 OSU graduate students and undergrads
2018	GTA for MB 230 – Introductory Microbiology
2018	GTA for MB 330 – Disease and Society
2017 – 2018	Volunteer Interpretive and Husbandry Diver, Oregon Coast Aquarium
2017	Guest & Featured Scientist on Inspiration Dissemination on KBVR FM

## SELECTED PRESENTATIONS

---

2020	<b>OSU Microbiology Seminar Series.</b> “Coral-parasite interactions are a product of environmental factors and a marker of host health.” Klinges JG <i>et al.</i> Scheduled May 2020, postponed. Corvallis, OR (Oral, invited speaker).
2020	<b>International Coral Reef Society 2020 Conference.</b> “Novel Acroporid Parasite Population Dynamics Are Host Genotype- and Environment-Dependent.” Klinges JG <i>et al.</i> Scheduled July 2020, postponed. Bremen, Germany (Oral).
2019	<b>NW Microbiome Mixer.</b> “Phylogenetic, genomic, and biogeographic characterization of a novel and ubiquitous marine invertebrate-associated Rickettsiales parasite.” Klinges JG <i>et al.</i> March 2019. Portland, OR (Poster).
2018	<b>Third Global Invertebrate Genomics Alliance Research Conference.</b> “Phylogeny and Function of a Newly-Discovered Coral Parasite within “ <i>Candidatus Marinoinvertebrata</i> .” Klinges JG <i>et al.</i> October 2018. Curaçao (Oral).
2018	<b>2018 International Symbiosis Society Congress.</b> “ <i>Wolbachia</i> of the sea: Newly discovered coral parasite <i>Candidatus Marinoinvertebrata rohwerii</i> provides an ideal model to test dynamic shifts from mutualism to parasitism in response to nutrient pollution.” Klinges JG <i>et al.</i> July 2018. Corvallis, OR (Oral).
2018	<b>National Taiwan Ocean University.</b> “Tara Pacific 2016-2018: A New Concept for Ocean Sciences.” Klinges JG and Serge Planes. April 2018. Keelung, Taiwan (Oral).
2018	<b>American Society for Microbiology Microbe 2018.</b> “Genomic reconstruction of <i>Candidatus Marinoinvertebrata rohwerii</i> , <i>gen. nov.</i> , <i>sp. nov.</i> , implicates nutrient pollution as a mechanism behind bacterial pathogenesis in corals.” Klinges JG <i>et al.</i> June 2019. Atlanta, GA (Poster).
2017	<b>European Coral Reef Symposium.</b> “Phylogeny and Function of a Newly-Discovered Coral Parasite within “ <i>Candidatus Marinoinvertebrata</i> .” Klinges JG <i>et al.</i> December 2017. Oxford, UK (Poster).

## **ADDITIONAL RESEARCH EXPERIENCE**

---

### **ORISE Fellow, U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation, Science Policy Branch**

July 2015-August 2016

- Contributed to white paper on new methods for soil and groundwater bioremediation, including recent developments on microbial metal degradation, implementation of next-generation sequencing, and amendments to stimulate microbial activity in subsurface
- Identified Superfund sites lacking completion strategies for groundwater, assisted in updating conceptual site model. Contributed to site close-out plan working on-site with regional coordinators
- Helped develop an R-based statistical model relating lead cleanup level to site cleanup cost

### **Hydrologic Technician, U.S. Geological Survey, Reston Microbiology Lab, Reston, VA**

June 2014-August 2015 (full time for two summers; part-time during school year)

Supervisors: Dr. Denise M. Akob, Dr. Adam C. Mumford, and Darren Dunlap

- Conducted microbiology and water quality research to study the environmental effects of hydraulic fracturing wastewaters on stream microbial communities
- Performed fieldwork to assess water chemistry and microbial communities in impacted streams
- Performed molecular and genetic analysis, such as DNA extraction, PCR, cloning and DNA quantification, for environmental microbial samples
- Assessed microbial activity using GC, colorimetric assays, wet chemistry, HPLC, and SPME
- Constructed flow-through microcosms and other custom lab equipment

Assisted in USGS Science Camp for elementary and middle school children

### **Senior Thesis, Bryn Mawr College**

September 2014-May 2015 (Awarded grade of 4.0)

Advisors: Dr. Denise M. Akob (U.S. Geological Survey) and Dr. Donald Barber (Bryn Mawr College)

Titled: *Microbe-Metal Interactions Along a Produced Water Impacted Stream System*

- Established enrichment cultures of iron-reducing bacteria to study effect of hydraulic fracturing chemical additives on microbial metabolism, using high-throughput sequencing to evaluate microbial population shifts
- Used high-throughput sequencing to evaluate microbial population shifts

### **Field Intern, US Geological Survey, Pennsylvania Water Science Center**

May 2013-December 2013 (full time during summer; part-time during school year)

Supervisors: Dr. Charles Cravotta III and Dr. Selby Cull

- Collected and analyzed samples from abandoned mine drainage (AMD) sites in Northeast PA using microscopy, mineralogy (visible- to near-infrared spectroscopy), and molecular biology
- Performed field experiments to assess the feasibility of aeration as a remediation technique for AMD

## **ADDITIONAL SKILLS & CERTIFICATIONS**

---

**Languages:** Spanish (competent), French (beginner)

**Software/Coding:** R, GitHub, PhotoScan, ArcGIS, PC-ORD, GeoMapApp, Google Earth, BASH and Python

**Training:** Center for Genome Research and Biocomputing at OSU – Introduction to Unix/Linux and Command-line Data Analysis; Intro to R and RStudio; Intro to Python; RNA Sequencing.

AAUS Scientific Research Diver (June 2017), PADI Open Water Diver/Advanced Open Water/Nitrox Diver

Current First Aid, CPR and Emergency O<sub>2</sub> certifications

HAZWOPER Hazardous Waste Emergency Response Certification