

STEVEN D. QUISTAD

Laboratory of Genetic Evolution
École Supérieure de Physique et de
Chimie Industrielles de la Ville de Paris (ESPCI)
Paris, France, 75005

Phone: +33 638369073
Email: steven.quistad@gmail.com
Website: www.stevenquistad.com

HIGHLIGHTS

Molecular microbiologist with 3 years of post-doctoral training and 12 years of combined research experience in academic and biotech incubator settings.

- Strong molecular biology skills and phage biology background
- Experience in DNA and RNA sequencing using NGS workflow, from sample processing to bioinformatic analysis.
- Bioinformatic analysis of large metagenomic datasets (viromes and microbiomes), Unix (basic), command line-based analysis
- Strong leadership skills developed in undergraduate (founder of biology club) and graduate school (graduate student representative)

EDUCATION

2015 **PhD, Cell and Molecular Biology**, University of California San Diego

Joint doctoral program with San Diego State University.
The title of my dissertation is “Viruses, corals, and the origin of Metazoans.”

2010 **B.A. (High Honors) Biology**, University of California Santa Barbara

EXPERIENCE

2015-Present **Marie Sklodowska-Curie Research Fellow** – ESPCI, Paris, France

- Investigating the impact of bacteriophages on host physiology using the Millidrop Analyzer, a microfluidic-based device for high-throughput microbiological analysis (www.Millidrop.com)
- Investigating the impact of bacteriophages on the function of cellulose-degrading microbial communities via Horizontal Gene Transfer

2010-2015 **Doctoral Research** – University of California San Diego/San Diego State University

- Designed and developed a complete Next Generation Sequencing pipeline of animal-associated viruses and performed various metagenomic analyses
- Developed novel methods to investigate cell physiology in non-model organisms
- Designed and utilized a fully-functional microbiology laboratory during a 7-week field expedition to the Russian Arctic in collaboration with National Geographic
- Presented at more than 16 conferences receiving multiple research awards
- Authored and co-authored 9 publications

2008-2010 **Research Assistant** - University of California Santa Barbara, Marine Science Institute

- Performed Stable Isotope Probing of viral communities associated with hydrocarbon-oxidizing microbes
- Determined biogeochemical rates of propane oxidation in marine sediments

2006-2007 **Research Assistant** - United States Geological Survey, Menlo Park, CA, USA
Studied Methanogenesis and mercury cycling in wetland environments using Gas Chromatography

AWARDS

2017-2019 Marie Sklodowska-Curie Individual Fellowship
2013-2015 Achievement Rewards for College Scientists Fellowship
2013 Provost Award, San Diego State University
2012 Most Collaborative Poster San Diego State University
2012 Presidents Award, San Diego State University
2010-2013 National Science Foundation Graduate Research Fellowship
2010 Award of Distinction, University of California Santa Barbara
2010 Award of Excellence, University of California Santa Barbara
2006-2010 Innovator of Future Scholarship, Rambus Inc.
2009 Summer Undergraduate Research Fellowship, University of California Santa Barbara

COMMUNITY SERVICE

2015 Panel Member: San Diego State University college fair STEM panel
2015 Public presentation: *Climate change, corals, and the arctic* (3rd grade)
2014 Public Presentation: *How viruses control the world, seriously* Art-Phage Collab.
2014 Moderator: San Diego State University Undergraduate Research Symposium
2014-2015 Two scientists walk into a bar, Reuben H. Fleet Science Center
2013-2014 Public presentation: *The microbial ocean: tales of a marine virus hunter* (2nd/3rd grade)
2013 Public Presentation: 81° North: A tale of two coral biologists lost in the Russian Arctic
2013 Invited speaker: San Diego State University scholarship donor recognition luncheon
2013-2015 Judge: Greater San Diego Science and Engineering Fair
2013-2014 Graduate Student Representative: Cell and Molecular Biology Doctoral Program
2008-2010 Founder and President: Society of Undergraduate Biologists at UCSB

SCIENTIFIC PRESENTATIONS

2018 Viruses of Microbes EMBO Conference, Wroclaw, Poland (invited speaker)
2017 Old Herborn University Seminar (Focus:Virome), Herborn, Germany (invited talk)
2016 Viruses of Microbes EMBO Conference, Liverpool, United Kingdom (poster)
2015 Hopkins Marine Station, Monterey, CA, USA (invited speaker)
2015 Viral Immunity Keystone Symposia, Breckenridge, CO, USA (poster)
2014 APS: Comparative Approaches to Grand Challenges in Physiology (poster)
2013 Immunology 2013, Hawaii, USA, (poster)
2013 Symbiosis Workshop, Yosemite, USA, (oral)
2013 San Diego Coral Club, San Diego, USA, (invited speaker)
2012 International Coral Reef Symposium (ICRS), Cairns, Australia, (oral)
2012 Lower Reef Invertebrate Symbiosis with Microorganisms, Eilat, Israel, (poster)
2012 California State University Research Competition, Long Beach, USA (oral)
2012-2014 SDSU Student Research Symposium, San Diego, USA (oral)
2011-2015 Graduate Student Symposium, San Diego, USA (oral)
2010 UCSB Undergraduate Research Symposium (poster)

PUBLICATIONS IN PRESS

1. **Quistad SD**, Stotland A, Barott KL, Hilton B, Smurthweites C, Grasis J, Wolkowicz R, and Rohwer F. (2014). The evolution of TNF-induced apoptosis reveals 550 million years of functional conservation. *Proceedings of the National Academy of Sciences* 11 (26). *** Covered by *National Geographic* and *The Scientist*
2. **Quistad SD**, Grasis JA, Barr JJ, Rohwer FL. (2017) Viruses and the origin of microbiome selection and immunity. *International Society for Microbial Ecology (ISME J)* 11(4):835-840
3. **Quistad SD**, Lim YW, Silva GGZ, Nelson CE, Haas AF, Wegley-Kelly L, Edwards RA, Rohwer FL. (2016) Using viromes to predict novel immune proteins in non-model organisms. *Proceedings of the Royal Society B* **283**: 20161200.
4. **Quistad SD**, and Traylor-Knowles N. Precambrian origins of the TNFR superfamily. *Cell Death Discovery* (2016) 2, e16058; doi:10.1038/cddiscovery.2016.58
5. **Quistad SD**, Valentine DL. (2011). Anaerobic oxidation of propane in marine sediments. *Geochimica et cosmochimica*. 75, 2159-2169
6. **Quistad SD**. (2018) Cnidaria – An emerging model phylum to investigate the evolution of metazoan immunity. Old Herborn University Monograph, Evolutionary biology of the virome and its impact on human health and disease.
7. Knowles B, et al. **Quistad SD**, Rohwer F. (2016). Lytic to temperate switching of viral communities. *Nature*. 531(7595):466-70.
8. Quinn RA, et al. **Quistad SD**, Rohwer F. (2016). Metabolomics of reef benthic interactions reveals a bioactive lipid involved in coral defense. *Proceedings of the Royal Society B*. 20160469.
9. Hisakawa N, **Quistad SD**, Hester ER, Martynova D, Maughan M, Sala E, Gavrilov MV, Rohwer F. (2015). *PeerJ*. Metagenomic and satellite analysis of red snow in the Russian Arctic. 3:e1491;DOI 10.7717/peerj.1491
10. Haas AF, Nelson CE, Rohwer F, Wegley-Kelly L, **Quistad SD**, Carlson CA, Leichter JJ, Hatay M, JE Smith (2013). Influence of coral and algal exudates on microbially mediated metabolism. *PeerJ*. 1e:108 <http://dx.doi.org/10.7717/peerJ.108>
11. Galtier d'Auriac I, Quinn RA, Maughan H, Nothias LF, Little MJ, Kapono CA, Cobian A, Reyes BT, Green K, **Quistad SD**, Leray M, Smith JE, Dorrestein PC, Rohwer F, Deheyn DD, Hartmann AC. Before platelets: the roles of platelet activating factor in a basal marine organism. *Proceedings of the Royal Society B*. (Accepted).

PUBLICATIONS IN PREPARATION

12. **Quistad SD**, Dulcier G, and Rainey PB. Horizontal Gene Transfer (HGT) facilitates evolution of community function.
13. **Quistad SD** and Rainey PB. Investigating the impact of novel bacteriophages on host physiology using droplet-based microfluidics.