

Zackary I Johnson

Contact Information

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Professional Preparation

Massachusetts Institute of Technology, Postdoc in Marine Microbial Ecology, (2000-2004)
Duke University, Botany, PhD (2000)
Massachusetts Institute of Technology, Civil and Environmental Engineering, B.S. (1994)

Appointments

2005- Assistant Professor, Department of Oceanography, University of Hawaii

Five Relevant Publications

- Johnson ZI** and Sheldon T (2007) A high-throughput method to measure photosynthesis irradiance curves of phytoplankton. *Limnology and Oceanography:Methods* 5: 417-424.
- Johnson ZI** et al. (2006) Niche partitioning among *Prochlorococcus* ecotypes along ocean-scale environmental gradients. *Science* 311, 1737-1740.
- Zinser E, Coe A, **Johnson ZI**, Martiny A, Fuller NJ, Scanlan D, and Chisholm SW. (2006) *Prochlorococcus* ecotype abundances in the North Atlantic Ocean revealed by an improved quantitative PCR method. *Applied and Environmental Microbiology* 72, 723-732.
- Lindell D, Jaffe JD, **Johnson ZI**, Church GM, Chisholm SW. Photosynthesis genes in marine viruses yield proteins during host infection (2005) *Nature* 438, 86-89.
- Rocap G, Larimer F, Lamerdin J, Malfatti S, Chain P, Ahlgren N, Arellano A, Coleman M, Hauser L, Hess W, **Johnson Z**, Land M, Lindell D, Post A, Regala W, Shah M, Shaw S, Steglich C, Sullivan M, Ting C, Tolonen A, Webb E, Zinser E, Chisholm S (2003) Genome divergence in two *Prochlorococcus* ecotypes reflects oceanic niche differentiation. *Nature* 424, 1042-1047.

Five Additional Publications

- Hiscock MR, Lance AP, Apprill AM, Bidigare RR, BG Mitchell, Smith SO, **Johnson ZI**, Barber RT (2008) Photosynthetic maximum quantum yield increases are an essential component of the Southern Ocean phytoplankton response to iron. *PNAS* 105, 4775-4780.
- Johnson Z** and Chisholm SW. (2004) Properties of overlapping genes are conserved across microbial genomes. *Genome Research* 14, 2268-2272.
- Johnson Z** (2004) Development and application of the background irradiance gradient – single turnover fluorometer (BIG-STf). *Marine Ecology Progress Series* 283, 73-80.
- Coale K, many others, and **Johnson Z** (2004) Southern Ocean Iron Enrichment Experiment (SOFEX): Carbon Cycling in Antarctic Waters. *Science* 304, 408-414.
- Johnson Z** and RT Barber (2003) The low-light reduction in the quantum yield of photosynthesis: potential errors and biases when calculating the maximum quantum yield. *Photosynthesis Research* 75, 85-95.

Synergistic Activities

- 2008 NPR Science Friday: "*Prochlorococcus*: the most important microbe you've never heard of."
- 2008 ASM Session Convener & Presenter: Marine Cyanobacteria
- 2008 Conference Organizer: *Prochlorococcus*fest: 20th anniversary meeting on *Prochlorococcus* (100 attendees)
- 2008 Session Chair, Processes in the Western Pacific Ocean, Ocean Sciences Meeting
- 2006 Session Chair, Linking Microbial Diversity to Ecosystem Functioning, AGU/ASLO/TOS Ocean Sciences Meeting
- 2005-present Ocean Science Bowl at University of Hawaii, judging and organizational support for state-wide high school ocean sciences competition
- 2005-present Pacific Science Symposium, judge and professional participant in science symposium for high school students to present their own research projects and learn about professional activities in sciences
- 2004-present Teach biological oceanography and introduction to oceanography (OCN621, OCN201), University of Hawaii
- 1996-present Undergraduate and Graduate Student Research Project Supervisor (Selected Project Titles: Diel patterns in photosynthesis; Si uptake in diatoms; Phytoplankton genetic diversity assessed using the *psbA* gene)

Scholarships and Honors:

- NOAA Postdoctoral Fellowship in Climate and Global Change, 2000-2002
- Dissertations Initiative for the Advancement of Limnology and Oceanography, 2001
- Harvey W. Smith Fellowship in Biological Oceanography at Duke University, 1994-2000

Professional Interests

Microbial Ecology, Marine Photosynthesis, Microbial Genomics

Collaborators

Recent collaborators (in addition to those listed as co-authors above): Martin Polz, Elizabeth Mann, Katherine Barbeau, Lisa Moore, Matt Church, David Karl, Mike Rappe, Martin Polz, Elizabeth Mann, Katherine Barbeau

Graduate Advisor: Richard T Barber (Duke University)

Postgraduate Advisor: Sallie W Chisholm (MIT)

Professional Organizations

American Society of Microbiologists, American Society of Limnology & Oceanography
American Geophysical Union, International Society of Photosynthesis Research, Sigma Xi,
Phycological Society of America, Hawaii Academy of Sciences, The Oceanography Society