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Education:

- 2007 University of Oregon, Biology, PhD.
Dissertation: *Diversification of marine picocyanobacteria: The ecology and evolution of spectral phenotype and phycoerythrin*. Advisor: Dr. Michelle Wood.
- 1996 University of Oregon, Biology and Political Science, BS.

Appointments:

- 2014- **Research Scientist:** Bay Area Environmental Research Institute.
- 2012- **Guest Scientist:** RIKEN, Yokohama, Japan.
- 2012-2014 **NASA Postdoctoral Program Fellow:** NASA Ames Research Center.
- 2009-2012 **RIKEN Foreign Postdoctoral Researcher,** RIKEN ASI and Guest Researcher, Yokohama City University, Yokohama, Japan.
- 2008-2009 **Special Assistant Professor:** ImpGrad program (MEXT), Tokyo Metropolitan University, Tokyo, Japan (*adjunct faculty teaching position*).
- 2007-2008 **Invited Guest Lecturer:** ImpGrad program (MEXT), Tokyo Metropolitan University, Tokyo, Japan.
- 2007 **Postdoctoral Research Fellow:** Department of Biology, University of Oregon.
- 2000-2007 **Graduate Teaching Fellow:** Department of Biology, University of Oregon.

Teaching Experience:

- 2008-2009 **Instructor:** *Critically Reading Scientific English*, Department of Biological Sciences, Tokyo Metropolitan University (graduate course for Japanese students).
- 2006 **Instructor:** *Harmful Algal Blooms*, Oregon Institute of Marine Biology, University of Oregon (upper division undergraduate course co-taught with Dr. Peter Strutton).
- 2006 **Guest lecturer:** *Algae and Photosynthetic Bacteria* with Dr. Lynda Shapiro, Oregon Institute of Marine Biology, University of Oregon.
- 2004 **Guest lecturer:** *Marine Biology* with Dr. Michelle Wood, University of Oregon.
- 2004 **Teaching assistant:** *Marine Biology* and *Microbial Evolution* with Dr. Michelle Wood. University of Oregon (2 courses).
- 2003 **Guest lecturer:** *Marine Biology* with Dr. Michelle Wood, University of Oregon.
- 2001-2002 **Teaching assistant:** *Marine Biology* with Dr. Michelle Wood, *General Biology: Organisms* with Dr. Mark Carrier, and *Microbiology* with Dr. Richard Castenholz, University of Oregon.

Student Mentorship:

- 2003-2013 Undergraduate students (17), Graduate students (8), High School students (1).
- 2008-2009 Tokyo Metropolitan University, BS, MS and PhD Theses in Biology (*faculty advisor for English language support for thesis preparation and defense for about one dozen students in the biology department*).
- 2008-2009 Uncultured Microbes- A Panel-led Mini Lecture on the Promises of Uncultured Microorganisms, student-organized mini-symposium held at ISME 12 in Cairns, Australia, Tokyo Metropolitan University (*faculty co-advisor*).

Education Outreach:

- 2015 NASA, Moffett Field, CA. Lecture: *Taking spaceship Earth with us: Building microbial ecosystems to facilitate human exploration of the solar system*. Guest lecture for Japanese high school students visiting NASA.
- 2013 NASA, Moffett Field, CA. Lecture: *Molecular Phylogenetics*. (two-part lecture for lab-mates and colleagues introducing phylogenetics including history, philosophy, methodology and presentation).

- 2013 Watsonville Wetlands Watch, Watsonville, CA. Guest field-lecture on sulfur bacteria in marine intertidal systems to Wetland Stewards (high-school student interns); featured in the July 2013 Watsonville Wetlands Watch e-newsletter.
- 2011 RIKEN, Yokohama, Japan. Lecturer: *Molecular Phylogenetics* (three-part lecture for informal seminar series I organized for graduate and postgraduate scientists).
- 2009-2010 RIKEN, Yokohama, Japan. Open campus: Presented my research and general information about cyanobacteria and planktonic algae to the general public at the annual open campus event at RIKEN.
- 2009 International Biology Olympiad, Tsukuba, Japan. Scientific and English advisor for the local Japanese organizing committee.
- 2008-2012 South Eugene High School, Eugene, OR. *Cyanobacteria are better than you*. Humorous fake research paper I wrote introducing cyanobacteria, endosymbiotic theory, and global biogeochemical cycles (carbon- and nitrogen-fixation).

Grants and Fellowships:

- Pending 2015 NASA Exobiology Grant – *Physiological, genomic and evolutionary analyses of a unique early Earth ecosystem analogue* (PI); 2 years.
- Pending 2015 NASA Exobiology Grant – *Microbial mats as temporal surface reflectance biosignatures* (Co-I); 3 years.
- Pending 2015 NASA Exobiology Grant – *Very Low Temperature Detection of Microbial Metabolism* (Co-I); 2 years.
- 2015-2018 NASA Spaceflight Research Opportunities in Space Biology– *Experimental evolution of Bacillus subtilis populations in space; mutation, selection and population dynamics* (PI).
- 2012-2014 NASA Postdoctoral Program. Oak Ridge Associated Universities. *Development of artificial microbial mat systems for biological hydrogen production*.
- 2011 RIKEN President's Discretionary Fund- Forum Support Program for Young Staff. *Next Generation Tools for Molecular Target Discovery* (Co-I).
- 2009-2012 RIKEN Foreign Postdoctoral Researcher Fellowship, RIKEN Advanced Science Institute. *Integrated multi-omic investigation of phytoplankton community dynamics: novel metabolic function and community structure in an artificial ecosystem*.
- 2005 National Science Foundation IGERT Research Support Fellowship: Program in Evolution, Development and Genomics, University of Oregon.

Awards:

- 2013 Japanese Society for Microbial Ecology Best Paper Award. *This award is presented annually to one paper published in the previous year in the society journal Microbes and Environments*.

Publications (asterisk indicates student co-author, caret indicates equal contribution):

McKay C, Rask JC, Detweiler AM, Bebout BM, Everroad RC, Lee JZ, Chanton JP, Mayer MH*, Caraballo AAL*, Kapili B*, Al-Awar M and Al-Farraj A. An unusual inverted saline microbial mat community in an interdune sabkha in the Rub' al Khali (the Empty Quarter), UAE: An analog for habitats on present Mars. *In review, PLOS ONE*.

Chikayama E and Everroad RC. Theory of decomposition of complex chemical networks using the Hill functions. *In review, SpringerPlus*.

Stuart RK, Lee JZ, Everroad RC, Mayali X, Lipton M, Boggs M, Stannard WL, Bebout L, Bebout B, Weber P, Pett-Ridge J and Thelen M. Resource allocation in photosynthetic microbial mats: light-dependent cyanobacterial extracellular polymeric substances (EPS). *In press, ISME Journal*.

Sudek S[^], Everroad RC[^], Gehman A-L, Smith J, Chavez F and Worden AZ. Cyanobacterial distributions along a physico-chemical gradient in the northeastern Pacific Ocean. *In press, Environmental Microbiology*.

- García-Maldonado JQ*, Bebout BM, Everroad RC and López-Cortés A. 2015. Evidence of hydrogenotrophic methanogenic archaea from hypersaline microbial mats. *Microbial Ecology*. 69:106-117.
- Asano T, Taoka M, Yamauchi Y, Everroad RC, Seto Y, Isobe T, Kamo M and Chosa N. Re-examination of a α -chymotrypsin-solubilized laccase in the pupal cuticle of the silkworm, *Bombyx mori*: Insights into the regulation system for laccase activation during the ecdysis process. 2014. *Insect Biochemistry and Molecular Biology*. 55:61-69.
- Lee JZ, Burow L, Woebken D, Kubo MD, Everroad RC, Spormann A, Weber PK, Pett-Ridge J, Bebout BM and Hoehler TM. 2014. Fermentation couples *Chloroflexi* and sulfate-reducing bacteria to Cyanobacteria in hypersaline microbial mats. *Frontiers in Microbiology*. 5:61.
- Everroad RC[^], Woebken D[^], Singer SW, Burow LC, Kyrpidis N, Woyke T, Goodwin L, Detweiler A, Prufert-Bebout L and Pett-Ridge J. 2013. Draft genome sequence of an oscillatorian cyanobacterium, strain ESFC-1. *Genome Announcements*. 4:e00527-13.
- Everroad RC, Otaki H*, Matsuura K and Haruta S. 2012. Diversification of bacterial community composition along a temperature gradient at a thermal spring. *Microbes and Environments*. 27:374-81.
- Everroad RC and Wood AM. 2012. Phycoerythrin evolution and diversification of spectral phenotype in marine *Synechococcus* and related picocyanobacteria. *Molecular Phylogenetics and Evolution*. 64:381-392.
- Otaki H*, Everroad RC, Matsuura K and Haruta S. 2012. Production and consumption of hydrogen in hot spring microbial mats dominated by a filamentous anoxygenic photosynthetic bacterium. *Microbes and Environments*. 27:293-299 (2013 JSME Best Paper Award).
- Everroad RC[^], Yoshida S^{^*}, Tsuboi Y, Kikuchi J and Moriya S. 2012. Concentration of metabolites from low-density planktonic communities for environmental metabolomics using nuclear magnetic resonance spectroscopy. *Journal of Visualized Experiments*. 62:e3163.
- Vergara F, Everroad RC, Andraca G*, Makihara H and Kikuchi J. 2012. Plant host differences between *Cossus redtenbacheri* and *Cossus insularis*: insights from mechanical tests and molecular phylogeny. *Bulletin of Insectology*. 65:217-222.
- Ogata Y, Chikayama E, Morioka Y*, Everroad RC, Shino A, Matsushima A, Haruna H, Moriya S, Toyoda T and Kikuchi J. 2012. ECOMICS: A web-based toolkit for investigating the biomolecular web in ecosystems using a trans-omics approach. *PLoS ONE*. 7:e30263.
- Tweddle JF, Strutton PG, Foley DG, O'Higgins L, Wood AM, Scott B*, Everroad RC, Peterson W, Cannon D, Hunter M and Forster Z. 2010. Relationships among upwelling, phytoplankton blooms, and phycotoxins in coastal Oregon shellfish. *Marine Ecology Progress Series*. 405:131-145.
- Banerjee M, Everroad RC and Castenholz RW. 2009. An unusual cyanobacterium from saline thermal waters with relatives from unexpected habitats. *Extremophiles*. 13:707-713.
- Everroad RC and Wood AM. 2006. Comparative molecular evolution of newly discovered picocyanobacterial strains reveals a phylogenetically informative variable region of β -phycoerythrin. *Journal of Phycology*. 42:1300-1311.

Everroad C[^], Six C^{^*}, Partensky F, Thomas JC, Holtendorff J and Wood AM. 2006. Biochemical bases of type IV chromatic adaptation in marine *Synechococcus* spp. *Journal of Bacteriology*. 188:3345-3356.

Wood AM, Everroad RC and Wingard LM. 2005. Measuring growth rates in microalgal cultures. In Anderson, R. [Ed.] *Algal Culturing Techniques*. Phycological Society of America.

Manuscripts in Preparation:

Everroad RC, Tsuboi Y, Kikuchi J and Moriya S. Algal bloom dynamics and metabolic oscillation in an artificial ecosystem.

Everroad RC, Bebout BM, Bebout LE, Detweiler AM, Lee JZ, Mayali X, Singer SW, Stuart R, Weber PK, Woebken D and Pett-Ridge JP. Ecological genomics of the newly discovered diazotrophic filamentous cyanobacterium ESFC-1.

Plenary and Invited Presentations:

- 2015 Taking spaceship Earth with us: Building microbial ecosystems to facilitate human exploration of the solar system. Public lecture, Moffett Field, CA.
- 2012 Taking Spaceship Earth with us: Building a model microbial ecosystem to facilitate human exploration of the solar system. Departmental Seminar, Tokyo Metropolitan University, Tokyo, Japan.
- 2010 Development of environmental metabolomics for planktonic microbial communities. Invited poster given at the 6th President's Fund Water Workshop, Tsukuba, Japan.
- 2010 Towards systems ecology: a multi- meta-omics approach to algal community function and dynamics. Invited talk given at the 17th President's Fund Water Symposium, Izu, Japan.
- 2006 Graduate work as an ecologist at the University of Oregon (USA). Invited talk given at the LINX seminar series, Tokyo Metropolitan University, Tokyo, Japan.
- 2005 Comparative molecular evolution of newly discovered picocyanobacterial strains reveals a phylogenetically informative variable region of β -phycoerythrin. Plenary talk in the Molecular Diversity of the Oceans session at the meeting of The Oceanography Society, Paris, France.

Select Professional Activities and Service:

- 2014 Poster presentation: *Microbial mat living library: development of a fully defined microbial mat community for microbiological research*. 2014 JASM meeting, Portland, OR, USA.
 - 2013 Oral presentation: *Microbial mat living library: development of a fully defined microbial mat community for microbiological research*. Japanese Society of Microbial Ecology, Kagoshima, Japan.
 - 2011 Organizer, *Next Generation Tools for Molecular Target Discovery* Symposium, Wako, Japan.
 - 2011 Oral presentation: *Evolution of phenotypic diversity in picocyanobacteria from the Gulf of Mexico*, Phycological Society of America, Seattle, WA, USA. *Journal of Phycology* 47(s2):S32.
 - 2009 Oral presentation: *Diversification of bacterial community composition along a temperature gradient at a thermal spring*, Japanese Society of Microbial Ecology, Hiroshima, Japan.
 - 2000-2008 Volunteer Technician, University of Oregon Culture Collection for Microorganisms from Extreme Environments (CCMEE), University of Oregon.
- Reviewer for: (Since 2009) *Journal of Phycology*, *Molecular Phylogenetics and Evolution*, *Microbes and Environments*, *JGR-Oceans*, *FEMS Microbiology Ecology*, *Scientific Reports*.