

CONTACT INFORMATION	Massachusetts Institute of Technology 77 Massachusetts Avenue, Building 48 Cambridge, MA 02139-4307	<i>E-mail:</i> parevalo@mit.edu <i>Website:</i> www.philarevalo.com
EDUCATION	<b>Ph.D., MIT, Cambridge, MA, expected August 2017</b> Microbiology Advisor: Martin Polz Thesis Topic: Horizontal gene transfer as a driver of both cohesion and diversification in microbial populations.  <b>Sc.B., Brown University, cum honoribus, Providence, RI, 2011</b> Applied Mathematics-Biology A.B.: Classics Advisor: Jeremy Rich Senior thesis topic: Diversity of anammox bacteria in ocean sediments.	
RESEARCH POSITIONS	<b>Research Assistant, Woods Hole Oceanographic Institution, Woods Hole, MA</b> July 2011 - August 2012 Advisor: Stefan Sievert Research topic: Bacterial and archaeal community composition in oxygen minimum zones and hydrothermal vents.	
TEACHING EXPERIENCE	<b>Teaching Assistant</b> for Microbial Population Genomics, MIT (Fall 2016) <b>Teaching Assistant</b> for Microbial Genetics and Evolution, MIT (Fall 2014) <b>Lecturer</b> Bioinformatics Workshop, Centro de Biología Molecular, Managua, Nicaragua (March 2014)	
PRIMARY AUTHOR PUBLICATIONS	<ol style="list-style-type: none"> <li>1. Hehemann, J.-H.*, <b>Arevalo, P.*</b>, Datta, M.S.*, Yu, X., Corzett, C., Preheim, S.P., Henschel, A., Timberlake, S., Alm, E.J., Polz, M.F. (2016). <i>Adaptive radiation by waves of gene transfer leads to fine-scale resource partitioning in marine microbes</i>. Nature Communications, 7. doi:10.1038/ncomms12860.</li> <li>2. <b>Arevalo, P.</b>, Elsherbini, J., VanInsberghe, D., Gore, J., Alm, E.J., Polz, M.F. <i>A biological definition for microbial populations</i>. In Prep.</li> </ol> <p><i>* indicates equal contribution of authors</i></p>	
CONTRIBUTING AUTHOR PUBLICATIONS	<ol style="list-style-type: none"> <li>1. Chase, A.B., <b>Arevalo, P.</b>, Polz, M.F., Berlemont, R., Martiny, J.B.H. (2016). <i>Evidence for ecological flexibility in the cosmopolitan genus <i>Curtobacterium</i></i>. Frontiers in Microbiology, 7:1874. doi: 10.3389/fmicb.2016.01874</li> <li>2. Takemura, A., Corzett, C., Hussain, F., <b>Arevalo, P.</b>, Datta, M., Yu, X., Le Roux, F., Polz, M.F. Natural resource landscapes of a marine bacterium reveal distinct fitness-determining genes across the genome. Environmental Microbiology, Accepted.</li> <li>3. Polzin, J., <b>Arevalo, P.</b>, Polz, M.F., Bright, M. Ontogenetic shifts in symbiont genotypes in hydrothermal vent tubeworms. Submitted.</li> <li>4. Kauffman, K., Hussain, F., Yang, J., <b>Arevalo, P.</b>, Brown, J., Cutler, M., Kelly, L., Polz, M.F. Nontailed viruses are major unrecognized killers of bacteria in the ocean. Submitted.</li> </ol>	

PRESENTATIONS  
AND POSTERS

**Arevalo, P.** *Horizontal gene transfer as a cohesive force in microbial populations.* April 2017. University of Chicago Ecology & Evolution Darwin's Weekly. Invited oral presentation.

**Arevalo, P.** & Polz, M.F. *A biological definition for microbial populations and its application to a reverse ecology approach.* August 2016. 16th International Symposium for Microbial Ecology. Evolution. Invited oral presentation (co-convener).

**Arevalo, P.** *A biological definition for microbial populations and its application to a reverse ecology approach.* Center for Microbiome Informatics and Therapeutics. June 2016. Work-in-progress meeting. Oral presentation.

**Arevalo, P.**, Wuchter, C., Yang, T-H., Coolen, M., Sievert, S. *Stratified bacterial and archaeal communities across the oxygen minimum zone of the Eastern Tropical North Pacific.* August 2012 . 14th International Symposium for Microbial Ecology. Microbes in a changing ocean. Contributed oral presentation.

**Arevalo, P.** & Rich, J. *Diversity and abundance of anammox bacteria along environmental gradients in the Peru margin.* February 2011. American Society for Limnology and Oceanography Aquatic Sciences Meeting. Student Poster Session.

HONORS AND  
AWARDS

National Science Foundation Graduate Research Fellow (2012 - present)

MIT Energy Initiative BP Energy Fellow (2012)

Elected to the Society of Sigma Xi (May 2011)

Brown University Povar Prize in Zoology and Physiology (May 2011)

OUTREACH

**Guest Lecturer** Biotechnology III, Cambridge Rindge and Latin School (November 2016)

**SPLASH Instructor** Educational Studies Program, MIT (November 2013 & November 2015)

SERVICE

**Graduate Resident Tutor**, MIT (March 2014 - Present)

- Ran regular study breaks, assisted in conflict resolution, and ensured general well-being of undergraduate students in a residential setting.

**Writing Fellow**, Brown University (September 2008 - May 2011)

- Provided writing support for ten students per semester focused on argumentation, style, and clarity.

PROGRAMMING  
LANGUAGES

**Main:** Python

**Experienced:** Matlab, Linux shell

**Used in the past:** Java

**Github:** <http://github.com/philarevalo>

MENTORED  
STUDENTS

Jai Padmakumar, Microbiology graduate program rotation (Spring 2017)

Joseph Elsherbini, Microbiology graduate program rotation (Winter 2015)