

# Cecilia Batmalle Kretz

Earth and Atmospheric Sciences  
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## Professional Experience:

Postdoctoral Fellow, Georgia Institute of Technology 2014–present

## Education:

Ph.D. in Biological Sciences, University of California Irvine 2014

Honors Bachelor of Science in Biology, Australian National University, Australia 2006

Bachelor of Science, Applied Chemistry and Biology, Ryerson University, Canada 2004

## Research Experience:

Postdoctoral Fellow, Department of Earth and Atmospheric Sciences, Georgia Institute of Technology (advisor: Jennifer Glass), Metagenomics and metatranscriptomics of marine Oxygen Minimum Zones, deep-subsurface sediments and peatlands. 2014–present

Ph.D Student, Ecology and Evolutionary Biology, University of California Irvine (advisor: Adam Martiny), Thesis: “Impact of genome content on the distribution and physiology of marine Cyanobacteria” 2008-2014

Research Volunteer, University of California Los Angeles (advisor: Vladana Milisavljevic), Investigated the effect of ethanol on biofilm producing pathogenic Bacteria *Staphylococcus epidermidis* by RT-PCR and microarray analysis 2006-2007

Honors Research Thesis, Australian National University (advisor: David Gordon), Investigated the advantages accruing from multiple bacteriocin production via bacterial competition and growth rate experiments. 2005-2006

Undergraduate Research Assistant, Ryerson University (advisor: Kimberly Gilbride), DNA comparison in wastewater biofilms bioreactors. 2003-2004

## Publications :

7. **Kretz CB**, Bell DW, Lomas DA, Lomas MW, Martiny AC (2015) Influence of growth rate on the physiological response of marine *Synechococcus* to phosphate limitation. *Frontiers in Microbiology*. 10:3386
6. Glass JB, **Kretz CB**, Ganesh S, Ranjan P, Seston SL, Buck KN, Landing WM, Morton PL, Moffett JW, Giovannoni SJ, Vergin KL, Stewart FJ (2014) Marine metal availability predicts microbial community gene composition. In review. *ISME journal*
5. Glass JB, **Kretz CB**, Warren MJ, Ting CS (2015) Chapter 7: Current perspectives on microbial strategies for survival under extreme nutrient starvation: evolution and ecophysiology. *Microbial Evolution under Extreme Conditions*, editor: C. Bakermans. De Gruyter.
4. **Kretz CB**, Kent A, Chiang HI, Zhang K, Lomas MW, Martiny AC. Temporal and spatial variation of *Synechococcus* genome content in the Western North Atlantic. *In prep.*
3. Bray MS, Reed BC, **Kretz CB**, DiChristina TJ, Stewart FJ, Fowle DA, Crowe SA, Glass JB (2015) Anaerobic oxidation of methane couple to metal reduction in tropical lake sediments. *In prep.*
2. **Batmalle C**, Chiang HI, Zhang K, Lomas MW, Martiny AC (2014) Development and bias assessment of a method for targeted metagenomic sequencing of marine Cyanobacteria. *Applied and environmental microbiology*. 80:1116:1125
1. Milisavljevic, V. Tran LP, **Batmalle C**, Bootsma HJ (2008) Benzyl alcohol and ethanol can enhance pathogenic potential of clinical *Staphylococcus epidermidis* strains. *American Journal of Infection Control*, 36:552-558

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## Honors, Awards, and Fellowships:

NSF Center for Dark Energy Biosphere Investigations (Co-I)	2014
Georgia Institute of Technology, Earth and Atmospheric Sciences Research Frontier Postdoctoral Fellowship	2014
UC Irvine Biological Sciences Dissertation Fellowship	2013
Ryerson University, Award of Merit for Academic Excellence	2003
Golden Key Honor Society Invitation	2001
Ryerson University, Top Five Students, Diploma in Arts	2001

## Invited Presentations:

**Kretz CB**, Kent A, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2014. Temporal and spatial variation of *Synechococcus* genome content in the Western North Atlantic. Georgia Institute of Technology Earth and Atmospheric Science seminar series.

**Kretz CB**, Martiny AC. 2012. Next-generation sequencing and its applications to environmental microbial ecology. University of Texas Austin, advanced topics n Microbial Ecology.

## Posters, Presentations and conference proceedings:

**Kretz CB**, Reese BK, Sarode ND, Stewart FJ, Glass JB. 2014. Microbial diversity and distribution in deep subsurface Hydrate Ridge sediments. C-DEBI Annual Meeting.

Glass JB, **Kretz CB**, Ganesh S, Ranjan P, Seston SL, Stewart FJ. 2014. Abundance and taxonomy of microbial genes encoding iron and copper-binding proteins in oxygen minimum zones: Integrating marine metagenomics and geochemistry. GRC Marine Microbes.

**Kretz CB**, Kent A, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2014. Variations in genome content in *Synechococcus* populations in the Western North Atlantic. Southeastern Biogeochemistry Symposium.

**Kretz CB**, Kent A, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2013. Temporal and spatial variations in genome content of *Prochlorococcus* and *Synechococcus* populations. Southern California Geobiology Symposium.

**Kretz CB**, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2012. Implementation of Next-Generation sequencing library preparation using Nextera on the marine cyanobacteria *Prochlorococcus* and *Synechococcus*. International Society for Microbial Ecology

**Kretz CB**, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2012. Metagenomic Sequencing of *Prochlorococcus* and *Synechococcus* field populations using cell sorting and whole genome amplification. Southern California Geobiology Symposium

**Kretz CB**, Lomas MW, Martiny AC. 2012. Seasonal and vertical variation of *Prochlorococcus* genome content in the ocean. Graduate Student Symposium. University of California Irvine.

**Kretz CB**, Chiang HI, Zhang K, Lomas MW, Martiny AC. 2010. Metagenomic Sequencing of *Prochlorococcus* populations using cell sorting and multiple displacement amplification. International society for Microbial Ecology.

## Teaching Experience:

Human Physiology, UC Irvine	2013
Conservation Biology, UC Irvine	2013
Philosophy of Biology, UC Irvine	2010-2012
Experimental Biology Laboratory, UC Irvine	2008-2009-2010
From Organisms to Ecosystems, UC Irvine	2009

# Cecilia Batmalle Kretz

## **Community Outreach and Professional Service:**

Volunteer judge for school science fair, Irvine Unified School District	2009-2013
Volunteer for Ask a Scientist Night, Irvine Unified School District	2009-2013
Graduate Student Representative, UC Irvine	2012
Graduate Student hiring committee, UC Irvine	2012
Graduate Student invited speaker committee, UC Irvine	2011
Graduate Student symposium committee, UC Irvine	2011
Volunteer with UCI/CLEAN Global Climate Change Education	2010
California Science Project	2009

## **Professional Affiliations:**

American Society for Microbiology  
American Geophysical Union  
Center for Dark Energy Biosphere Investigations  
Golden Key Honor Society