

# Xuefeng “Nick” Peng

Department of Earth Science  
Department of Chemical Engineering  
University of California, Santa Barbara, CA, 93106

Homepage: <http://xpeng.weebly.com>  
Email: xpeng@ucsb.edu  
Phone: (609) 865-3075

## Education and Training

- Postdoctoral Researcher** University of California, Santa Barbara, CA 2015 -  
Advisors: Michelle O’Malley and David Valentine
- Ph.D.** Department of Geosciences, Princeton University, Princeton, NJ 2015  
Advisor: Bess Ward
- Microbial Diversity Course**, Marine Biological Laboratory, Woods Hole, MA 2014
- B.A., *summa cum laude***, Economics, Environmental Studies double major  
Connecticut College, New London, CT 2010
- Semester in Environmental Science**, Marine Biological Laboratory, Woods Hole, MA 2008

## Publications

- (10) Peng, X., Swift, C.L., Theodorou, M.K., O’Malley, M.A. (2017). Methods for genomic characterization and maintenance of anaerobic fungi. *In revision*.
- (9) Peng, X., Ji, Q., Angell, J., Kearns, P., Yang, H.J., Bowen, J.L., and Ward, B.B. (2016). Long-term fertilization alters the relative importance of nitrate reduction pathways in salt marsh sediments. *Journal of Geophysical Research: Biogeosciences*, doi:10.1002/2016JG003484.
- (8) Peng, X., Gilmore, S.P., O’Malley, M.A. (2016). Microbial communities for bioprocessing: Lessons learned from nature. *Current Opinion in Chemical Engineering*, 14, 103-109.
- (7) Gilmore, S.P., Henske, J.K., Sexton, J.A., Solomon, K.V., Seppala, S., Yoo, J.I., Huyett, L.M., Pressman, A., Cogan, J.Z., Kivenson, V., Peng, X., Tan, Y., Valentine, D.L., O’Malley, M.A. Genome sequencing highlights potential new routes for substrate utilization in the anaerobic archaea *Methanobacterium bryantii*, *Methanosarcina spelaei*, *Methanosphaera cuniculi*, and *Methanocorpusculum parvum*. *Under review*.
- (6) Peng, X., Fuchsman, C.A., Jayakumar, A., Warner, M.J., Devol, A.H., and Ward, B.B. (2016). Revisiting Nitrification in the Eastern Tropical South Pacific: A focus on controls. *Journal of Geophysical Research: Oceans*, 121, 1667-1684.
- (5) Peng, X., Fuchsman, C.A., Jayakumar, A., Oleynik, S., Martens-Habbena, W., Devol, A.H., and Ward, B.B. (2015). Ammonia and nitrite oxidation in the Eastern Tropical North Pacific. *Global Biogeochemical Cycles*, 29, 2034-2049.
- (4) Ji, Q., Babbitt, A.R., Peng, X., Bowen, J.L., and Ward, B.B. (2015) Nitrogen substrate-dependent nitrous oxide cycling in salt marsh sediments. *Journal of Marine*

*Research 73: 71-92.*

- (3) **Peng, X.**, Jayakumar, A., and Ward, B.B. (2013). Community composition of ammonia-oxidizing archaea from surface and anoxic depths of oceanic oxygen minimum zones. *Frontiers in Microbiology* 4: 177.
- (2) **Peng, X.**, Yando, E., Hildebrand, E., Dwyer, C., Kearney, A., Waciega, A., Valiela, I., and Bernhard, A.E. (2013). Differential responses of ammonia-oxidizing archaea and bacteria to long-term fertilization in a New England salt marsh. *Frontiers in Microbiology* 3: 445.
- (1) Jayakumar, A., **Peng X.**, and Ward, B.B. (2013). Community composition of bacteria involved in fixed nitrogen loss in the water column of two major oxygen minimum zones in the ocean. *Aquatic Microbial Ecology* 70: 245-259.

## Teaching

- Lab Instructor (Full Time)*, Ocean, Atmosphere, and Climate, Princeton University  
2013-15
- Teaching Transcript, McGraw Center for Teaching and Learning, Princeton University  
2016
- Leader*, Geosciences Senior Thesis Writing Group, Princeton University  
2014-2015
- Teagle Teaching Seminar, McGraw Center for Teaching and Learning, Princeton University  
2013-2014
- Master Class in Teaching, McGraw Center for Teaching and Learning, Princeton University  
2013
- Taichi Instructor*, the Jewish Center of Princeton  
2011

## Mentoring

- Investigating bacterial-methanogen syntrophy  
J. Zach Cogan, UC Santa Barbara, 2015-2016
- No Nitrification, No  $\text{NO}_3^-$ ? Nitrification as a source of regenerated primary production in the epipelagic North Atlantic  
Martin Wolf, Senior Thesis, Princeton University, 2014-2015
- The significance of dissimilatory nitrate reduction to ammonium in salt marsh sediments  
Hannah Yang, Princeton University, 2014-2015

## Honors and Awards

- Arnold Guyot Teaching Award,  
Princeton University, 2014
- Centennial Fellowship,  
Princeton University, 2010-2014
- American Society of Microbiology Meeting Student Travel Award,  
San Francisco, CA, 2012
- Anthony Francis Nelson Memorial Prize for Environmental Studies,

|  |  |
|--|--|
| Rankin Award for Best Undergraduate Student Research Presentation, | Connecticut College, 2010                    |
| Marine Biological Laboratory Associates Award,                     | New England Estuarine Research Society, 2009 |
| Econometrics Prize   | Woods Hole, MA, 2008                         |
| Julia Wells Bower Prize for Mathematics                            | Connecticut College, 2008                    |
|  | Connecticut College, 2007                    |

### Invited Talks

|   |      |
|---|------|
| Department of Earth Science, University of California, Santa Barbara        | 2016 |
| Department of Earth and Planetary Sciences, University of California, Davis | 2015 |
| College of the Environment and Ecology, Xiamen University                   | 2015 |

### Professional Affiliations

American Geophysical Union  
 American Chemical Society  
 International Society for Microbial Ecology  
 Association for the Sciences of Limnology and Oceanography

### Conference Presentations

|   |            |
|---|------------|
| 253th American Chemical Society National Meeting& Exposition      | 2017       |
| The Third Xiamen Symposium on Marine Environmental Sciences       | 2017       |
| Join Genome Institute User Meeting                                | 2016, 2017 |
| 16th Meeting of International Society of Microbial Ecology (ISME) | 2016       |
| Gordon Research Conference and Seminar in Chemical Oceanography   | 2015       |
| 4th International Conference on Nitrification (ICoN4)             | 2015       |
| Aquatic Sciences Meeting (ASLO)                                   | 2015       |
| Northeastern Geobiology Symposium                                 | 2015       |
| American Geophysical Union Fall Meeting                           | 2014       |
| Theobald Smith Society Meeting                                    | 2014       |
| Ocean Sciences Meeting (ASLO)                                     | 2014       |
| 3rd International Conference on Nitrification (ICoN3)             | 2013       |
| Aquatic Sciences Meeting (ASLO)                                   | 2013       |
| American Society of Microbiology General Meeting                  | 2012       |

|   |      |
|---|------|
| Princeton University Graduate Student Symposium                   | 2011 |
| 13th Meeting of International Society of Microbial Ecology (ISME) | 2010 |
| Spring Meeting of the New England Estuarine Research Society      | 2009 |

### Field Experience

|   |           |
|---|-----------|
| R/V Nathaniel B. Palmer, Eastern Tropical South Pacific, 33 days        | 2013      |
| R/V Thomas G. Thompson, Eastern Tropical North Pacific, 28 days         | 2012      |
| Six week-long field trips to the Great Sippewissett Marsh, Falmouth, MA | 2011-2013 |
| Water sampling in the Yukon River and its tributaries, 2 months         | 2009      |
| Sediment sampling in the Coonamesset River, 3 weeks                     | 2008      |

### Service and Outreach

|  |              |
|--|--------------|
| <i>Reviewer:</i> Limnology and Oceanography, Environmental Microbiology, Environmental Science and Technology, Deep Sea Research, Scientific Reports, Estuarine, Coastal and Shelf Science, Frontiers in Marine Science, Marine Environmental Research, Journal of Soils and Sediments, Journal of Sea Research, Journal of Marine Systems, Antonie van Leeuwenhoek Journal of Microbiology, Canadian Journal of Microbiology. | 2014-Present |
| <i>Volunteer Speaker,</i> NanoDay at Santa Barbara Museum of Natural History   | 2016         |

### Additional Experience

|   |           |
|---|-----------|
| <i>Head Chinese Flutist,</i> Princeton University Chinese Music Ensemble  | 2012-2015 |
| <i>Senior Admissions Fellow,</i> Office of Admission, Connecticut College | 2009-2010 |
| <i>Intern,</i> Yukon River Inter-Tribal Watershed Council, Fairbanks, AK  | 2009      |