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# XUEFENG “Nick” PENG

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Homepage: <https://marinemicrobe.github.io/>

## EMPLOYMENT

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*Assistant Professor, University of South Carolina, Columbia, SC*

Jan. 2021 - current

## EDUCATION AND TRAINING

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**University of Hawaii, Manoa, HI**

*NSF-UNOLS Chief Scientist Training Cruise*

Aug. 2024

**University of California, Santa Barbara**

Oct. 2015 - Dec. 2020

*Postdoctoral Scholar*

- Impact of marine fungi on global biogeochemical cycling of carbon and nitrogen
- Accelerated methane release from plant biomass features cross-domain microbial partnership

**Princeton University, Princeton, NJ**

Sept. 2010 - Sept. 2015

*Ph.D. in Geosciences*

**Marine Biological Laboratory, Woods Hole, MA**

*Microbial Diversity Course*

Jul. 2014 - Aug. 2014

*Semester in Environmental Science*

Sept. 2008 - Dec. 2008

**Connecticut College, New London, CT**

Aug. 2006 - May 2010

*B.A. in Economics, Environmental Studies (summa cum laude)*

## HONORS AND AWARDS

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Simons Early Career Investigator in Aquatic Microbial Ecology and Evolution Award 2024

Arnold Guyot Teaching Award from Princeton University 2014

Centennial Fellowship from Princeton University 2010 - 2014

American Society for Microbiology Student Travel Award 2012

Anthony Francis Nelson Memorial Prize for Environmental Studies from Connecticut College 2010

Rankin Award for Best Undergraduate Student Research Presentation from the New England

Estuarine Research Society 2009

Marine Biological Laboratory Associates Award 2008

## FUNDING AND SUPPORT

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NSF OCE award 2342606, \$550,590, 02/15/2024 – 01/31/2027 (**\$77,157 to co-PI Peng**):

*Collaborative Research: Multi-isotope and microbial ecology approaches to investigate sedimentary nitrous oxide production and consumption in the northern Benguela upwelling system*

NSF DEB award 2348767, \$599,999, 08/01/2024 – 07/31/2029 (**\$133,689 to co-PI Peng**):

*LTREB: Long Term Studies of Salt Marsh Primary Production*

NSF DEB award 2303089, \$990,239, 06/15/2023 – 05/31/2026 (**\$793,550 to PI Peng**):

*Nitrous oxide production by salt marsh sediment fungi: its significance and mechanisms*

- The DOE JGI Community Science Project New Investigator: Transcriptional studies of anaerobic metabolisms of fungi isolated from salt marsh sediments 2022
- Small Equipment Purchase Support, USC: Acquisition of accessory equipment for an ultra-centrifuge to enable DNA stable isotope probing 2022
- ASPIRE (Advanced Support for Innovative Research Excellence), USC: Unravel the microbial engine driving biogeochemical cycles in coastal ecosystems 2021
- Simons Foundation Postdoctoral Fellowship in Marine Microbial Ecology 2018 - 2020

## PUBLICATIONS

\*denotes publications by students in Peng Lab

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- (28) **Peng, X.**, Yousavich, D.J., Bourbonnais, A., Wenzhoefer, F., Janssen, F., Treude, T., and Valentine, D.L. (Accepted.) The fate of fixed nitrogen in Santa Barbara Basin sediments during seasonal anoxia. *Biogeosciences*.
- (27) **Peng, X.**, Amend, A.S., Baltar, F., Blanco-Bercial, L., Breyer, E., Burgaud, G., Cunliffe, M., Edgcomb, V.P., Grossart, H., Mara, P., Masigol, H., Pang, K., Retter, A., Roberts, C., van Bleijswijk, J., Walker, A.K., and Whitner, S. (2024). Planktonic marine fungi: A review. *JGR Biogeosciences*, 129: e2023JG007887.
- (26) Yousavich, D.J., Robinson, D., **Peng, X.**, Krause, S.J.E., Wenzhoefer, F., Janßen, F., Liu, N., Tarn, J., Kinnaman, F., Valentine, D.L., and Treude, T. (2024) Marine anoxia initiates giant sulfur-bacteria mat proliferation and associated changes in benthic nitrogen, sulfur, and iron cycling in the Santa Barbara Basin, California Borderland. *Biogeosciences* 21: 789-809.
- (25) Liu, N., Kivenson, V., **Peng, X.**, Cui, Z., Lankiewicz, T., Gosselin, K., English, C., Blair, E., O'Malley, M.A., and Valentine, D.L. (2024) Pontiella agarivorans sp. nov., a novel marine anaerobic bacterium capable of degrading macroalgal polysaccharides and fixing nitrogen. *Applied and Environmental Microbiology* 90: e00914-23.
- (24) \*Lane, D.M., Valentine, D.L., and **Peng, X.** (2023). Genomic analysis of the marine yeast *Rhodotorula sphaerocarpa* ETNP2018 reveals adaptation to the open ocean. *BCM Genomics*, 24: 695.
- (23) Tang, W., Ward, B. B., Beman, M., Bristow, L., Clark, D., Fawcett, S., Frey, C., Fripiat, F., Herndl, G. J., Mdutyana, M., Paulot, F., **Peng, X.**, Santoro, A. E., Shiozaki, T., Sintés, E., Stock, C., Sun, X., Wan, X. S., Xu, M. N., and Zhang, Y. (2023). Database of nitrification and nitrifiers in the global ocean, *Earth System Science Data*, 15: 5039–5077.
- (22) Xenopoulos, M.A., Bond-Lamberty, B., Huntzinger, D., Desai, A.R., Feng, X., Hammond, W.M., Moore, D.J.P., **Peng, X.**, Sahagian, D., Santin, C., Vargas, R., Wells, N.S., and Wooden, P. (2023). Update on Our Action Plan for Equity, Inclusion, and Diversity in Publishing at JGR: *Biogeosciences*. *JGR Biogeosciences*, 128: e2023JG007712.
- (21) \*Lazo-Murphy, B.M., Larson, S., Staines, S., Bruck, H., McHenry, J., Bourbonnais, A., and **Peng, X.** (2022). Nitrous oxide production and isotopomer composition by fungi isolated from salt marsh sediments. *Frontiers in Marine Science*, 9:1098508.
- (20) Burgaud, G., Edgcomb, V., Hassett, B.T., Kumar, A., Li, W., Mara, P., **Peng, X.**, Philippe, A.,

- Phule, P., Prado, S., Quémener, M., and Roullier, C. (2022). Chapter 5: Marine Fungi. In: Stahl, L.J., Cretoiu, M.S. (eds) *The Marine Microbiome. The Microbiomes of Humans, Animals, Plants, and the Environment*, vol 3. Springer, Cham.
- (19) **Peng, X.**, Ji, Q., Angell, J., Kearns, P., Bowen, J.L., and Ward, B.B. (2021). Long-term fertilization alters nitrous oxide cycling dynamics in salt marsh sediments. *Environmental Science and Technology*, 55(15): 10832-10842.
- (18) **Peng, X.**, Gat, D., Paytan, A., and Rudich, Y. (2021). The response of airborne mycobiome to dust storms in the Eastern Mediterranean. *Journal of Fungi*, 7(10): 802.
- (17) Roux, S., Paul, B.G., Bagby, S.C., Nayfach, S., Allen, M.A., Attwood, G., Cavicchioli, R., Chistoserdova, L., Gruninger, R.J., Hallam, S.J., Hernandez, M.E., Hess, M., Liu, W-T., McAllister, T.A., O'Malley, M.A., **Peng, X.**, Rich, V.I., Saleska, S., and Elie-Fadrosh, E.A. (2021). Ecology and molecular targets of hypermutation in the global microbiome. *Nature Communications*, 12: 3076.
- (16) **Peng, X.** and Valentine, D.L. (2021). Diversity and N<sub>2</sub>O production potential of fungi in an oceanic oxygen minimum zone. *Journal of Fungi*, 7(3): 218.
- (15) **Peng, X.**, Wilken, S.E., Lankiewicz, T.S., Gilmore, S.P., Brown, J.L., Henske, J.K., Swift, C.L., Salamov, A., Barry, K., Grigoriev, I.V., Theodorou, M.K., Valentine, D.L., O'Malley, M.A. (2021). Genomic and functional analyses of fungal and bacterial consortia that enable lignocellulose breakdown in goat gut microbiomes. *Nature Microbiology*, 6: 499-511.
- (14) Nayfach, S., Roux, S., Seshadri, R., Udvary, D., Varghese, N., Schulz, F., Wu, D., Paez-Espino, D., Chen, I.-M., Huntemann, M., Palaniappan, K., Ladau, J., Mukherjee, S., Reddy, T.B.K., Nielsen, T., Kirton, E., Faria, J.P., Edirisinghe, J.N., Henry, C.S., Jungbluth, S.P., Chivian, D., Dehal, P., Wood-Charlson, E.M., Arkin, A.P., Tringe, S.G., Visel, **IMG/M Data Consortium** (including **Peng, X.**), Woyke, T., Mouncey, N.J., Ivanova, N.N., Kyrpides, N.C., Elie-Fadrosh, E.A. (2020). A genomic catalog of Earth's microbiomes. *Nature Biotechnology*, 39: 499-509.
- (13) Hassett, B.T., Vonnahme, T.R., **Peng, X.**, Jones, E.B.G., and Heuzé, C. (2020). Global diversity and geography of the planktonic marine fungi. *Botanica Marina*, 63(2): 121-139.
- (12) **Peng, X.**, Fawcett, S.E., van Oostende, N., Wolf, M.J., Marconi, D., Sigman, D.M, and Ward, B.B. (2018). Nitrogen uptake and nitrification in the subarctic North Atlantic Ocean, *Limnology and Oceanography*, 63(4): 1462-1487.
- (11) Angell, J.H., **Peng, X.**, Ji, Q., Craick, I., Jayakumar, A., Kearns, P.J., Ward, B.B., and Bowen, J.L. (2018). Community composition of nitrous oxide-related genes in salt marsh sediments exposed to nitrogen enrichment, *Frontiers in Microbiology*, 9: 170.
- (10) **Peng, X.**, Swift, C.L., Theodorou, M.K., O'Malley, M.A. (2018). Methods for genomic characterization and maintenance of anaerobic fungi. In: de Vries R., Tsang A., Grigoriev I. (eds) *Fungal Genomics. Methods in Molecular Biology*, vol 1775. Humana Press, New York, NY.
- (9) 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., and O'Malley, M.A. (2017). Genomic analysis of methanogenic archaea reveals a shift towards energy conservation. *BMC Genomics* 18: 639.

- (8) **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*, 121(8), 2082-2095.
- (7) **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.
- (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) 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.
- (2) **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.
- (1) **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.

## TEACHING AND MENTORING

**Courses taught:** Chemical Oceanography (MSCI/GEOL 782), Marine Biogeochemistry (MSCI/BIOL 752), The Living Ocean (MSCI 102), The Marine Microbiome: A 21st century perspective (MSCI 790)

**Graduate Students (as main advisor):** Madeleine Thompson (Ph.D. expected in 2026), Birch Lazo-Murphy (Ph.D. expected in 2026), Margaret Bernish (M.S. received in 2023)

**Graduate Students (as committee member):** Madelyn Petersen, Rachel Schomaker, Archana Venkatachari, Margaret Gaspar, Sarah Bauman

**Undergraduate Student Research Mentor (USC):** Samantha Larson, Sydney Staines, Dylan Lane, Heather Bruck, Julianne McHenry, Lily Bosch, Liam Kellogg, Hannah Lewis, Tressa Redmann

**Undergraduate Student Research Mentor (2014 - 2019):** Martin Wolf, Hannah Yang, KC Farrell, Zach Cogan, Winston Hsu, Corey Kerdman-Andrade

**Lab Instructor (2013 - 2015)** at Princeton University for GEO202: Ocean, Atmosphere, and Climate

## FIELD EXPERIENCE

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R/V Kilo Moana, North Pacific Subtropical Gyre, 5 days	2024
R/V Roger Revelle, Eastern Tropical South Pacific, 32 days	2023
Water and sediment sampling in North Inlet and Winyah Bay, SC	2020-2023
R/V Atlantis, Santa Barbara Basin, 14 days	2019
R/V Sally Ride, Eastern Tropical North Pacific, 35 days	2018
R/V Nathaniel B. Palmer, Eastern Tropical South Pacific, 33 days	2013
R/V Thomas G. Thompson, Eastern Tropical North Pacific, 28 days	2012
Sediment sampling in the Great Sippewissett Marsh, Falmouth, MA	2011-2013
Water nutrient sampling in the Yukon River Watershed, 2 months	2009
Sediment survey and sampling in the Coonamesset River, 3 weeks	2008

## SERVICE AND OUTREACH

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Education partnership with the ZooTeens program at Riverbanks Zoo, Columbia, SC 2022-present

Associate Editor for: *Journal of Geophysical Research: Biogeosciences*; *Estuaries and Coasts*

Reviewer for: *Limnology and Oceanography*, *Environmental Microbiology*, *Environmental Science and Technology*, *Geophysical Research Letters*, *Journal of Geophysical Research: Biogeosciences*, *Deep-Sea Research*, *Scientific Reports*, *Estuarine, Coastal and Shelf Science*, *Estuaries and Coasts*, *Marine Ecology Progress Series*, *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*, *PeerJ*, *PLOS ONE*, *Environmental Pollution*, *Water*, *Journal of Fungi*, *mLife*, *Science of the Total Environment*, *Global Biogeochemical Cycles*, *Water Research*, *National Science Foundation Graduate Research Fellowship Program (GRFP)*

Session chair for 2020 Ocean Sciences Meeting (MM002: Fungi in the marine environment) and 2022 Ocean Sciences Meeting (OB02: Marine fungi and fungi-like organisms)

Volunteer Speaker for the NanoDay at the Santa Barbara Museum of Natural History (2016)

Volunteer Speaker for elderlies at the Jenni Lynn Senior Living Center, West Columbia, SC (2022)

Graduate Committee, Marine Science, School of Earth, Ocean and Environment, USC (2022)

Search Committee for the Director of the Belle W. Baruch Institute for Marine and Coastal Sciences and Professor in the School of Earth, Ocean & Environment, USC (2022)

Library liaison for the School of Earth, Ocean & Environment, USC (2021 – present)

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## CONFERENCE PRESENTATIONS AND SEMINARS

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**\*\* Invited seminars****\* Oral presentations**

- (48)\*\* Peng, X. Expanding the view on genetic and functional diversity of oceanic fungi. ICEMHH Microbiome COBRE Seminar, University of Hawaii, Manoa, HI, 28 August 2024.
- (47)\*\* Peng, X. Uncovering the role of fungi in nitrogen and carbon cycling in marine environments. Marine Science Department Seminar, University of Georgia, Athens, GA, 26 February 2024.
- (46) Peng, X. and Valentine, D.L. Metatranscriptomic evidence for fungi linking carbon and nitrogen cycling in an oxygen deficient zone. Ocean Sciences Meeting, New Orleans, LA, 19 February 2024.
- (45)\* Peng, X. The ecology of active nitrifiers in the eastern tropical North Pacific oxygen minimum zone. 8th International Conference on Nitrification, Princeton, NJ, 3 August 2023.
- (44)\* Peng, X., and Valentine, D.L. Novel bacterial and fungal lineages link carbon, nitrogen, and sulfur cycling in an oxygen deficient zone. Aquatic Sciences Meeting, Palma de Mallorca, Spain, 5 June 2023.
- (43)\* Peng, X., and Valentine, D.L. Fungal contribution to nitrogen and carbon cycling in the eastern tropical North Pacific oxygen minimum zone. 4<sup>th</sup> annual CanFunNet (Canadian Fungal Research Network) Fungal Biology Conference, virtual meeting, 2 June 2023.
- (42)\*\* Lazo-Murphy, B.M., Larson, S., Staines, S., Bruck, H., McHenry, J., Bourbonnais, A., and Peng, X. Nitrous oxide production and isotopologue composition by fungi isolated from salt marsh sediments. Sixth Xiamen Symposium on Marine Environmental Sciences, virtual meeting, 6 January 2023.
- (41)\* Peng, X., and Valentine, D.L. Diversity and activity of early diverging fungi in the ocean. Ecology and Evolutionary Biology Seminar, University of South Carolina, 24 October 2022.
- (40) Peng, X., and Valentine, D.L. Diversity and activity of early diverging fungi in an oxygen minimum zone revealed by metatranscriptomics. 18th International Symposium on Microbial Ecology, Lausanne, Switzerland, 22 August 2022.
- (39)\*\* Peng, X. The dynamics of nitrous oxide production and consumption in salt marsh sediments. School of Public Health, University of South Carolina, Columbia, SC, 30 March 2022.
- (38)\* Peng, X., and Valentine, D.L. Evidence of fungal activity in the eastern tropical North Pacific oxygen minimum zone. Ocean Sciences Meeting, virtual meeting, 4 March 2022.
- (37)\*\* Peng, X. The dynamics of nitrous oxide production and consumption in salt marsh sediments. Department Seminar, University of Maryland Center for Marine Environmental Science, Horn Point, MD, 27 October 2021.
- (36)\*\* Peng, X. Nitrogen cycling in marine environments. A presentation for the general public, Jenni Lynn Senior Living Center, West Columbia, SC, 18 October 2021.
- (35)\* Peng, X. Microorganisms and Climate Change. Seminar for the Climate Theme Semester, College of Arts and Sciences, University of South Carolina, The Campus Room at Capstone, 16 October 2021.
- (34)\*\* Peng, X. The dynamics of nitrous oxide production and consumption in salt marsh sediments. Geocheminar, Earth, Planetary, and Space Sciences Department, University of California, Los Angeles, over Zoom, 7 October 2021.
- (33)\*\* Peng, X. Microbial transformation of carbon and nitrogen in marine environments. Department of Biological Sciences, University of South Carolina, 10 September 2021.
- (32)\*\* Peng, X. Genomic and functional analyses of fungal and bacterial consortia that enable lignocellulose breakdown in goat gut microbiomes. Department of Microbiology and Plant Biology, University of Oklahoma, virtual seminar, 27 August 2021.

- (31)\*\* Peng, X., Ji, Q., Angell, J., Kearns, P., Bowen, J.L., and Ward, B.B. Long-term fertilization alters nitrous oxide cycling dynamics in salt marsh sediments. International Forum on Advanced Environmental Sciences and Technology (iFAST) Marine Environment and Ecosystem Symposium, virtual meeting hosted by the International Center for Deep Life Investigation, 16 August 2021.
- (30)\*\* Peng, X., Wilken, S., Lankiewicz, T.S., Gilmore, S.P. Brown, J.L., Henske, J.K., Swift, C.L., Barry, K., Theodorou, M.K., Grigoriev, I.V., Valentine, D.L., and O'Malley, M.A. Genomic and functional analyses of fungal and bacterial consortia that enable lignocellulose breakdown in goat gut microbiomes. Invited seminar at Nanjing Agricultural University, virtual seminar, 9 August 2021.
- (29) Peng, X., Ji, Q., Angell, J., Kearns, P., Bowen, J.L., and Ward, B.B. Long-term fertilization alters nitrous oxide cycling dynamics in salt marsh sediments. 7th International Conference on Nitrification, virtual meeting hosted by Utah State University, 22 July 2021.
- (28) Peng, X. and Valentine, D.L. Fungal contribution to marine nitrogen cycling. Ocean Sciences Meeting, San Diego, CA, 21 February, 2020.
- (27) Peng, X. and Valentine, D.L. Fungal contribution to marine nitrogen cycling. First Annual Meeting of the Early Career Investigators in Marine Microbial Ecology and Evolution and Fellows in Marine Microbial Ecology, New York, NY, 28 October 2019.
- (26) Peng, X. and Valentine, D.L. Fungal contribution to marine nitrogen cycling. Gordon Research Conference in Chemical Oceanography, Holderness, NH, 17 July 2019.
- (25) Peng, X. and Valentine, D.L. The ecology and diversity of fungi in the eastern tropical North Pacific oxygen minimum zone. 16th Southern California Geobiology Symposium, Pasadena, CA, 6 April 2019.
- (24)\* Peng, X., Wilken, S., Lankiewicz, T.S., Gilmore, S.P. Brown, J.L., Henske, J.K., Swift, C.L., Barry, K., Theodorou, M.K., Grigoriev, I.V., Valentine, D.L., and O'Malley, M.A. Microbial consortia derived from goat feces reveal cross-domain partnerships that accelerate methane release from plant biomass. 30th Fungal Genetics Conference, Pacific Grove, CA, 15 March 2019.
- (23)\* Peng, X., and Valentine, D.L. The ecology and size-fractionated diversity of fungi in the eastern tropical North Pacific oxygen minimum zone. 15th International Marine and Freshwater Mycology Symposium, Xiamen, China, 26 September 2018.
- (22)\* Peng, X., Fawcett, S.E., van Oostende, N., Wolf, M.J., Marconi, D., Sigman, D.M., and Ward, B.B. Nitrogen assimilation and nitrification in the subarctic North Atlantic. Gordon Research Conference and Seminar in Chemical Oceanography, New London, NH, 22 July 2017.
- (21)\* Peng, X., Gilmore, S.P., Henske, J.K., Swift, C.L., Theodorou, M.K., Valentine, D.L., and O'Malley, M.A. Evolution of biomass-degrading anaerobic consortia revealed by metagenomics. American Chemical Society National Meeting & Exposition, San Francisco, CA, 4 April 2017.
- (20) Peng, X., Gilmore, S.P., Henske, J.K., Swift, C.L., Theodorou, M.K., Valentine, D.L., and O'Malley, M.A. Understanding the genomic basis of syntrophic relationships between rumen anaerobes. Joint Genome Institute User Meeting, Walnut Creek, CA, 22 March 2017.
- (19)\* Peng, X., Fawcett, S.E., Wolf, M.J., van Oostende, N., Marconi, D., Sigman, D.M., and Ward, B.B. Nitrification and nitrate assimilation in the subarctic North Atlantic. The third Xiamen Symposium on Marine Environmental Sciences, Xiamen, China, 11 January 2017.
- (18) Peng, X., Gilmore, S.P., Henske, J.K., Swift, C.L., Theodorou, M.K., Valentine, D.L., and O'Malley, M.A. Investigating the fungal-methanogen syntrophy using comparative transcriptomics. 16th International Symposium on Microbial Ecology, Montreal, Canada, 23 August 2016.
- (17) Peng, X., Gilmore, S.P., Henske, J.K., Theodorou, M.K., Valentine, D.L., and O'Malley, M.A. Understanding the genomic basis of syntrophic relationships between rumen anaerobes. Joint Genome Institute User Meeting, Walnut Creek, CA, 23 March 2016.

- (16)\*\* Peng, X. Nitrogen cycling in strong redox gradients of marine environments. Department of Earth Science, University of California, Santa Barbara, CA, 7 January 2016.
- (15)\*\* Peng, X. Nitrification in oceanic oxygen minimum zones. State Key Laboratory of Marine Environmental Science, Xiamen, China, 21 December 2015.
- (14)\*\* Peng, X. Nitrogen cycling in strong redox gradients of marine environments. Department of Earth and Planetary Sciences, University of California, Davis, CA, 6 November 2015.
- (13) Peng, X., Fuchsman, C., Jayakumar, A., Devol, A.H., and Ward, B.B. Ammonium and nitrite oxidation in the eastern tropical North and South Pacific oxygen minimum zones. Chemical Oceanography Gordon Research Conference, Plymouth, NH, 26 July 2015.
- (12)\* Peng, X., Fuchsman, C., Jayakumar, A., Devol, A.H., and Ward, B.B. Nitrification in the eastern tropical North and South Pacific oxygen minimum zones. 4th International Conference on Nitrification, Edmonton, Alberta, Canada, 28 June 2015.
- (11) Peng, X., Fuchsman, C., Jayakumar, A., Devol, A.H., and Ward, B.B. Nitrification rates in the eastern tropical South Pacific oxygen minimum zone. Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting, Granada, Spain, 25 February 2015.
- (10) Peng, X., Fuchsman, C., Jayakumar, A., Devol, A.H., and Ward, B.B. Nitrification rates in the eastern tropical South Pacific oxygen minimum zone. Northeastern Geobiology Symposium, Princeton, NJ, 7 February 2015.
- (9) Peng, X., Ji, Q., Angell, J., Kearns, P., Bowen, J.L., and Ward, B.B. Accelerated rates of nitrogen cycling and N<sub>2</sub>O production in salt marsh sediments due to long-term fertilization. American Geophysical Union Fall Meeting, San Francisco, CA, 18 December 2014.
- (8)\* Peng, X., Jayakumar, A., and Ward, B.B. Ammonia-oxidizing archaea community composition in oceanic oxygen minimum zones. Theobald Smith Society Meeting (North Jersey Branch of the American Society for Microbiology), New Brunswick, NJ, 3 April 2014.
- (7) Peng, X., Fuchsman, C.A., Jayakumar, A., Martens-Habbena, W., Devol, A.H., and Ward, B.B. Nitrification in the eastern tropical North Pacific ocean. Association for the Sciences of Limnology and Oceanography Ocean Sciences Meeting, Honolulu, HI, 25 February 2014.
- (6)\* Peng, X., Fuchsman, C., Jayakumar, A., Martens-Habbena, W., and Ward, B.B. Nitrification in the eastern tropical North Pacific. 3rd International Conference on Nitrification, Tokyo, Japan, 4 September 2013.
- (5)\* Peng, X., Angell, J., Ji, Q., Kearns, P., Bowen, J.L., and Ward, B.B. Effect of long-term fertilization on nitrogen removal from a salt marsh ecosystem. Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting, New Orleans, LA, 21 February 2013.
- (4) Peng, X., Jayakumar, A., and Ward, B.B. Archaeal ammonia oxidizer community composition in oceanic oxygen minimum zones. American Society of Microbiology General Meeting, San Francisco, CA, 18 June 2012.
- (3) Peng, X., Jayakumar, A., and Ward, B.B. Ammonia oxidizers in oceanic oxygen minimum zones. Northeastern Graduate Student Symposium, Princeton, NJ, 11 November, 2011.
- (2) Peng, X., Yando, E., Hildebrand, E., Dwyer, C., Kearney, A., Valiela, I., and Bernhard, A.E. Impact of long-term fertilization on community structure of ammonia oxidizers in a New England salt marsh. 13th International Symposium on Microbial Ecology, Seattle, WA, 26 August 2010.
- (1)\* Peng, X., and Giblin, A.E. Nitrogen cycling in sediments in two stretches of the Coonamessett river. New England Estuarine Research Society Spring Meeting, Salem, MA, 3 April 2009.