

Curriculum Vitae

Yawei Luo

Date: November 23, 2012

Personal Information

1. Name: Yawei Luo
2. Office address: Woods Hole Oceanographic Institution
Clark 411
MS # 25
Woods Hole, MA 02543, USA
- Phone: (508) 289-3433(office), (617) 899-9551(cell) email: yluo@whoi.edu
3. Position: Postdoctoral Investigator, Department of Marine Chemistry &
Geochemistry, Woods Hole Oceanographic Institution
4. Nationality: China

Education

- 2010:** Ph.D., Brown University-MBL Graduate Program, Providence, RI, USA
Major Field: Biological Oceanography
Dissertation: A Data Assimilative Model of the Microbial Ecosystem in the
Open Ocean
- 2003:** M.S., Peking University, Beijing, China
Major Field: Environmental Sciences
Thesis: Modeling Marine Pelagic Ecosystem Dynamics in the Bohai Sea.
- 2000:** B.S., Ocean University of China, Qingdao, China
Major Fields: Fishery and Computer Science

Research Experience

- Postdoctoral Investigator*, Woods Hole Oceanographic Institution, Woods Hole, MA, USA. 2009 – present. Advisor: Scott C. Doney.
Research: marine ecosystem modeling, data synthesis
- Graduate Research Assistant*, Ecosystems Center, Brown University-MBL Graduate Program, Woods Hole, MA, USA. 2007 – 2009. Advisors: Hugh W. Ducklow, Marjorie A.M. Friedrichs.
Research: marine ecosystem modeling
- Graduate Research Assistant*, Department of Biological Sciences, Virginia Institute of Marine Science, The College of Williams and Mary, Gloucester Point, VA, USA. 2003 – 2007. Advisor: Hugh W. Ducklow.
Research: marine ecosystem modeling

Research Volunteer, Palmer Antarctica Long Term Ecological Research Project, Western Antarctica Peninsula. 2006 Jan - 2006 Feb. Supervisor: Hugh W. Ducklow.
Research: 40-day cruise, collect and analyze biogeochemical and bacterial samples.

Graduate Research Associate, National Marine Environmental Forecast Center of China, Beijing, China. 2001 -2003. Advisor: Huiding Wu.
Research: develop sea ice forecast system of HY-1 satellite; marine ecosystem modeling

Graduate Research Assistant, College of Environmental Sciences, Peking University, Beijing, China. 2000 -2001. Supervisors: Xuhui Cai, Baozhang Liu.
Research: wind tunnel simulation experiment for vehicle pollution

Honors and Awards

2009-present: Member, Sigma Xi

2007-2009: Graduate Fellowship (for Tuition), Marine Biological Laboratory and Brown University

2007-2009: Research Assistantship, Marine Biological Laboratory and Brown University

2003-2007: Graduate Fellowship (for Tuition), The College of Williams and Mary

2003-2007: Research Assistantship, The College of Williams and Mary

2002: Excellent Study Award, Peking University

2000: Graduate with Honor, Ocean University of China

Publications

Buitenhuis, E. T., Vogt, M., Moriarty, R., Bednaršek, N., Doney, S. C., Leblanc, K., Le Quéré, C., **Luo, Y.-W.**, O'Brien, C., O'Brien, T., Peloquin, J., Schiebel, R. and Swan C., (2012, *in review*). MAREDAT: towards a World Ocean Atlas of MARine Ecosystem DATA, Earth Science System Data Discuss, 5, 1077-1106, doi:10.5194/essdd-5-1077-2012.

Luo, Y.-W., Doney S.C., Lima, I. (*in prep.*). Data-based tests of environmental controls on global marine nitrogen fixation. (soon to be submitted to *Biogeosciences*)

Calil, P.H.R, **Luo, Y.-W.**, Lima, I., Doney, S.C., (*in prep.*), Biological Relevance of Submesoscale Dynamics in the Oligotrophic Ocean. (to be submitted to *Geophysical Research Letters*)

Luo, Y.-W., H. W. Ducklow, M. A. M. Friedrichs, M. J. Church, D. M. Karl, and S. C. Doney (2012), Interannual variability of primary production and dissolved organic nitrogen storage in the North Pacific Subtropical Gyre, *Journal of Geophysical Research-Biogeosciences* 117, G03019, doi:10.1029/2011JG001830.

Luo, Y.-W., Doney, S. C., Anderson, L. A., Benavides, M., Berman-Frank, I., Bode, A., Bonnet, S., Boström, K. H., Böttjer, D., Capone, D. G., Carpenter, E. J., Chen, Y. L., Church, M. J., Dore, J. E., Falcón, L. I., Fernández, A., Foster, R. A., Furuya, K., Gómez,

F., Gundersen, K., Hynes, A. M., Karl, D. M., Kitajima, S., Langlois, R. J., LaRoche, J., Letelier, R. M., Marañón, E., McGillicuddy Jr, D. J., Moisander, P. H., Moore, C. M., Mouriño-Carballido, B., Mulholland, M. R., Needoba, J. A., Orcutt, K. M., Poulton, A. J., Rahav, E., Raimbault, P., Rees, A. P., Riemann, L., Shiozaki, T., Subramaniam, A., Tyrrell, T., Turk-Kubo, K. A., Varela, M., Villareal, T. A., Webb, E. A., White, A. E., Wu, J., and Zehr, J. P. (2012). Database of diazotrophs in global ocean: abundance, biomass and nitrogen fixation rates. *Earth System Science Data* 4, 47-73, doi:10.5194/essd-4-47-2012.

Luo, Y.-W. (2012), (*editorial*) Two-Decade Decrease of Particulate Phosphorus Inventory Revealed by Hawaii Ocean Time-series, *Journal of Marine Science Research & Development*, 2, e109, doi:10.4172/2155-9910.1000e109.

Luo, Y.-W., Friedrichs, M.A.M., Doney, S.C., Church, M.J. & Ducklow, H.W. (2010). Oceanic heterotrophic bacterial nutrition by semilabile DOM as revealed by data assimilative modeling. *Aquatic Microbial Ecology* 60: 273-287, doi:10.3354/ame01427.

Luo, Y.-W., (2010). A Data Assimilating Model of the Microbial Ecosystem in the Open Ocean. Ph.D. Dissertation, Brown University, Providence, RI, USA.

Gasol, J.M., Pinhassi, J., Alonso-Sáez, L., Ducklow, H., Herndl, G.J., Koblížek, M., Labrenz, M., **Luo, Y.-W.**, Morán, X.A.G., Reinthaler, T., Simon, M. (2008). Towards a better understanding of microbial carbon flux in the sea. *Aquatic Microbial Ecology* 53:21-38, doi:10.3354/ame01230.

Luo, Y.-W., Wang, H., and Wu, H. (2006). Key questions in coastal ecosystem dynamics modeling (in Chinese), in: Frontier scientific questions in surface ocean lower atmosphere study (SOLAS), edited by: Feng, S., China Meteorological Press, Beijing, p71-77.

Luo, Y.-W., Wu, H., Zhang, Y., Sun, C., Liu, Y. (2004). Application of the HY-1 satellite to sea ice monitoring and forecasting. *Acta Oceanologica Sinica* 23:251-266.

Luo, Y.-W. (2003). Marine plankton ecosystem dynamics modeling of Bohai Sea (in Chinese). Master Thesis. Peking University, Beijing, China.

Database

Luo, Y.-W. (2012). Global distributions of diazotrophs abundance, biomass and nitrogen fixation rates - Contribution to the MAREDAT World Ocean Atlas of Plankton Functional Types. PANGAEA, doi:10.1594/PANGAEA.774851.

Oral and Poster Presentations

Calil, P., **Luo, Y.-W.**, Lima, I., Doney, S. C. (Oral). Biological relevance of submesoscale processes in the stratified, oligotrophic ocean. 2012 ROMS user workshop. Rio de Janeiro, Brazil. October 22-25, 2012.

Luo, Y.-W., Doney S.C., Lima, I. (Oral). Estimate of global nitrogen fixation rates and diazotrophic biomass: comparing CCSM model and observational database. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012.

Calil, P., **Luo, Y.-W.**, Lima, I., Doney, S. C. (Oral). Biological relevance of submesoscale dynamics in the highly stratified, oligotrophic ocean. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012.

Vogt, M., Peloquin, J.A., Buitenhuis, E.T., Bednarsek, N., Dunne, J.P., Leblanc, K., **Luo, Y.-W.**, Moriarty, R., O' Brien, T. D., Schiebel, R. (Oral). MAREDAT - Towards a world atlas of marine plankton functional types. Ocean Science Meeting, Salt Lake City, UT. February 20-24, 2012.

Luo, Y.-W. and Doney, S.C. (Oral). Database for Diazotrophs in Global Ocean: Biomasses, *nifH* Gene Copies and N₂ Fixation Rates. MAREMIP biannual meeting. Plymouth, UK, June 26, 2011.

Lunau, M., **Luo, Y.-W.**, Erickson, M., Voss, M., Ducklow, H.W. (poster). Cascading Effects of High Nitrate Inputs on the Transformation of Nitrogen by Coastal Microplankton. ISME 13th international symposium on Microbial Ecology. Seattle, WA. August 22-27, 2010.

Luo, Y.-W. (Oral). Microbial Dynamics in the Open Ocean as Revealed by Data Assimilative Modeling. WHOI Marine Chemistry & Geochemistry Seminar, April 13, 2010.

Luo, Y.-W., Doney, S.C., Ducklow, H.W., Friedrichs, M.A.M. (Oral). Investigating the Decadal Increase of Primary Production at Stn ALOHA, Hawaii Using Data Assimilative Model. Ocean Sciences Meeting 2010, Portland, OR. Feb 24, 2010.

Luo, Y.-W. (Oral). Interpreting Decadal Increase of Primary Production at Station ALOHA Using Data Assimilative Model. C-MORE all-hands meeting. University of Hawaii, Honolulu, HI. Feb 4, 2010.

Luo, Y.-W. (Oral). Data Assimilative Modeling of Heterotrophic Bacterial Dynamics in the Open Ocean. Woods Hole Oceanographic Institution postdoc symposium. Woods Hole, MA. Nov 18, 2009.

Luo, Y.-W. (Invited Speaker). Bacterial Dynamics in the Open Ocean Revealed by a Data Assimilative Modeling. Brown University Department of Geological Sciences Seminar. Providence, RI. Nov 17, 2009.

Luo, Y.-W., Ducklow, H. W. and Friedrichs, M. A. M. (poster) Decadal primary production variability at station ALOHA: Revealed by data assimilation. Ocean Carbon and Biogeochemistry (OCB) Summer Workshop. Woods Hole, MA, July 21 -24, 2008.

Luo, Y.-W., Ducklow, H.W., (oral) Ecosystem modeling of the North Pacific: Constraining a model with Bacterial and DOM data. Bay Paul Center Seminar, MBL, Woods Hole, MA, May 2, 2008.

Luo, Y.-W., Ducklow, H. W. and Friedrichs, M. A. M. (poster) The importance of microbial dynamics in marine biogeochemical modeling: a tentative data assimilation

study of open ocean ecosystems. 2008 Ocean Sciences Meeting, Orlando, FL. March 2 - 7, 2008.

Luo, Y.-W., Ducklow, H.W., (oral) Importance of microbial processes in marine biogeochemical modeling; a tentative data assimilation for the Arabian Sea. 10th Symposium of Aquatic Microbial Ecology, Faro, Portugal, September 1-7, 2007.

Luo, Y.-W. and Ducklow, H. W. (poster) A Flexible C:N:P Ratio Model of the Microbial Loop in the Open Sea. Ocean Carbon Biogeochemistry (OCB) Workshop. Woods Hole, MA, July 10 -13, 2006.

Luo, Y.-W. and Ducklow, H. W. (poster) Modeling the diversity of nitrogen fixing organisms in the North Central Pacific Gyre. An Ocean Carbon and Climate Change (OCCC) Workshop. Woods Hole, MA, August 1 - 4, 2005.

Community Service

Editorial Board Member, Journal of Marine Science: Research & Development

Journal Reviewers for: Aquatic Microbial Ecology, Limnology and Oceanography,
Journal of Marine Systems, Antarctic Science

Invited Participant, George Bush China-US Relations Conference. October 22-25, 2007. Washington D.C., USA.