Curriculum Vitae
Lauren W. Juranek

Oregon State University
104 CEOAS Admin Bldg.
Corvallis, OR 97331

tel: 1.541.737.2368
fax: 1.541.737.2064
ljuranek@coas.oregonstate.edu

Education

Ph.D. **2007, Chemical Oceanography, University of Washington, Seattle, WA**
Dissertation: Assessment of Pacific Ocean Organic Carbon Production and Export Using Measurements of Dissolved Oxygen Isotopes and Oxygen/Argon Gas Ratios.
Advisor: Paul Quay

M.Sc. **2003, Chemical Oceanography, University of Washington, Seattle, WA**

B.S. **1999, Environmental Biology and Management (highest honors), University of California, Davis**

Professional Experience

2011-present **Assistant Professor, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University**
Ocean Ecology and Biogeochemistry Discipline Teaching Faculty, using dissolved gas tracers to study ocean biogeochemistry; understanding biological/physical controls on carbon system variability

2009-2011 **Research Scientist, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington**
Coastal and open ocean carbon cycling, development of algorithms to predict pH and $CaCO_3$ saturation state on the US West Coast and Arctic seas, and use of gas tracers to study biologically-mediated carbon cycling.

2007-2009 **National Research Council Postdoctoral Research Fellow, NOAA PMEL**
Determination of biological modulation of coastal carbon flux using O_2/Ar and oxygen isotope measurements; investigation of coastal ocean acidification using multi-parameter proxies

2000-2007 **Graduate Research Assistant, University of Washington School of Oceanography**
Determination of primary production and organic carbon export using labeled and natural abundance isotopic techniques on dissolved gases

1999-2000 **Lab Manager and Technician, Stable Isotope Laboratory, Department of Geology, University of California, Davis**
Isotopic determinations on carbonate of cultured foraminiferal specimens for development of paleotemperature equations; ocean core analysis for paleoclimate reconstructions

1997-1999 **Undergraduate Research Assistant, Stable Isotope Laboratory, Dept. of Geology, University of California, Davis**
Preparation and isotopic analysis ($\delta^{13}C$, $\delta^{18}O$) of foraminifera and pteropod samples; analysis of isotopic composition ($\delta^{13}C$, $\delta^{18}O$, D/H) on water samples

Publications

Juranek LW, PD Quay, RA Feely, D Lockwood, DM Karl, and MJ Church, (2012) Biological production in the NE Pacific and its influence on air-sea CO_2 flux: evidence from dissolved oxygen isotopes and O_2 /Ar, *J. Geophys. Res*., doi:10.1029/2011JC007450 (in press).

Alin, SR, RA Feely, AG Dickson, JM Hernández-Ayón, **LW Juranek**, MD Ohman, and R Goericke (2012), Robust empirical relationships for estimating the carbonate system in the southern California Current System and application to CalCOFI hydrographic cruise data (2005-2011), *J. Geophys. Res*., doi:10.1029/2011JC007511 (in press).

Mathis, JT, RS Pickart, RH Byrne, CL McNeil, GWK Moore, **LW Juranek**, S Liu, J Ma, RA Easley, MM Elliot, JN Cross, SC Reisdorph, F Bahr J Morison, T Lichendorf, RA Feely (2012), Storm-induced upwelling of high pCO_2 waters onto the continental shelf of the Western Arctic Ocean and implications for carbonate mineral saturation states, *Geophys. Res. Lett.* 39, L07606, doi:10.1029/2012GL051574.

Juranek, LW, RA Feely, D Gilbert, H Freeland, L Miller (2011), Real-time estimation of *p*H and aragonite saturation state from Argo profiling floats: Prospects for an autonomous carbon observing strategy, *Geophys. Res. Lett.*, 38, L17603, doi:10.1029/2011GL048580

Juranek, LW, and PD Quay (2010) Basin-wide primary production rates in the subtropical and tropical Pacific Ocean determined from dissolved oxygen isotope ratio measurements, *Global Biogeochem. Cycles*, 24, GB2006, doi:10.1029/2009GB003492.

Juranek, LW, R Hamme, J Kaiser, R Wanninkhof, and PD Quay (2010), Evidence of O_2 consumption in underway seawater lines - implications for air-sea O_2 and CO_2 fluxes, *Geophys. Res. Lett.*, 37, 1, doi:10.1029/2009GL040423.

Juranek, LW, RA Feely, WT Peterson, SL Alin, B Hales, K Lee, CL Sabine, J Peterson (2009), A novel method for determination of aragonite saturation state on the continental shelf of central Oregon using multi-parameter relationships with hydrographic data, *Geophys. Res. Lett.*, 36, 24, doi:10.1029/2009GL040778.

D Ianson, RA Feely, CL Sabine, and **LW Juranek** (2009), Features of coastal upwelling regions that determine net air-sea CO_2 flux, *Journal of Oceanography*, 65(5), 677-687.

Quay, PD, J Stutsman, RA Feely, and **LW Juranek** (2009), Net community production rates across the subtropical and equatorial Pacific Ocean estimated from air-sea $\delta^{13}C$ disequilibrium, *Global Biogeochem. Cycles*, 23, GB2006, doi:10.1029/2008GB003193.

Juranek LW, and PD Quay (2005), In vitro and in situ gross primary and net community production in the North Pacific Subtropical Gyre using labeled and natural abundance isotopes of dissolved O_2, *Global Biogeochem. Cycles*, 19, GB3009, doi:10.1029/2004GB002384.

Sabine, CL, **L Juranek**, C Lee, D Nicholson, A Ver (2004), Understanding North Pacific Carbon Cycle Changes, *Eos Trans. AGU*, 85(42), 419, 10.1029/2004EO420006.

Juranek, LW, AD Russell and HJ Spero (2003), Seasonal oxygen and carbon isotope variability in Euthecosomatus pteropods from the Sargasso Sea. *Deep Sea Res. I* 50:231-245.

Invited Manuscripts

LW Juranek and PD Quay (2013) Using triple isotopes of dissolved oxygen to evaluate global marine productivity, *Ann. Rev. Mar. Sci*, submitted April 2012

Submitted Manuscripts and Manuscripts in Preparation

Mathis, JT, KL Shake, TJ Weingartner, **LW Juranek**, and RA. Feely, Carbon biogeochemistry of the Northern Gulf of Alaska and Prince William Sound Part I: Ocean Acidification and the seasonal undersaturation of aragonite, *Cont. Shelf Res.*, submitted.

Munro, DR, PD Quay, **LW Juranek**, and R Goericke, Primary and net community production rates off the Southern California Coast estimated from triple isotopes of dissolved O_2 and O_2/Ar ratios, *Limnol. and Oceanogr.*, submitted.

Lockwood, D, PD Quay, MT Kavanaugh, **LW Juranek**, RA Feely, High-resolution estimates of net community production and air-sea CO_2 flux in the Northeast Pacific, *Global Biogeochem. Cycles*, submitted

Published Conference Abstracts

Juranek, L., R.A. Feely, S.R. Alin, C. Meinig, and S.E. Stalin. 2012. Evaluating seasonal and event-scale effects of upwelling, biological production, and hypoxia on Central Oregon margin carbon chemistry using a coastal glider. Presented at 2012 Ocean Sciences Meeting, Salt Lake City, Utah.

Juranek, L.W., R.A. Feely, S.R. Alin, 2011. Robust Prediction of North Pacific Carbon System Dynamics Using Empirical Relationships with Hydrographic Data. Presented at 2011 ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico, 13-18 February

Juranek, L.W., R.A. Feely, S.R. Alin, S.R. Emerson, and P. Quay, 2010. Robust Prediction of pH and Carbonate Mineral Saturation State in the North Pacific Ocean Using Empirical Relationships with Hydrographic Data. Abstract OS21D-1540 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Juranek, L.W., P.D. Quay, D Lockwood, and F. Janny (2010), Biological Production and Export Rates Across the Subtropical and Subarctic North Pacific Determined by Oxygen Isotopes ($^{17}\Delta$) and the O_2/Ar ratio, Eos Trans. AGU, 91(26), Ocean Sci Meet. Suppl., Abstract IT24D-03.

Juranek, L.W., R.A. Feely, C.L. Sabine, P.D.Quay, D. Ianson, and S.R. Alin (2008), Determination of Biological Carbon Uptake on the North American West Coast Using Dissolved Oxygen Isotopes and the O_2/Ar Gas Ratio, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS44A-05.

Alin, S.R., R.A. Feely, C.L. Sabine, G.C. Johnson, L.W. Juranek, A.G. Dickson, K. Lee, A. Fassbender (2008), Reconstructing Aragonite Saturation States Along the California Coastline Using Chemical and Hydrographic Data, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS53C-1328.

Feely, R.A., B. Hales, C.L. Sabine, D. Greeley, K. Lee, S.R. Alin , L.W. Juranek (2008), A New Proxy Method for Estimating the Aragonite Saturation State of Coastal Waters Using Chemical and Hydrographic Data, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS33E-03.

Juranek, L.W., and P.D. Quay (2006), Determination of Gross Primary and Net Community Production Along a Repeated Pacific Ocean VOS Transect Using Measurements of Dissolved Oxygen Isotopes and O_2/Ar Gas Ratios, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS44G-02.

Quay, P., L. Juranek, and F. Chen (2006) Gross Primary and Net Community Production Rates Inside and Outside Eddies off Hawaii Based on Isotopic Measurements of Dissolved Oxygen and Inorganic Carbon, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS12H-03.

Cosca, C., R.A. Feely, B. Tilbrook, P.D. Quay, D. Wisegarver, C. Wolfe, and L. Juranek (2006), First underway fCO_2 observations from the VOS container ship Columbus Waikato in the tropical and subtropical Pacific, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS34J-03.

Juranek, L.W., and P.D. Quay (2004), In Vitro and In Situ Primary Productivity in the North Pacific Subtropical Gyre as Determined by the Triple Isotope Composition of Dissolved O_2 $^{18}O_2$ Labeling, and O_2/Ar Gas Ratios, *Eos Trans. AGU, 85*(47), Fall Meet. Suppl., Abstract OS11C-03.

Juranek, L., P.D. Quay, and D.M. Karl (2002), Primary Productivity rates at Station ALOHA determined by ^{18}O labeling and the triple isotope composition of dissolved oxygen, *Eos Trans. AGU, 83*(47), Fall Meet. Suppl., Abstract OS21B-0204.

Juranek, L., A. D. Russell, and H. J. Spero (1999). Seasonal stable isotope variability in two euthecosomatous pteropods from the Sargasso Sea: Evidence of depth habitat change and environmental influence on shell carbon isotopes. *Eos Trans. AGU, 80*, Fall Meet. Suppl., Abstract OS22B-03, p. F521.

H.J. Spero, D.W. Lea, C. Brogenski, S. Denton, L. Juranek, K. Mielke, D. Schuller, M. Thomas (1999) Calibration of the Globigerinoides sacculifer and G. ruber Paleotemperature Relationships from Laboratory Experiments Fall, *Eos Trans. AGU, 80*, Fall Meet. Suppl., Abstract OS12E-08.

Other Presentations

Juranek, L.W. (2011) A dissolved gas tracer approach to determine biologically-regulated air-sea CO_2 flux, Oregon State University, April 7, 2011 (invited talk).

Juranek, L.W. (2011) Using dissolved gas tracers and ships of opportunity to quantify the Pacific Ocean biological carbon pump, University of Rhode Island, January 18, 2011 (invited talk).

Juranek, L.W. (2011) Gasses and masses:Using dissolved O_2 isotopes and O_2/Ar to quantify the Pacific Ocean biological carbon pump, CalTech, October 27, 2010 (invited talk).

Juranek, L.W. (2010) Quantifying biological carbon uptake and export with dissolved oxygen isotopes and the O_2 /Ar ratio, University of South Carolina, March 4, 2010 (invited talk).

Juranek, L.W. (2009) Quantifying biological carbon uptake and export with dissolved oxygen isotopes and the O_2 /Ar ratio, Oregon State University, October 8, 2009 (invited talk).

Juranek, L.W., R.A. Feely, D. Ianson, P.D. Quay, S.R. Alin, C.L. Sabine, Biological Modulation of CO_2 Flux on the US West Coast Determined by Dissolved Oxygen Isotopes and the O_2/Ar gas ratio, Gordon Research Conference in Chemical Oceanography, Tilton, NH, August 2-7, 2009 (poster).

Juranek, L.W. (2009) Understanding basin-scale primary production and export in the Pacific Ocean using isotopes of dissolved oxygen and the dissolved O_2/Ar ratio, Duke University, April 7, 2009 (invited talk)

Juranek, L.W. (2009) Understanding basin-scale primary production and export in the Pacific Ocean using isotopes of dissolved oxygen and the dissolved O_2/Ar ratio, Stanford University, March 11, 2009 (invited talk)

Juranek, L.W., P.D. Quay, D. Munro, C. Peacock (2008), Validation of satellite primary productivity estimates using measurements of the oxygen isotope composition of dissolved O_2, NASA Carbon Cycle and Ecosystems Joint Science Workshop, Adelphi, MD, April 28 - May 2, 2008 (poster)

Juranek, L.W. and P.D. Quay (2006), Determining Pacific Ocean Productivity and Export Rates with an Oxygen Isotope and O_2/Ar approach, Dissertation Symposium in Chemical Oceanography XX, Honolulu, HI, October 8 – 12, 2006 (talk)

Juranek, L.W., E. Barkan, B. Luz, and P.D. Quay (2003), Gross Primary Productivity Rates at HOT and BATS Determined by the triple isotope composition of dissolved oxygen, International Summer School on Surface Ocean-Lower Atmosphere Study, Cargèse/France, June 30 – July 11, 2003 (poster and talk)

Juranek, L.W., E. Barkan, B. Luz, and P.D. Quay (2003), Gross Primary Productivity Rates at HOT and BATS Determined by the triple isotope composition of dissolved oxygen. JGOFS Open Science Conference, Washington, D.C, May 5-8, 2003 (poster)

Funding

NOAA-GCC (5/2010-4/2013) In Situ Biological Carbon Fluxes in the Pacific Ocean, (PIs Sonnerup and Juranek,)
NPRB (9/2010-8/2012) Moored Observations of Ocean Acidification in the Northern Gulf of Alaska (PIs Mathis, Sabine, Juranek)
NSF-OPP (1/2011-12/2014) Collaborative Research: Observation and Prediction of Ocean Acidification in the Western Arctic Ocean – Impacts of Physical and Biogeochemical Processes on Carbonate Mineral States (PIs Mathis, Juranek, Feely)
NSF-OPP (9/2011- 8/2014) Collaborative Research: Pacific Arctic carbon synthesis – transformations, fluxes, and budgets (PIs Mathis, Frey, Bates, VanLaningham, Juranek)

Fellowships/Awards

2007-2009	National Research Council Postdoctoral Research Associate Fellowship
2006	Selected to present at Dissertation Symposium in Chemical Oceanography XX
2004-2007	NASA Earth System Science Graduate Fellowship
2001-2004	National Defense Science and Engineering Graduate Fellowship
2004	AGU Outstanding Student Paper Award, AGU Fall Meeting
2003	Selected to attend SOLAS young scientist summer program, Corsica, France
2002	AGU Outstanding Student Paper Award, AGU Fall Meeting
1999	Presidential Undergraduate Fellowship Recipient, UC Davis

Teaching Experience

2004 Teaching Assistant: Global Carbon Cycle and Greenhouse Gases
Instructors: Steven Emerson, Lyatt Jaeglé

Field Experience

2011 Western Arctic Mooring and hydrography cruise (Dutch Harbor, AK to Chukchi/Beaufort)
2011* NOAA West Coast Ocean Acidification Cruise (WA/OR/CA coast)
2010 IOS Canadian West Coast Ocean Acidification Cruise (SE Alaska, BC, and WA coast)
2010 CLIVAR P6 Repeat Hydrography Cruise (Papeete,Tahiti to Valparaiso, Chile)
2009 Coral Community Calcification Experiments, Kaneohe Bay, HI
2008 CLIVAR P18 Repeat Hydrography cruise (Easter Island to Punta Arenas, Chile)
2007 NOAA West Coast Carbon Hydrography cruise (Queen Charlotte Sound, Canada, to Southern Baja California, Mexico)
2006 CLIVAR P16N Repeat hydrography cruise (Honolulu, HI to Kodiak, AK):
2004-2005 4 Trans-Pacific VOS cruises onboard container ship *Columbus Waikato* (Los Angeles, CA to Australia/New Zealand)
2003 2 North Pacific cruises (Honolulu, HI to Kodiak, AK)
2001-2003 5 Hawaii Ocean Time-Series cruises (HOT 127, 135, 140, 145, 151)
2000 Field Laboratory Manager for H. Spero (UC Davis Geology), Catalina Island Wrigley Marine Center
1999 Student Laboratory Assistant, Foraminifera Culturing Project (Isla Magueyes Marine Center, La Parguera, Puerto Rico)

294 sea days
***Juranek co-Chief Scientist**

Service/Outreach Activities

Reviewer for *Journal of Geophysical Research*, *Global Biogeochemical Cycles*, *Continental Shelf Research*, *Limnology and Oceanography*, *Deep-Sea Research*, *Rapid Communications in Mass Spectrometry*

Co-organized and led an Ocean Acidification workshop at the Expanding Your Horizons Workshop for middle school girls, Bellevue, WA, March 2011.