

Brook L. Nunn*

Education

Ph.D. (June 2004-in progress) Chemical Oceanography. *Moving beyond amino acids: Examinations of the protein component in sedimentary marine environments.*

M.S. 2000 Determination of Pore-Water Dissolved Organic Carbon Fluxes from Mexican Margin Sediments, with Richard G. Keil and Allan Devol at the University of Washington School of Oceanography (Seattle, Washington).

B.A. 1998 Geology & Chemistry, Colorado College, Colorado Springs, Colorado.

Awards & Honors

Best Speaker Award (2003) Australia & New Zealand Society of Mass Spectrometry Conference; Lorne, Australia.

Program on the Environment Conference Scholarship to Brownfields 2003 Conference

Teaching/ Outreach Interests

My previous teaching has been dominated by advising and/or mentoring peers and students in the field, classroom and lab. My enthusiasm is palpable by audiences when I demonstrate and explain the exciting nature of marine chemistry and biology. As a result, I believe my teaching strengths lie within the hands on approach.

Outreach Interests/ Programs

New Horizons Outreach Program (2001, 2002) Lead workshops for high school girls: Understanding Bioluminescent Organisms: Jobs in Chemical Oceanography.

University of Washington Oceanography Open House- Chemical Demonstrations and lessons.

U.W. Graduate Program Assistants and Advisors List

Teaching Assistant Design of Oceanographic Field Experiments (Oceanography 443)

Case histories, presentations, and class exercises used to teach methods of formulating a research problem and proposal writing. Methods of data analysis, presentation, error estimation, library resource and database use; web page implementation and design. Principles of cruise planning.

Teaching Assistant Advanced Field Oceanography

Conduct field experiment (designed in previous course) during a week-long cruise aboard a research vessel. Analyze samples data and present results in a series of drafts and a final term paper. Results are presented at a two-day-long public research symposium and on the students' individual Web sites.

Teaching Assistant (for student research cruise and planning only)- Oceanography of Puget Sound

Research Experience

My expertise lies with the development and implementation of analytical techniques in the marine sedimentary environment. This has involved a significant amount of background research in several cross-discipline areas including, but not limited to: sedimentary processes and transport, organic geochemistry, diagenetic marine chemistry, bacterial enzymatics, mass spectrometry, and proteomic research and methods development.

Teaching Experience

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Teaching Assistant Advanced Field Oceanography

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Field Experience

Organize and lead water column, sedimentary and tripod research in Puget Sound. (6 cruises)

In charge of 12 Tripod deployments in Equatorial North Pacific (6 weeks).

Research scientist on 2 Washington coast sedimentary and water column chemistry expeditions.

Publications

- Nunn, B.** and R. G. Keil (submitted). "Comparing several non-hydrolytic methods of extracting amino acids from marine sediments: A first step to understanding marine sedimentary proteins." Limnology and Oceanography Methods
- Nunn, B.** and R. G. Keil (submitted). "Proteinaceous components extracted from sediments off the Washington coast: sizes, compositions and distributions." Biogeochemistry
- Nunn, B.** and R. G. Keil (in progress). "Compositional changes in sedimentary amino acids along a meridional transect from abyssal plain to continental margin." Limnology and Oceanography
- Keil, R.G.; **Nunn, B. L.**, Arnarson, T. (submitted). "The potential importance of long distance transport of carbon offshore." Marine Chemistry.
- Nunn, B.L. (2004) Moving beyond amino acids: Examinations of the protein component in sedimentary marine environments. PhD thesis; University of Washington: pp.105.
- Nunn, B. L.**, A. Norbeck, R.G. Keil. (2003). "Hydrolysis patterns and the production of peptide intermediates during protein degradation in marine systems." Marine Chemistry 83(1-2): 59-73.
- Holcombe, B.**, R. G. Keil, Allen Devol. (2001). "Determination of Pore water dissolved organic carbon fluxes from Mexican margin sediments." Limnology and Oceanography 46(2): 298-308.

Recent Presentations and Published Abstracts

- Nunn, Brook L.** and R.G. Keil (2003) Using Mass Spectrometry to analyze intact oceanic sedimentary proteins. Speaker at Australia & New Zealand Society of Mass Spectrometry Conference; Lorne, Australia.
- Holcombe, Brook L.** and R.G. Keil (2002) "Techniques for the analysis of intact protein in marine sediments. Speaker at American Society of Limnology and Oceanography Ocean Sciences Conference; Honolulu, HI.
- Holcombe, Brook L.** and R.G. Keil (2001) "Bacterial degradation of protein under different redox conditions. Speaker at American Society of Limnology and Oceanography Aquatic Sciences Conference; Albuquerque, NM.
- R.G. Keil and **Holcombe, Brook L.** (2001) "The need for Environmental proteomics: Protein dynamics in aquatic systems. American Society of Limnology and Oceanography Aquatic Sciences Conference; Albuquerque, NM.
- Holcombe, Brook L.** and R.G. Keil (2000) "Is the dissolved organic carbon flux from sediments an important component of the global biogeochemical cycle? Speaker at American Society of Limnology and Oceanography Ocean Sciences Conference; Honolulu, HI.

Reviewer

Limnology and Oceanography
Marine Chemistry
Geochimica et Cosmochimica
Marine Geology

Professional Affiliations

American Society of Limnology and Oceanography (ASLO) (1998-)
Australian New Zealand Society of Mass Spectrometry (2001-)
American Geological Society (AGU) (1996-)

Other Interests & Accomplishments

Other than research and teaching, I really enjoy endurance running and cycling. This is my third year racing in triathlons, cycling, and endurance multi-sport events. I have accumulated over two-dozen overall podium positions in regional events and have placed in the top ten in elite division national level competitions.