

## **DEBORAH A BRONK**

**Bigelow Laboratory for Ocean Sciences  
60 Bigelow Dr., East Boothbay, ME 04544**

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### **EDUCATION**

Ph.D., Marine Estuarine and Environmental Sciences, Horn Point Laboratory,  
University of Maryland, College Park, MD, June 1992.

B.S., Biology and Marine Science, University of Miami, Miami, FL, May 1986.

### **ACADEMIC POSITIONS**

- 2018-present President and CEO, Bigelow Laboratory for Ocean Sciences, East Boothbay, Maine
- 2016-2018 Chair, Department of Physical Sciences, Virginia Institute of Marine Science (VIMS), College of William & Mary, Gloucester Point, VA
- 2016-2018 Moses D. Nunnally Distinguished Professor of Marine Science, VIMS
- 2015-2016 Vice-chair, Department of Physical Sciences, VIMS
- 2014-2018 Director, VIMS Flow Cytometry Facility, VIMS
- 2013-2015 Division Director, Division of Ocean Science, National Science Foundation (NSF), Arlington, VA
- 2012-2013 Section Head, Ocean Science Section, NSF
- 2011-2012 Federal Science and Research Liaison, VIMS
- 2007-present Professor, VIMS, College of William & Mary
- 2000-2006 Associate Professor, VIMS, College of William & Mary
- 1999-2000 Associate Professor of Marine Sciences, University of Georgia, Athens, GA
- 1994-1999 Assistant Professor of Marine Sciences, University of Georgia
- 1992-1993 Postgraduate Researcher, University of California, Santa Cruz, CA
- 1988-1992 Graduate Research Assistant, University of Maryland, Cambridge, MD
- 1987-1988 Sea Grant Trainee, University of Maryland, Cambridge, MD
- 1988-1987 Horn Point Laboratory Graduate Fellow, University of Maryland
- 1985-1986 Student Assistant in Marine Biology, University of Miami, Miami, FL

### **AWARDS and ELECTED OFFICES**

- 2019-2022 Member-at-Large, Consortium of Ocean Leadership

- 2018 Outstanding Faculty Award, the state of Virginia's highest honor for faculty at Virginia's public and private colleges and universities, awarded by the State Council of Higher Education for Virginia
- 2017-2019 Chair-elect, Council of Scientific Society Presidents (CSSP). Elected to serve one year as Chair-elect, one year as Chair, and one year as Past-Chair. CSSP member societies represent over a million U.S. scientists.
- 2015 Sustaining Fellow of the Association for the Sciences of Limnology and Oceanography
- 2011 Plumeri Award for Faculty Excellence, The College of William & Mary
- 2011-2012 Elected Treasurer, Council of Scientific Society Presidents
- 2009-2010 Elected Member-at-large, Council of Scientific Society Presidents
- 2009 Dean's Prize for the Advancement of Women in Science
- 2008-2011 Member, U. S. Carbon Cycle Science Plan Working Group, assembled to set national research priorities in integrated (ocean, land, and atmosphere) carbon cycle for the coming decade
- 2008-2014 Elected President, Association for the Sciences of Limnology and Oceanography (ASLO). Elected to serve two years as President-elect, two years as President, and two years as Past-President
- 2006-2009 Inaugural Member, Ocean Carbon and Biogeochemistry (OCB) Scientific Steering Committee (SSC) assembled by NSF, NOAA, and NASA to set priorities and develop programs for the study of ocean biogeochemistry and carbon cycling
- 2005 Krispy Kreme Award recipient. Award was given in recognition of effective use of a doughnut metaphor at the Significant Processes, Observations, and Transformation in Oceanic Nitrogen (SPOT ON) workshop, Warnemunde, Germany (*this was a joke but I love it!*)
- 1996 Lindeman Award recipient. Award is given annually by ASLO for the outstanding paper in aquatic sciences by a young scientist
- 1995 Recipient of the Antarctic Service Medal
- 1993 Selected participant in the Dissertations Symposium on Chemical Oceanography (DISCO) meeting, Honolulu, HI

## **CONTRIBUTIONS TO THE EDUCATIONAL PROGRAM**

### **Courses Taught (Sole or Co-Instructor)**

- Spring 2017 MSCI 330 Introduction to Marine Science, W&M, Lead and 50%
- Spring 2016 MSCI 330 Introduction to Marine Science, W&M, Lead and 50%

Summer 2012		Guest instructor. Center for Microbial Oceanography: Research and Education (CMORE), Microbial Oceanography: Genomes to Biomes. University of Hawaii
Spring 2012	MSCI 330	Introduction to Marine Science, W&M, 50%
Spring 2010	MSCI 330	Introduction to Marine Science, W&M, 50%
Summer 2009		Guest instructor. Center for Microbial Oceanography: Research and Education (CMORE), Microbial Oceanography: Genomes to Biomes. University of Hawaii
Fall 2008	MSCI 698	Harmful Algal Blooms, VIMS, 50%
Summer 2008		Guest instructor. CMORE, Microbial Oceanography: Genomes to Biomes. University of Hawaii
Spring 2008	MSCI 502	Coordinator and contributor to Coastal and Estuarine Processes and Issues, VIMS, 30%
Spring 2007	MSCI 502	Coordinator and contributor to Coastal and Estuarine Processes and Issues, VIMS, 48%
Fall 2006	MSCI 655	Stable Isotope Biogeochemistry, VIMS, 50%
Fall 2006	MSCI 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Spring 2006	MSCI 502	Coordinator and contributor to Coastal and Estuarine Processes and Issues, VIMS, 48%
Spring 2005	MSCI 502	Coordinator and contributor to Coastal and Estuarine Processes and Issues, VIMS, 20%
Fall 2005	MSCI 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Spring 2004	MSCI 502	Coordinator and contributor to Coastal and Estuarine Processes and Issues, VIMS, 20%
Fall 2004	MS 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Fall 2004	MS 698	Isotope Biogeochemistry, VIMS, 50%
Fall 2003	MS 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Spring 2003	MS 698	Aquatic DOM, VIMS, 50%
Spring 2003	MS 502	Coastal and Estuarine Processes and Issues, VIMS, 15%
Fall 2002	MS 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Fall 2002	MS 698	Isotope Biogeochemistry, VIMS, 50%.
Spring 2002	MS 502	Coastal and Estuarine Processes and Issues, VIMS, 15%
Fall 2001	MS 575	Aquatic Microbial Ecology, VIMS, 9%

Fall 2001	MS 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Fall 2000	MS 501L	Fundamentals of Marine Sciences Lab, VIMS, 7%
Fall 2000	MS 698-4	Man's Relationship with Nature, VIMS, 33%.
Fall 1999	MARS 4111/6111	Chemical and Biological Oceanography, University of Georgia (UGA), 50%, ~40 students
Fall 1999	MARS 1010/1010L	The Marine Environment, UGA, 50%, ~300 students
Spring 1998	MARS 8010	Biological Oceanography, UGA, 7%, ~25 students
Fall 1998	MARS 4111/6111	Chemical and Biological Oceanography, UGA, 50%
Fall 1998	MAR 101/101L	The Marine Environment, UGA, 50%, ~300 students
Spring 1997	MARS 8010	Biological Oceanography, UGA, 7%, ~25 students
Winter 1997	MAR 101/101L	The Marine Environment, UGA, 100%, ~300 students
Winter 1997	MARS 4111/6111	Chemical and Biological Oceanography, UGA, 50%
Spring 1996	MARS 8010	Biological Oceanography, UGA, 7%, ~25 students
Winter 1996	MAR 101/101L	The Marine Environment, UGA, 90%, ~100 students
Fall 1996	MAR 410/610	General Oceanography, UGA, 40%, ~25 students
Spring 1995	MARS 8010	Biological Oceanography, UGA, 7%, ~25 students
Fall 1995	MAR 410/610	General Oceanography, UGA, 40%, ~25 students

## **Mentoring**

### ***Post-doctoral Advisor***

2013-2014	Steven Baer (VIMS)
2011-2013	Lynn Killberg-Thoreson (VIMS)
2009-2012	Rachel Sipler (VIMS; transitioned to Research Scientist 2012-2018)
2008	Robert Condon (VIMS)

### ***Major Advisor – Graduate***

2016-present	Brianna Stanley, Ph.D. Student (VIMS)
2019-2020	Quinn Roberts, M.S. Student (VIMS) “Composition and bioavailability of effluent dissolved organic nitrogen”
2010-2017	Jenna Spackeen, Ph.D. Student (VIMS) “Anthropogenic impacts on phytoplankton nitrogen uptake”

- Recipient of VIMS Assistantship (2010-2011)*  
*Recipient of NSF GK-12 Fellowship (2011-2014)*
- 2008-2011 Carolina Funkey, M.S. Student (VIMS)  
“Abiotic release of low molecular weight nitrogen from effluent organic nitrogen”  
*Recipient of VIMS Assistantship (2008-2009)*
- 2007-2013 Steven Baer, Ph.D. Student (VIMS)  
“Seasonal nitrogen uptake and regeneration dynamics in the water column and sea-ice of the western coastal Arctic”  
*Recipient of VIMS Council Fellowship (2007-2010)*
- 2004-2011 Lynn Killberg, Ph.D. Student (VIMS)  
“A tale of two blooms: Dynamics of nitrogen uptake by harmful algae in the eastern Gulf of Mexico and York River, Virginia, USA”  
*Recipient of VIMS Assistantship (2004-2005)*
- 2001-2008 Paul B. Bradley, Ph.D. Student (VIMS).  
“Multi-system analysis of nitrogen use by phytoplankton and heterotrophic bacteria”  
*Recipient of VIMS Assistantship (2001-2002)*  
*Recipient of an EPA STAR Fellowship (2004-2007)*  
*Recipient of Knauss Fellowship (2007)*
- 2002-2006 Joel Hoffman, Ph.D. Student (VIMS)  
“Natal-river to estuary migration of American shad: Estimating the value of essential rearing habitat in riverine and estuarine systems”  
*Recipient of an NSF Graduate Fellowship (2003-2006)*  
*Recipient of a VIMS Graduate Fellowship (2002 and 2007)*  
*Recipient of 2006 the VIMS Maury Award*
- 1998-2003 Jason H. See, Ph.D. Student (UGA/VIMS).  
“Availability of humic nitrogen to phytoplankton”  
*Recipient of a VIMS Graduate Fellowship (2000-2003)*  
*Recipient of the VIMS’ Best Student Publication (2007, Ph.D.)*
- 1997-2000 Dirk J. Koopmans, M.S. Student (UGA).  
“Photochemical production of inorganic nitrogen from dissolved organic nitrogen in waters of the Satilla River and adjacent groundwater”

***Student Committee Service***

- 2017-2018 John A. Conroy, Ph.D. student (VIMS)

2016-2019 Shanna Williams, M.S. student (VIMS)  
 2015-2019 Patricia Thibodeau, Ph.D. student (VIMS)  
 2012-2016 Brandon J. Conroy, Ph.D. student (VIMS)  
 2013-2015 Jessica Lisa, Ph.D. student (VIMS)  
 2010-2012 Lori Price, M.S. student (VIMS)  
 2009-2011 Chris Hauser, M.S. student (VIMS)  
 2009-2010 Xiao Liu, M.S. student (VIMS)  
 2004-2010 Sasha Tozzi, Ph.D. student (VIMS)  
 2002-2010 Frank Parker, Ph.D. student (VIMS)  
 2004-2009 Grace Saba (Henderson), Ph.D. student (VIMS)  
 2008-2009 Glaucia Moreira Fragoso, M.S. student (VIMS)  
 2003-2008 Amanda Spivak, Ph.D. (VIMS)  
 2006-2008 Andre Buchheister, M.S. student (VIMS)  
 2003-2008 Rob Condon, Ph.D. (VIMS)  
 2006-2007 Azure Bevington, M.S. (VIMS)  
 2005-2007 Emily Chandler, M.S. (VIMS)  
 2001-2005 Jill Peloquin, Ph.D. (VIMS)  
 2000-2005 Oliver, Jacque, Ph.D. (VIMS)  
 2000-2003 Delizo, Lisa. M.S (VIMS)  
 1999-2000 Burbage, Chris. Ph.D. (UGA)  
 1998-2000 Sullivan, James. Ph.D. (UGA)  
 1997-2002 Allen, Andrew. Ph.D. (UGA)  
 1995-2001 Gibson, Deidre. Ph.D. (UGA)  
 1996-1998 Wrona, Amanda. M.S. (UGA)  
 1995-1998 Otero, Ernesto. Ph.D. (UGA)

***Visiting Students***

2018-2019 Xiaolong Yao, Ph.D. student from Nanjing Institute of Geography &  
 Limnology  
 2011 Mar Benavides Gorostegui, Ph.D. student from University of Las Palmas de Gran  
 Canaria  
 2011 Helle Knudsen, Ph.D. student from Aarhus University, Denmark

### ***Undergraduate and High School Mentor***

- 2017 Jane Sedlak, Summer REU student (VIMS)
- 2016, 2016 Zane Norton, Summer intern
- 2016 Sarah Scharf, High School Intern (VIMS)
- 2016 Marley Epperson, High School Intern (VIMS)
- 2015 Jace Alford, High School Intern (VIMS)
- 2014 Brianna Stanley, Summer REU student (VIMS)
- 2010, 2011, 2012 Gabrielle McIninch, high school student (VIMS)
- 2009 Monica Poteat, Summer REU student (VIMS)
- 2009 Genevieve Ho, Summer REU student (VIMS)
- 2007 Stephanie Henderson, Summer REU student (VIMS)
- 2003 Michael D'Amico, Summer REU student (VIMS)
- 2003 Cynthia Craig, Summer REU student (VIMS)
- 2001 Sara Harris, FIRST mentee during summer internship (VIMS)
- 1998 Benjamin Wheeler, undergraduate senior thesis (UGA)
- 1998 Laura Wingate, undergraduate senior thesis (UGA)
- 1998 Mark Novak, undergraduate senior thesis (UGA)
- 1997 Jason Dempsey, undergraduate senior thesis (UGA)
- 1997 Chris Carter, undergraduate senior thesis (UGA)
- 1996 Kevin Morris, undergraduate senior thesis (UGA)
- 1995 John Belin, undergraduate senior thesis (UGA)

### **FELLOWSHIPS AND GRANTS**

#### **Fellowships, Grants, etc. Awarded by Outside Agencies**

Creatine cycling in marine bacteria and phytoplankton assemblages  
NSF: Biological Oceanography (OCE-1635369), Bronk part \$387,999  
Wawrik B (PI, U Oklahoma), Z Yang, and **D Bronk (Co-PI)**

Is nitrogen fixation widespread in the Chukchi and Beaufort Seas?  
NSF: Arctic Natural Sciences (ANS-1504307), 12/15 to 11/18, \$405,188  
Sipler, R (PI) and **D Bronk (Co-PI)**

GOALI: Effluent Dissolved Organic Nitrogen – Compound Level Assessment of Sources and Sinks

NSF: Environmental Engineering (ENG-151120), 6/15 to 5/18, \$329,677

**Bronk, D (PI)** and R Sipler (Co-PI)

*\* Note that during my service at NSF my name had to be removed from new federal grants or a substitute PI had to be named for existing federal grants. R. Sipler assumed the role of substitute PI.*

Nitrogen and Phosphorus uptake by HABs: Do you have to manage everything or just the right thing?

Virginia Sea Grant, 7/12 to 6/13, \$5,000

**Bronk, D (PI)** and J Spackeen (Co-PI)

How Will Marine Food Webs in the Coastal Arctic Respond to Increased Runoff Associated With Permafrost Melt?

US Fish and Wildlife Service, Arctic LCC, 6/12 to 8/12, \$33,211

**Bronk, D (PI)**, R Sipler (Co-PI), M Frischer and J Nejtgaard (Co-PIs, SkIO), and T Sutton (Co-PI, UAlaska)

MRI: Acquisition of a flow cytometer with high speed sorting to advance aquatic science research and education

NSF (EAR-1229252), 8/12 to 7/14, \$580,393

**Bronk, D (PI)**, A Beck (Co-PI), and K Reece (Co-PI)

Effluent organic nitrogen produced within wastewater treatment plants

Water Environment Research Federation with in-kind support from Hampton Roads Sanitation District, 2/12 to 1/14. \$204,072 WERF + \$35,000 HRSD

**Bronk, D (PI)** and R Sipler (Co-PI)

Synergistic effects of iron, carbon dioxide and temperature on the fate of nitrate:

Implications for future changes in export production in the Southern Ocean

NSF: Antarctic Ocean and Atmospheric Science (ANT-1043635), 9/11 to 8/14, Bronk part \$476,668. Additional supplement of \$143,275 for total of \$619,943.

Allen, A (PI, JCVI), D Hutchin (Co-PI, USC), and **D Bronk (Co-PI)**

Determining rates of group-specific phytoplankton and bacterial uptake of inorganic and organic nitrogen by means of stable isotope probing

NSF: Biological Oceanography (OCE-0960806), 3/10 to 2/13, Bronk part \$377,744

Wawrik, B (PI, UOklahoma) and **D Bronk (Co-PI)**

Does competition for nitrogen between autotrophs and heterotrophs control carbon fluxes in the western coastal Arctic?

NSF: Office of Polar Programs (ARC-0909839), 9/09 to 8/12, Bronk part \$390,827

Yager, P (PI, UGA), M Frischer (Co-PI, SkIO) and **D Bronk (Co-PI)**

*Karenia* nutrient dynamics in the Eastern Gulf of Mexico

EPA: ECOHAB, 9/06 to 8/11. Bronk part \$499,823.



Heil, C (PI, FFWCC), **D Bronk (Co-PI)**, M Mulholland (Co-PI, ODU), J. O'Neil (Co-PI, UMd)

Chemical characterization of EON as it passes through a WWTP  
Hampton Roads Sanitation District, 2010, \$65,000 + student internship  
Sipler, R(PI) and **D Bronk (Co-PI)**

Bioavailability of effluent organic nitrogen in Virginia coastal waters  
Virginia Sea Grant, 2/09 to 1/11, Bronk part \$130,000  
**Bronk, D (PI)** and M Mulholland (ODU)

Combining flow cytometry and stable isotope techniques: A method to measure  
phytoplankton- and bacteria-specific nitrogen uptake  
NSF: Biological Oceanography, 3/08 to 2/11, Bronk part \$232,237  
**Bronk, D (PI)**, M Lomas (Co-PI, BIOS)

C-43 Water quality treatment project – Removing available DON using engineered  
wetlands  
Consulting for CH2MHill engineering, 3/09 to 12/09, \$65,550  
**Bronk, D (PI)** and A Loh (Co-PI)

Biodiesel production from algae  
Funded by Virginia Coastal Energy Research Consortium (VCERC)  
Bronk parts \$13,557 for 2009; \$22,937 for 2008; \$25,657 for 2007

Assessing the bioavailability of effluent organic nitrogen along a freshwater continuum  
Funded by NSF: Chemical, Bioengineering, Environmental, and Transport Systems  
(CBET-0756475), 4/08 to 4/10, Bronk part \$194,353  
**Bronk, D (PI)**, E Canuel (Co-PI, VIMS), M Mulholland (ODU), N Love (UMichigan),  
and P Hatcher (ODU)

Bioavailability of effluent organic nitrogen in Virginia coastal waters  
Funded by Virginia Sea Grant. 10/07 to 3/08. \$10,000  
**Bronk, D (PI)**

Quantification and modeling of DOC and DON release in marine systems: a study of  
increasing trophic complexity  
Funded by NSF: Biocomplexity (OCE-0221825), 9/02 to 8/07, \$1,699,000  
**Bronk, D (PI)**, WO Smith (Co-PI, VIMS), D Steinberg (Co-PI, VIMS), D Malmquist  
(Co-PI, VIMS), E Wommack (Co-PI, UDe), C Carlson (Co-PI, UC Santa Barbara), R Hood  
(Co-PI, UMd), and D Repeta (Co-PI, WHOI)

Nitrogen Preferences and Uptake Kinetics in Cultures and Field Populations of the Florida  
Red Tide Dinoflagellate *Karenia brevis*  
Funded by Florida Fish and Wildlife Conservation Commission, 10/05 to 4/06, \$25,000  
**Bronk, D (PI)**

The Ecology and Genomics of CO<sub>2</sub> Fixation in Oceanic River Plumes.  
Funded by DOE, 2/03 to 1/08, Bronk part \$117,039  
Paul, J (PI, USF), **D Bronk (Co-PI)**, J Corredor, J Lopez, J Morell (Co-PI, Puerto Rico),  
and R Tabita (Co-PI, OSU)

Molecular approaches for *in situ* study of nitrate utilization by marine bacteria.  
Funded by DOE, 12/03 to 11/06, Bronk part \$186,160.  
Frischer, M (PI, SkIO), P Verity, S Whipple (Co-PI, SkIO), **D Bronk (Co-PI)**, M Gilligan (Co-PI, SSU), M Booth (Co-PI, Roanoke)

Geochemical Rate/RNA Integration Study (GRIST): A Pilot Field Experiment for Inter-Calibration of Biogeochemical Flux and Nucleic Acid Measurements  
Funded by DOE, 6/02 to 5/03, ~\$400,000  
Kerkhoff, L (PI, Rutgers), **D Bronk (Co-PI)**, and others.

Fate of recently fixed nitrogen in the eastern Gulf of Mexico: Does the regeneration of nitrogen fixed by *Trichodesmium* support the growth development of *G. breve* blooms?  
Funded by NSF: Biological Oceanography, 5/01 to 4/04, ~\$700,000  
Heil, C (PI, USF), **D Bronk (Co-PI)**, and M Mulholland (Co-PI, ODU)

Molecular approaches for *in situ* study of nitrate utilization by marine bacteria.  
Funded by DOE, 12/00 to 11/03  
Frischer, M (PI, SkIO), P Verity, M Booth (Co-PI, SkIO), **D Bronk (Co-PI)**, M Gilligan (Co-PI, SSU)

Coastal eutrophication in the southeastern U.S.: Nitrogen versus phosphorus limitation and the role of organic nitrogen  
Funded by Georgia Sea Grant, 3/00 to 2/02, \$133,048  
**Bronk, D (PI)**

Coastal eutrophication: Organic versus inorganic nitrogen as a source of coastal productivity  
Funded by Georgia Sea Grant, 9/98 to 8/99, \$45,995 supplement  
**Bronk, D (PI)**

Ephemeral microbial mats in the Satilla River: Initial survey of physical and chemical characteristics  
Funded by Georgia Sea Grant, 9/98 to 8/99, \$9,760  
Joye, S (PI, UGA) and **D Bronk (PI)**

Molecular approaches for *in situ* study of nitrate utilization by marine bacteria.  
Funded by DOE, 12/97 to 11/00, Bronk part \$170,002  
Frischer, S (PI, SkIO), P Verity, M Booth (Co-PI, SkIO), **D Bronk (PI)**, M Gilligan (Co-PI, SSU)

The influence of land use on groundwater derived nutrients and organic inputs to the South Atlantic Bight  
Funded by South Carolina Sea Grant, 11/97 to 10/98, Bronk part \$34,920  
Joye, S (PI, UGA), **D Bronk (Co-PI)**, WJ Cai (Co-PI), W Moore (Co-PI)

Molecular approaches for *in situ* study of nitrate utilization by marine bacteria.  
Funded by DOE, 10/97 to 9/00, Bronk part ~\$100,000  
Hodson, R (PI, UGA), **D Bronk (Co-PI)**, MA Moran (Co-PI, UGA), and others

Analytical Instrumentation: Mass spectrometer for the analysis of carbon and nitrogen isotopic ratios

Funded by NSF: Biological Oceanography, 2/97 to 1/98, \$101,116

**Bronk, D (PI)**

New and regenerated production in the Southern Ocean: Ross Sea studies (U.S. JGOFS)

Funded by NSF: Office of Polar Programs, 7/96 to 6/99, Bronk part \$117,382

Cochlan, W (PI, SFSU) and **D Bronk (Co-PI)**

REU Supplement to New and regenerated production in the Southern Ocean: Ross Sea studies (U.S. JGOFS)

Funded by NSF: Office of Polar Programs, 2/97 to 1/98, \$4,000

**Bronk, D (PI)**

Coastal eutrophication: Organic versus inorganic nitrogen as a source of coastal productivity

Funded by Georgia Sea Grant, 9/96 to 8/98, \$87,374

**Bronk, D (PI)**

Inputs and fates of organic nitrogen in two land-margin ecosystems: Chesapeake Bay and Georgia coastal rivers

Funded by NSF: Biological Oceanography and Environmental Geochemistry and Biogeochemistry, 9/96 to 8/99, Bronk part \$137,819

Glibert, P (PI, UMD) and **D Bronk (Co-PI)**

Coastal eutrophication: Organic versus inorganic nitrogen as a source of coastal productivity

Funded by Georgia Sea Grant, 4/96 to 3/97, \$10,000

**Bronk, D (PI)**

Bacterial utilization of marsh-derived humic material as a nitrogen source in coastal waters of the Southeastern United States

Funded by Georgia Sea Grant, 4/95 to 3/96, \$10,000

**Bronk, D (PI)**

Dissolved organic nitrogen uptake by autotrophic plankton studied with flow cytometry

Funded by NSF, Biological, 12/95 to 6/97, \$18,000

**Bronk, D (PI)**

## RESEARCH

### Refereed Publications, Chapters in Books:

*(\* indicates work done by a student, technician, or post-doc in my laboratory or work that was done in my laboratory)*

***Submitted:***

- \*Spackeen JL, K Xu, RE Sipler, Zhi Zhu, DA Hutchins, **DA Bronk**. In revision. Uptake of carbon, nitrogen and phosphorus under a matrix of temperature and Fe by three Antarctic phytoplankton species (*Fragilariopsis cylindrus*, *Pseudonitzschia subcurvata*, and *Phaeocystis antarctica*).
- \*Sipler, RE, CB Bott, **DA Bronk**. Submitted. Chemical characterization of dissolved organic nitrogen present at different stages throughout the water resource recovery process. Water Research.
- \*Killberg-Thorespm. SE Baer, WG Reay, QN Roberts, RE Sipler, and **DA Bronk**. Submitted. Seasonal nitrogen uptake dynamics and harmful algal blooms in the York River, Virginia. Estuaries and Coasts.
- Jabre, L., AE Allen, JSP McCain, JP McCrow, N Tenenbaum, JL Spackeen, RE Sipler, B Green, **DA Bronk**, DA Hutchins, and EM Bertrand. Molecular underpinning and biogeochemical consequences of enhanced diatom growth in a warming Southern Ocean. Submitted to Proceedings of the National Academy of Science.

***Published or in press:***

- MK Rogener, RE Sipler, KS Hunter, H Choi, **DA Bronk**, SB Joye. 2020. Pelagic methane oxidation in the northern Chukchi Sea. Limnology and Oceanography. 65: 96-110. doi.org/10.1002/lno.11254
- Yao, X, RE Sipler, BC Stanley, QN Roberts, MP Sanderson, CB Bott, and **DA Bronk**. 2019. Quantifying effluent dissolved organic nitrogen (EDON) uptake by microbial communities along a salinity gradient in the York River. Estuaries and Coasts. 42 (5): 1265-1280. doi.org/10.1007/s12237-019-00563-9.
- Tatters, AO, A Schnetzer, K Xu, NG Walworth, F Fu, JL Spackeen, RE Sipler, EM Bertrand, JB McQuaid, AE Allen, **DA Bronk**, K Gao, J Sun, DA Caron, DA Hutchins. 2018. Interactive effects of temperature, CO<sub>2</sub>, and nitrogen source on a coastal California plankton assemblage. Journal of Plankton Research. 40 (2): 151-164. doi.org/10.1093/plankt/fbx074.
- \*Spackeen JL, **DA Bronk**, RE Sipler, E Bertrand, DA Hutchins, AE Allen. 2018. Stoichiometric N:P ratios, temperature, and iron impact carbon and nitrogen uptake by Ross Sea microbial communities. Journal of Geophysical Research – Biogeosciences. doi.org/10.1029/2017JG004316.
- Harding, K, K Turk-Kubo, R Sipler, M Mills, **D Bronk**, and J Zehr. 2018. Symbiotic Unicellular Cyanobacteria Fix Nitrogen in the Arctic Ocean. Proceedings of the National Academy of Science. 115: 13371-13375. doi/10.1073/pnas.1313658115.
- \*Spackeen J.L., RE Sipler, EM Bertrand, K Xu, JB McQuaid, N Walworth, DA Hutchins, AE Allen, **DA Bronk**. 2018. Impact of temperature, CO<sub>2</sub>, and iron on nutrient uptake by a late season microbial community from the Ross Sea, Antarctica. Aquatic Microbial Ecology. 82: 145-159. doi.org/10.3354/ame01886. (90)

- Bronk, D**, RE Sipler, C Bott. 2017. Effluent organic nitrogen produced within waste water treatment plants. Water Environment Research Foundation. ISBN: 978-1-94124-251-3
- Wawrik, B, **D Bronk**, S Baer, L Chi, M Sun, J Cooper, and Z Yang. 2017. Bacterial utilization of creatine in seawater. *Aquatic Microbial Ecology*. 80: 153-165. DOI: <https://doi.org/10.3354/ame01850>
- \*Sipler, RE, D. Gong, SE Baer, MP Sanderson, QN Roberts, M Mulholland, **DA Bronk**. 2017. Contribution of Arctic nitrogen fixation to the global nitrogen budget. *Limnology and Oceanography Letters*. doi: 10.1002/lol2.10046
- \*Spackeen J.L., RE Sipler, MP Sanderson, QN Roberts, K Xu, AO Tatters, N Walworth, DA Hutchins, AE Allen, **DA Bronk**. 2017. Interactive effects of temperature, CO<sub>2</sub>, and nitrogen source on a coastal California plankton assemblage: II. Microbial uptake of nitrate, urea, and carbon. *Marine Ecology Progress Series*. 577: 49-65
- \*Sipler, RE, CT Kellogg, TL Connelly, QN Roberts, PL Yager, **DA Bronk**. 2017. Microbial community response to terrestrially-derived dissolved organic matter in the coastal Arctic. *Frontiers in Microbiology*. 8:1018. doi: 10.3389/fmicb.2017.01018
- \*Baer, SE, RE Sipler, QN Roberts, PL Yager, ME Frischer, and **DA Bronk**. 2017. Seasonal nitrogen uptake and regeneration in the western coastal Arctic. For *Limnology and Oceanography*. doi: 10.1002/lno.10580
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### **Edited books and journals**

- Taylor, P, K Tedesco, and **DA Bronk** (eds). 2010. Oceanography Magazine: Celebrating 50 years of the Intergovernmental Oceanographic Commission. Volume 23.
- Capone, DG, **DA Bronk**, M Mulholland and E Carpenter (eds). 2008. Nitrogen in the Marine Environment. Elsevier Press. Amersterdam. pp. 1729.

### **Congressional Testimony**

- Hearing on Climate change and the ocean, House Natural Resources Committee, Subcommittee on Water, Oceans, and Wildlife, February 7, 2019
- Hearing on: Atmospheric science research and forecasting innovation, Senate Committee on Commerce, Science and Transportation, Subcommittee on Science, Oceans, Fisheries and Weather, May 16, 2019

### **Invited Papers and Talks** (excluding advancement presentations and functions)

- 2020 Nitrogen cycling in the warming coastal Arctic. University of New England, Biddeford, ME
- The health of the world's oceans, Mid-Coast Forum on Foreign Relations, Camden, ME
- Research in the Arctic, Coastal Senior College, Damariscotta, ME
- 2019 The ocean as a tool to combat climate change, Women in Science and Engineering speaker series, Museum of Science, Boston, MA
- MCE Life Sciences Summit, University of New England, Portland, ME
- Climate change and the ocean, Pot and Kettle Club, Mount Desert Island, ME
- My life and an oceanographer and how a trip to Maine can change everything, Boothbay Yacht Club, Boothbay Harbor, ME
- 2018 Empowering scientists to harness the oceans potential. TEDxDirigo, Portland, ME
- Nitrogen cycling in the warming coastal Arctic. University of Maine, Orono, ME
- Water colors: Changes in the Arctic and the Gulf of Maine, Frontier Café, Portland, ME
- And the waters darkened: How climate change on land alters the Arctic Sea and Gulf of Maine, Music Hall Loft, Portsmouth, NH
- And the waters darkened: How climate change on land alters the Arctic Sea and Gulf of Maine, Squirrel Island Library
- And the waters darkened: How climate change on land alters the Arctic Sea and Gulf of Maine, Isleboro Community Forum, Isleboro, ME

- 2017 **Bronk, DA**, R Sipler, J Spackeen. 2017. The potential of DON to serve as a controlling variable for inorganic nutrient concentrations in coastal and estuarine systems. Invited talk at the ASLO Aquatic Sciences meeting, Honolulu, HI.
- 2016 Nitrogen cycling in the coastal Arctic. Bigelow Laboratory for Ocean Sciences. June 2016
- Theme 2 Plenary: How does the lack of geochemical knowledge limit our understanding in other fields of oceanography: which are the most critical areas. Chemical Oceanography Meeting: A Bottom-Up Approach to Research Directions (COME ABOARD), Honolulu, HI
- Ocean Science at NSF: Info and Advice, Florida State University, November 2016
- 2015 Discussant for Marine Ecosystems in Hot Water: Some Like It Hot (But Some Do Not), AAAS, San Jose, CA, February 2015
- Panelist, Decadal Survey of Ocean Sciences, Ocean Studies Board, Washington, DC. March 2015
- Competition between phytoplankton and bacteria for nitrogen in the coastal Arctic. Virginia Tech, Blacksburg, VA, April 2015
- Nitrogen cycling in the coastal Arctic. University of Southern California, Los Angeles, CA, April 2015
- Ocean Science at NSF: Info and Advice. Scripps Institute of Oceanography, La Jolla, CA, May 2015
- Nitrogen biogeochemistry in the coastal Chukchi Sea. Scripps Institute of Oceanography, La Jolla, CA, May 2015
- Ocean Science at NSF: Info and Advice, Keynote at VIMS Post-doc symposium, May 2015
- Nitrogen fixation in a changing Arctic. Hampton University, Hampton, VA, October 2015
- 2014 Basic and applied research into nitrogen cycling. VIMS Industry Partnership meeting, Gloucester Point, VA.
- An Evolving Coupled North Atlantic/Arctic Initiative. Presented at the CCSSG/CCIWG meeting. Clarendon, VA.
- OCE Current Status and Challenges, Consortium for Ocean Leadership, Washington, DC.
- 2013 Why it rocks to be a female scientist! Presented at the Women in Scientific Education (WISE) annual retreat. Gloucester Point, VA.
- How to give an elevator speech. UMCES Graduate Student Symposium, Horn Point Laboratory, Cambridge, MD.
- Competition between phytoplankton and bacteria for nitrogen in the Arctic Ocean.

- Talk presented at the Crary Lab, McMurdo Station, Antarctica.  
 A Washington Perspective, VIMS Council.
- 2012 NSF – A view from the inside. Physical Sciences Departmental Seminar, VIMS.  
 The problem of effluent organic nitrogen. Physical Sciences Departmental Seminar, VIMS.  
 Research in the Arctic. Talk presented to VIMS donors.
- Bronk, DA,** R Sipler, S Baer, Q Roberts, T Connelly, K. Sines, Z. Tait, M Frischer, and P Yager. 2012. Competition between phytoplankton and bacteria for nitrogen in the coastal Chukchi Sea. ASLO meeting, Lake Biwa, Japan.
- Nitrogen cycling in the Arctic: shifting paradigms in a time of change. Microbial Oceanography: Genomes to Biomes, University of Hawaii, Manoa, Honolulu, HI.
- How science is done in America. Talk presented at the Saturday Science talks in Barrow, Alaska.
- Challenges in Ocean Science: A view from many angles. Talk presented at the National Science Foundation.
- 2011 The problem of effluent organic nitrogen, invited talk in Science Serving Coastal Communities: Research Translated to Management Actions, CERF meeting, Daytona, FL (November 2011).  
 DON bioavailability – Breaking open black boxes. Old Dominion University.  
 Contribution of organic nitrogen to eutrophication, 8<sup>th</sup> Baltic Sea Conference, St. Petersburg, Russia.  
 Nitrogen use in aquatic systems, Stony Brook University, Stony Brook, NY.  
 ASLO's Future – Opportunities and Challenges, San Juan, Puerto Rico.
- 2010 Bioavailability of DON in aquatic systems, University of Maine, Orono, ME.  
 Ocean Acidification, Barrow, AK  
 Ocean Acidification: What it means for Virginia, Environment Virginia Conference, Lexington, VA  
 Ocean Acidification, Naro Theater, Norfolk, VA
- 2009 Learning to do the splits - straddling systems, disciplines, and the applied versus basic divide, guest speaker at the Women in Science breakfast, Coastal Estuarine Research Federation meeting, Portland, OR  
 Role of DON in the Open and Coastal Ocean, University of North Carolina, Morehead City, NC  
 Role of DON in the Open and Coastal Ocean, Princeton University, Princeton, NJ  
 US OCB Interests and Needs, Observing Biogeochemical Cycles at Global Scales with Profiling Floats and Gliders Workshop, Monterey, CA.

- The Need for Sustained Ocean Observations, U.S. Carbon Cycle Scientific Steering Group meeting, Reston, VA.
- Bioavailability of dissolved organic nitrogen, Microbial Oceanography: Genomes to Biomes, University of Hawaii, Manoa, Honolulu, HI.
- 2008 U.S. OCB Interests and Needs, Changing Times Workshop at Scripps Institute of Oceanography, LaJolla, CA
- Bioavailability of dissolved organic nitrogen, Microbial Oceanography: Genomes to Biomes, University of Hawaii, Honolulu, HI
- The emerging role of DON in open ocean and coastal systems in a changing world, Lamont Doherty Earth Observatory, Columbia University, Palisades, NY
- Stuff I think you might find interesting, DOM Workshop on Florida Bay, Miami, FL
- 2007 Transformations of DON in marine and aquatic systems. Establishing a Research Agenda for Assessing the Bioavailability of Wastewater-Derived Organic Nitrogen in Treatment Systems and Receiving Waters, Annapolis, MD
- The Marine Nitrogen Cycle: Who is doing what? OCB workshop, Woods Hole, MA
- DON as a source of bioavailable N for phytoplankton, Rutgers University, Rutgers, NJ
- DON as a source of bioavailable N for phytoplankton, Arizona State University, Tempe, AZ
- 2006 DON as a source of bioavailable N for phytoplankton, University of Wisconsin, Milwaukee, WI
- 2005 How to be a successful marine scientist: Advice from the trenches, Graduate student symposium at the ASLO meeting in Santiago de Campostella, Spain.
- Dissolved organic nitrogen as a source of bioavailable nitrogen for phytoplankton, SPOT-ON Workshop, Warnemunde Germany
- 2004 New Directions in Environmental Science, University of Maryland, Horn Point Laboratory
- DREAMS (minority program) seminar: Harmful Algal Blooms in the Gulf of Mexico, Hampton University, Hampton, VA
- 2003 Quantifying the link between nitrogen fixation and harmful algal blooms in the Gulf of Mexico: Kinetics, Seminar at Texas A&M
- 2002 Quantifying the link between nitrogen fixation and harmful algal blooms in the Gulf of Mexico, College of Marine Studies, University of Delaware, Lewes, DE
- 2000 Uptake and regeneration and photochemical processes involving dissolved organic nitrogen in an open ocean, coastal and two riverine ecosystems. Department of Oceanography, Old Dominion University, Norfolk, VA



- Bronk, DA**, MP Sanderson, DJ Koopmans, and JH See. Sources and sinks of dissolved organic nitrogen in the rivers and coastal ocean of the Southeastern United States, AGU/ASLO meeting, San Antonio, TX
- 1999 Bioavailability of dissolved organic nitrogen, Horn Point Laboratory, Cambridge, MD
- 1998 Dissolved organic nitrogen: a dynamic component of marine nitrogen cycles and a contributor to coastal eutrophication, Savannah River Ecology Laboratory, Aiken, SC
- Dissolved organic nitrogen: a dynamic component of marine nitrogen cycles and a contributor to coastal eutrophication, Louisiana Marine Consortium, Chauvin, LA
- Dissolved organic nitrogen: a dynamic component of marine nitrogen cycles and a contributor to coastal eutrophication, Virginia Institute of Marine Science, Gloucester Point, VA
- 1997 The emerging role of dissolved organic nitrogen in marine systems, Department of Oceanography, Florida State University, Tallahassee, FL
- 1996 The emerging role of dissolved organic nitrogen in marine systems, Institute of Ecosystem Studies, Millbrook, NY
- 1995 Dissolved organic nitrogen cycling in marine systems, Skidaway Institute of Oceanography, Savannah, GA
- Dissolved organic nitrogen cycling in California coastal waters, Marine Science Program, University of California, Santa Cruz, CA
- The role of dissolved organic nitrogen in marine systems, Department of Oceanography, Texas A&M University, College Station, TX
- 1994 Dissolved organic nitrogen release and the underestimation of new production in the ocean. The Department of Ecology, The University of Georgia, Athens, GA
- The role of dissolved organic nitrogen in marine systems, Environmental Protection Agency, Athens, GA
- Dissolved organic nitrogen release and the underestimation of new production in the ocean, Department of Earth and Atmospheric Science, Georgia Institute of Technology, Atlanta, GA
- 1993 Microbially mediated transformations involving dissolved organic nitrogen in marine systems, Department of Oceanography, University of British Columbia, Vancouver, British Columbia, Canada
- Microbially mediated transformations involving dissolved organic nitrogen in marine systems, Department of Oceanography, University of Washington, Seattle, WA

Microbially mediated transformations involving dissolved organic nitrogen in marine systems, Dissertations Symposium on Chemical Oceanography (DISCO), Honolulu, HI

### Contributed Scholarly Papers and Talks

(\* indicates work done by a student, technician, post-doc, or research scientist in my laboratory or work that was done in my laboratory)

- \*Sedlak, JA, RE Sipler, QN Roberts, B Stanley, EZ Norton, and **DA Bronk**. 2018. Nitrogen pollution from municipal wastewater in the Chesapeake Bay. Talk at the Ocean Sciences meeting, Portland, OR.
- \*Sedlak, JA, RE Sipler, QN Roberts, B Stanley, EZ Norton, and **DA Bronk**. 2018. Salinity mediated release of ammonium from treated wastewater. Poster at the Ocean Sciences meeting, Portland, OR.
- Bronk, DA**, B Wawrik, SE Baer, C Liang, S Mei, Z Yang. 2018. Creatine uptake in seawater. Talk at the Ocean Sciences meeting, Portland, OR.
- Harding, K, K Turk-Kubo, R Sipler, **D Bronk**, and J Zehr. 2018. Distribution of the nitrogen fixing, cyanobacterial symbiont UCYN-A in the Chukchi and Beaufort Seas. Talk at the Ocean Sciences meeting, Portland, OR.
- Sipler, RE, **DA Bronk**, K Turk-Kubo, K Harding, Q Roberts, M-K Rogener, J Spackeen, B Stanley, Z Norton, S Joye, and J Zehr. 2018. Cold ocean nitrogen fixation. Poster at the Ocean Sciences meeting, Portland, OR.
- \*Stanley, B, RE Sipler, QN Roberts, EZ Norton, LK Thoreson, and **DA Bronk**. 2018. Influence of wastewater effluent treatment and disinfection on DON and chlorophyll in a Chesapeake Bay tributary. Poster at the Ocean Sciences meeting, Portland, OR.
- Goñi, M, L Juranek, B Hales, R Sipler, and **D Bronk**. 2018. Particulate organic matter distributions in the water column of the western Arctic Ocean during the later open-water season. Goñi
- Allen, AE, JB McQuaid, T Coale, EM Bertrand, DA Hutchins, **DA Bronk**, RE Sipler, JL Spackeen. 2017. Iron Bioavailability in high-CO<sub>2</sub> oceans: New perspectives on the influence of diatom iron acquisition mechanisms on microbial interactions. Talk at the ASLO Aquatic Sciences meeting, Honolulu, HI.
- Juranek, LW, M Goni, B Hales, R Sipler, **D Bronk**. 2017. Late season community productivity in the Pacific Arctic: A nutrient, carbon and dissolved gas perspective. Talk at the ASLO Aquatic Sciences meeting, Honolulu, HI.
- \*Spackeen, JL, RE Sipler, QN Roberts, SE Baer, **DA Bronk**. 2017. Phosphorus scavenging in the coastal Arctic. Talk at the ASLO Aquatic Sciences meeting, Honolulu, HI.
- \*Sipler, RE, **DA Bronk**, L Juranek, M Goñi, B Hales, JL Spackeen, KA Welch, BC Stanley. 2017. Impacts of late season drifting sea ice on water column physiochemistry. Poster at the ASLO Aquatic Sciences meeting, Honolulu, HI. (170)

- Hales, B, S Lambert, A Jones, C Weeks, K Welch, K Craig, M Goni, L Juranek, R Sipler, **DA Bronk**. 2017. Carbon and nutrient-based evidence for late-season export productivity in the Chukchi Sea. Talk at the ASLO Aquatic Sciences meeting, Honolulu, HI.
- Wawrik, B, **DA Bronk**, SE Baer, C Liang, S Mei, and Z Yang. 2016. Bacterial utilization of creatine in seawater. Ocean Carbon and Biogeochemistry meeting in Woods Hole, MA.
- Bronk, DA**, JL Spackeen, R. A. Sipler, E. M. Bertrand, QN Roberts, X Xu, SE Baer, J. B. McQuaid, Z. Zhu, N Walworth, DA Hutchins, and AE Allen. 2016. Effects of increased temperature, CO<sub>2</sub>, and iron on nitrate uptake and primary productivity in the coastal Ross Sea. Ocean Sciences meeting, New Orleans, LA.
- \*Sipler, RE, JL Spackeen, JB McQuaid, EM Bertrand, QN Roberts, SE Baer, DA Hutchins, AE Allen, and **DA Bronk**. 2016. Microbial response to different phytoplankton-derived dissolved organic nitrogen sources in the Ross Sea, Antarctica. Ocean Sciences meeting, New Orleans, LA.
- \*Spackeen, JL, RE Sipler, EM Bertrand, DA Hutchins, AE Allen, and **DA Bronk**. 2016. Effects of iron and dissolved N:P stoichiometry on the uptake of bicarbonate, nitrate, and amino acids by a Ross Sea microbial community. Ocean Sciences meeting, New Orleans, LA.
- Zhu, Z., K Xu, J Spackeen, **DA Bronk**, and DA Hutchins. 2016. Iron and temperature interactive effects on diatoms and *Phaeocystis antarctica* from the Ross Sea, Antarctica. Ocean Sciences meeting, New Orleans, LA.
- Bertrand, EM, JP McCrow, K Xu, Z Zhu, DA Hutchins, RE Sipler, JL Spackeen, **DA Bronk**, JB McQuaid, AE Allen. 2016. Plankton responses to simulated warming and elevated iron availability in McMurdo Sound: Community composition and microbial interactions. Ocean Sciences meeting, New Orleans, LA.
- Zhu, Z, K Xu, F Du, J Spackeen, **DA Bronk**, and DA Hutchins. 2015. Interactive effects of iron and temperature on Antarctica diatoms and *Phaeocystis antarctica*. Ocean Carbon and Biogeochemistry Summer Workshop. Woods Hole, MA.
- Bronk, DA**, RE Sipler, MP Sanderson, QN Roberts, S Baer. 2015. Affect of terrestrial dissolved organic matter on the competition between phytoplankton and bacteria for nitrate in the coastal Chukchi Sea. ASLO meeting, Granada, Spain.
- \*Spackeen, JL, K Xu, DA Hutchins, RE Sipler, **DA Bronk**. 2015. Stoichiometric uptake of carbon, nitrogen and phosphorus under a matrix of temperature and Fe by three Antarctica phytoplankton species. ASLO meeting, Granada, Spain. (160)
- \*Knudsen-Leerbeck, H, **DA Bronk** and S Markager. 2015. Production and bioavailability of dissolved organic matter in size fractions ranging from bacteria to zooplankton. ASLO meeting, Granada, Spain.

- Kerkhof, LJ, N González Benítez, LR McGuinness, **DA Bronk**, JH Paul, JM Morell, and JE Corredor. 2015. Determining in situ growth patterns in coastal bacteria and eukaryotes by rapid <sup>15</sup>N Stable Isotope Probing. ASLO meeting, Granada, Spain.
- \*Spackeen, J, R Sipler, K Xu, E Bertrand, J McQuaid, A Allen, DA Hutchins, and **DA Bronk**. 2014. Impact of temperature, pCO<sub>2</sub> and iron on nitrate uptake by microbes in the Ross Sea. Gordon Research Conference on Global Change.
- Frischer, ME, ZP Tait, V D Baylor, RE Sipler, QN Roberts, A Stubbins, and **DA Bronk**. 2014. Linked carbon and nitrogen cycling in the coastal Arctic, will organic carbon release from thawing permafrost impose bacterial nitrogen limitation? IMBER Open Science Conference. Bergen, Norway.
- \*Spackeen, J, **DA Bronk**, R Sipler, DA Hutchins, and AE Allen. 2014. Impact of elevated temperature and PCO<sub>2</sub> on the uptake of nitrate and urea by microbes in coastal Southern California. Ocean Sciences, Honolulu, HI.
- Hutchins, DA, AO Tatters, K Xu, **D Bronk**, and A Allen. 2014. Will climate change promote ecosystem-damaging toxic *Pseudo-nitzschia* blooms in the future Ross Sea? Ocean Sciences, Honolulu, HI.
- Tatters, AO, K Xu, J Spackeen, N Walworth, R Sipler, E Bertrand, J McQuaid, A Schnetzer, AE Allen, **DA Bronk**, DA Caron, J Sun, K Gao, and DA Hutchins. 2014. Interactive Effects of Environmental Change Variables on a Southern California Marine Diatom Community. Ocean Sciences, Honolulu, HI.
- Bertrand, EM, J McQuaid, **DA Bronk**, DA Hutchins, and AE Allen. 2014. Metatranscriptomic analysis of continuous flow experiment manipulating iron, CO<sub>2</sub>, and temperature: Controls on late season primary production in the Ross Sea. Ocean Science, Honolulu, HI.
- \*Sipler, RE, MP Sanderson, QN Roberts, S Baer, and **DA Bronk**. 2014. Impact of humics on nitrogen uptake in the coastal Arctic. Ocean Science, Honolulu, HI.
- Schwing, FB, MM Brady, **DA Bronk**, and T Holman. 2014. Ecosystem-based management: An integrated scientific approach to implementing the National Ocean Policy for more efficient interagency resource management. Ocean Science, Honolulu, HI. (150)
- \*Baer, SE, RE Sipler, QN Roberts, and **DA Bronk**. 2013. Seasonal nitrogen uptake and regeneration in the coastal western Arctic. Poster at the Polar Gordon Conference.
- Wawrik, B, JT Cooper, S Baer, T Connelly, and **DA Bronk**. 2013. Carbon and nitrogen stable isotope probing of microbial communities in Arctic coastal marine environments. Poster at ASLO meeting, New Orleans, LA.
- \*Baer, SE, TL Connelly, PL Yager, and **DA Bronk**. 2013. Ammonium uptake and nitrification in a warming Arctic. Talk at ASLO meeting, New Orleans, LA.
- \*Sipler, RE, L Killberg-Thoreson, and **DA Bronk**. 2013. Investigating the sources and bioavailability of dissolved organic nitrogen to harmful algal blooms. Talk at ASLO meeting, New Orleans, LA.

- \*Benavides, M, **DA Bronk**, NS Agawin, M Pérez-Hernández, A Hernández-Guerra, and J Arístegui. 2013. Longitudinal variability of size-fractionated N<sub>2</sub> fixation and DON release along 24.56N in the subtropical North Atlantic. Talk at ASLO meeting, New Orleans, LA.
- Tait, ZS, VD Baylor, RE Sipler, QN Roberts, A Stuffins, **DA Bronk**, and ME Frischer. 2013. Will increased terrestrial carbon flux from melting permafrost stimulate increased bacterial nitrate uptake in the Arctic Ocean? Poster at ASLO meeting, New Orleans, LA.
- Grundle, D. S., R. Maranger, S. Juniper, **DA Bronk**, and M. Altabet. 2012. Water column nitrous oxide in the subarctic Pacific: present distributions and future directions. Talk at the ASLO meeting, Lake Biwa, Japan.
- Bronk, DA**, RE Sipler, MP Sanderson, L Killberg-Thoreson, Q Roberts, and MR Mulholland. 2012. Nitrogen fixation – a new source of nitrogen in the changing western Arctic? Talk at the Ocean Sciences meeting, Salt Lake City, NM.
- \*Baer, SE, T. L. Connelly, and **DA Bronk**. 2012. Nitrogen uptake dynamics in Arctic landfast ice. Ocean Sciences meeting, Salt Lake City, NM.
- Tait, Z. S., V. D. Baylor, RE Sipler, QN Roberts, **DA Bronk**, and ME Frischer. 2012. Will permafrost melting impose nitrogen limitation on coastal bacterial communities in the western Arctic? Ocean Sciences meeting, Salt Lake City, NM. (140)
- \*Sipler, RE, QN Roberts, and **DA Bronk**. 2012. Tundra-derived humics as a source of nitrogen and carbon to coastal microbial populations. Ocean Sciences meeting, Salt Lake City, NM.
- Wawrik, B, WB Boling, and **DA Bronk**. 2011. Bacterial nitrate assimilation in a coastal marine system as determined by DNA stable isotope probing. Poster at the OCB summer workshop, Woods Hole, MA.
- Garrett, M, S Murasko, A. Yunker, **D Bronk**, L Killberg-Thoreson, and C Heil. 2011. Photochemical production of bioavailable nitrogen as a source for *Karenia brevis* blooms on the west Florida shelf. Submitted to Symposium on Harmful Algae in the U.S.
- Bronk, DA**, ME Frischer, PB Bradley, MP Sanderson, Q Roberts, JC Nejstgaard, and MG Booth. 2011. Quest to define who is doing what in plankton communities – Phytoplankton. Talk presented at the ASLO meeting, San Juan, Puerto Rico.
- \*Funkey, CP, RJ Latour, and **DA Bronk**. 2011. Abiotic release of labile nitrogen from effluent organic nitrogen. Talk presented at the ASLO meeting, San Juan, Puerto Rico.
- \*Sanderson, MP, **DA Bronk**, C. Funkey, GE Ho, MD Poteat, and QN Roberts. 2011. Possible contribution of effluent organic nitrogen to eutrophication via photochemical processes and salinity gradients. Talk presented at the ASLO meeting, San Juan, Puerto Rico.

- \*Roberts, QN, LM Killberg-Thoreson, MP Sanderson, M Mulholland, PW Bernhardt, C Heil, M Garrett, J O'Neil, and **DA Bronk**. 2011. Nitrogen uptake in the Eastern Gulf of Mexico during *Karenia brevis* blooms. Talk presented at the ASLO meeting, San Juan, Puerto Rico.
- \*Sipler, R and **DA Bronk**. 2011. Biogeochemical link between *Trichodesmium* sp. and red tide *Karenia brevis*. Talk presented at the ASLO meeting, San Juan, Puerto Rico.
- \*Killberg-Thoreson, L, RE Sipler, **DA Bronk**. 2011. Anthropogenic nitrogen sources stimulate growth of harmful algae in the York River, Virginia, USA. Talk presented at the ASLO meeting, San Juan, Puerto Rico.
- \*Sipler, R and **DA Bronk**. 2010. Characterization of dissolved organic and inorganic nitrogen present in different stages throughout the wastewater treatment process. Talk presented at the ASLO meeting, Santa Fe, NM. (130)
- Bronk, DA** 2011. Effluent organic nitrogen: the impact of direct uptake, photoreactivity, and salinity-mediated release. Physical Sciences Departmental Seminar, VIMS.
- Bronk, DA**, CP Funkey, MP Sanderson, QN Roberts, MR Mulholland, NG Love, R Mesfioui, C Burbage, P Hatcher, C Schweitzer, and KC Filippino. 2010. Effluent organic nitrogen bioavailability: the impact of direct uptake, photoreactivity and salinity-mediated release. Talk presented at the ASLO meeting, Santa Fe, NM.
- Bronk, DA**, Q Roberts, M Sanderson, C Funkey, M Mulholland, and C Burbage. 2010. Bioavailability of Effluent Organic Nitrogen to Virginia Coastal Waters. Poster at the Virginia Sea Grant Project Participant's Symposium, Richmond, VA.
- Mesfioui, R, PG Hatcher, MR Mulholland, **DA Bronk**, EA Canuel, and NG Love. 2010. Reactivity and chemical characterization of effluent organic nitrogen in freshwaters determined from Fourier transform ion cyclotron mass spectrometry (FT-ICR-MS). Talk at the International Humic Substances Society, Tenerife, Spain.
- O'Neil, JM, K Meyer, **DA Bronk**, CA Heil, and MR Mulholland. 2010. Microzooplankton Grazing Inside and Outside Blooms of the Toxic Dinoflagellate *Karenia spp.* Using the Dilution Method. Poster at the Ocean Sciences meeting, Portland, OR.
- Bronk, DA**, MP Sanderson, Q Roberts, L Killberg-Thoreson, M Mulholland, P Bernhardt, C Heil, J O'Neil. 2010. Cross system comparison of the relative contribution of DIN and DON to plankton nitrogen nutrition. Poster at the Ocean Sciences meeting, Portland, OR.
- \*Killberg-Thoreson, L, **DA Bronk**, WG Reay, and QN Roberts. 2010. Seasonal nitrogen uptake dynamics in the York River, Virginia. Poster at the Ocean Sciences meeting, Portland, OR.
- \*Roberts, Q, LM Killberg-Thoreson, RE Sipler, AN Loh, L Tomasello, R Ketover, D Campbell, and **DA Bronk**. 2010. Dissolved organic nitrogen in South Florida: Results from biological, photochemical, and salinity release assays. Poster at the Ocean Sciences meeting, Portland, OR.

- \*Saba, GK, DK Steinberg, **DA Bronk**, and AR Place. 2010. The effects of harmful algal species and food concentration on zooplankton grazer production of dissolved organic matter and inorganic nutrients. Poster at the Ocean Sciences meeting, Portland, OR.
- \*Funkey, CP, MP Sanderson, QN Roberts, MR Mulholland, NG Love, R Mesfioui, C Burbage, P Hatcher, C Schweitzer, and **DA Bronk**. 2010. Contribution of effluent organic nitrogen to coastal eutrophication via direct uptake, photochemical breakdown and salinity-mediated release. Talk at the Ocean Sciences meeting, Portland, OR. (120)
- \*Sipler, RE, MP Sanderson, CP Funkey, QN Roberts, MR Mulholland, NG Love, R Mesfioui, C Burbage, P Hatcher, C Schweitzer, KC Fillipino, and **DA Bronk**. 2010. Effect of photolysis on the composition of organic nitrogen in wastewater effluent. Poster at the Ocean Sciences meeting, Portland, OR.
- Mesfioui, R, PG Hatcher, MR Mulholland, **DA Bronk**, EA Canuel, and NG Love. 2009. Bioavailability of effluent organic nitrogen. American Chemical Society meeting, San Francisco, CA.
- Mulholland, MR, KC Filippino, NG Love, **DA Bronk**, R Mesfioui, P Hatcher. 2009. Wastewater treatment derived effluent organic nitrogen: bioavailability in the environment. Virginia Water Research Conference, Richmond, VA.
- Heil, CA, JM O'Neil, M Mulholland, **D Bronk**, and G Hiscock. 2009. Shifts in nutrient sources and processing in coastal *Karenia brevis* blooms. U.S. HAB conference. Ocean Shores, OR.
- Love, N, **D Bronk**, M Mulholland, E Canuel, and P Hatcher. 2009. The importance of effluent organic nitrogen bioavailability and its contribution to nitrogen management in nitrogen-limited regions. Talk at the Association of Environmental Engineering and Science Professors Conference. Iowa City, IA.
- Filippino, KC, MR Mulholland, **DA Bronk**, and NG Love. 2009. The bioavailability of effluent-derived organic nitrogen along an estuarine salinity gradient. Chesapeake Research Consortium's conference on Ecosystem Based Management: the Chesapeake and Other Systems, Baltimore, MD (22 – 25 March, 2009).
- Mulholland, MR, KC Filippino, **DA Bronk**, NG Love, HD Stensel, and A Pramanik. 2009. Plant derived effluent organic nitrogen (EON) – From pipe to estuary. Chesapeake Research Consortium's conference on Ecosystem Based Management: the Chesapeake and Other Systems, Baltimore, MD (22 – 25 March, 2009).
- Bronk, DA**, M Mulholland, N Love, and E Canuel. 2009. Bioavailability of effluent organic nitrogen using a water quality-based bioassay. Nutrient Removal 2009, Water Environment Federation, Washington, DC.
- \*Roberts, Q, **DA Bronk**, M Sanderson, C Funkey, M Mulholland, R Mesfioui, and C Burbage. 2009. Bioavailability of effluent organic nitrogen in Chesapeake Bay. Talk at the ASLO meeting in Nice, France.

- \*Sanderson, M, DA Bronk, LMK Thoreson, QN Roberts, MR Mulholland, PW Bernhardt, and CA Heil. 2009. Which forms of nitrogen fuel *Karenia brevis* blooms in the Gulf of Mexico? Poster at the ASLO meeting in Nice, France. (110)
- \*Thoreson, LMK, DA Bronk, CA Heil, and M Garrett. 2009. Diel variability of nitrogen uptake by cultured strains of *Karenia brevis*. Poster at the ASLO meeting in Nice, France.
- Bronk, DA**, M Sanderson, P Bradley, L Kerkhof, and L McGuinness. 2009. Autotrophic versus heterotrophic nitrogen uptake – who is doing what? Talk at the ASLO meeting in Nice, France.
- Bronk, DA**, L Killberg, M Mulholland, P Bernhardt, and Q Roberts. 2008. Nitrogen dynamics: Uptake, regeneration, and kinetics. ECOHAB site visit. St. Petersburg, FL. April 2008.
- Bronk, DA**, S. Emerson, C Carlson, K. Johnson, D. McGillicuddy, and C. Sabine. 2008. Charting the future of U.S. ocean time series. Talk at the ASLO meeting in Orlando, FL.
- Bronk, DA** 2008. Ocean Time-Series. Physical Sciences Departmental Seminar, VIMS.
- Subramaniam, A. and **DA Bronk**. 2008. The nitrogen cycle fugue: variations on the new production theme in great river plumes. Talk at the ASLO meeting in Orlando, FL.
- Heil, C, **D Bronk**, M Mulholland, J O’Neil, P Bernhardt, S Murasko and J. Havens. 2008. Effects of daylight surface aggregation behavior on nutrient dynamics of a *Karenia brevis* bloom. Talk at the ASLO meeting in Orlando, FL.
- John, DE, BL Zielinski, **DA Bronk**, RH Byrne, JE Corredor, and JH Paul. 2008. Quantification and cloning of carbon-fixation (RuBisCO) mRNA transcripts from the Orinoco River Plume and Eastern Caribbean Sea. Talk at the ASLO meeting in Orlando, FL.
- \*Henderson, GK, DK Steinberg, and **DA Bronk**. 2008. Grazing and nutrient release from *Acartia tonsa* copepods feeding on toxin-producing *Karlodinium venificum*: interactions of top-down and bottom-up control. Talk at the ASLO meeting in Orlando, FL.
- Bronk, DA**, S. Henderson, Q Roberts, L. Killberg, M Mulholland, and NG Love 2007. Photochemical release of labile nitrogen from natural and effluent organic nitrogen. Virginia and West Virginia Water Resources Symposium. Blackburg, VA, September 2007. (100)
- Bronk, DA** 2007. Dissolved organic nitrogen as a source of bioavailable nitrogen to marine phytoplankton. Physical Sciences Departmental Seminar, VIMS.
- Bronk, DA**, M Mulholland, N Love, and E Canuel M. R. 2007. Bioavailability of effluent organic nitrogen. Estuarine Research Federation meeting in Providence, RI.



- \*Bradley, PB and **DA Bronk**. 2007. Phytoplankton and bacterial nitrogen uptake in Chesapeake Bay measured using a flow cytometric sorting approach. Estuarine Research Federation meeting in Providence, RI.
- Mulholland, KC Filippino, P Bernhardt, G Boneillo, R Morse, L Procise, **DA Bronk**, NG Love, and E Canuel. 2007. Stimulation of algal growth by effluent organic nitrogen along a salinity gradient. Virginia / West Virginia Water Research Symposium. Blacksburg, VA.
- \*Killberg, LM and **DA Bronk**. 2006. Inorganic and organic nitrogen uptake kinetics in field populations of dinoflagellates from five Chesapeake Bay tributaries, USA. Talk presented at the ASLO meeting in Victoria, Canada.
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2006. Terrestrial matter fuels a coastal tributary food web. Talk presented at the ASLO meeting in Victoria, Canada.
- \*Bradley, PB and **DA Bronk**. 2006. Use of flow cytometric sorting in the measurement of phytoplankton nitrogen use along the mainstem of Chesapeake Bay during summer 2004. Talk presented at the International Symposium on Research and Management of Eutrophication in Coastal Ecosystems.
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2006. Terrestrial matter fuels a coastal tributary food web. Talk presented at the ASLO meeting in Victoria, Canada.
- \*Hoffman JC, **DA Bronk**, and JE Olney. 2006. Terrestrial matter fuels an estuarine food web. Platform presentation at the Atlantic Estuarine Research Society Annual Spring Meeting, Philadelphia, PA, March 9-11.
- \*Bradley, PB and **DA Bronk**. 2006. Microbial Nitrogen Use in the Mid-Atlantic Bight Upwelling Region: A Comparison of Size-Fractionation and Flow Cytometric Sorting Approaches. Talk presented at the ASLO/AGU Ocean Sciences meeting, Honolulu, HI. (90)
- \*See, JH, **DA Bronk**, and AJ Lewitus. 2006. Uptake of *Spartina*-derived humic nitrogen by estuarine phytoplankton: nonaxenic vs. axenic cultures. Poster presented at the ASLO/AGU Ocean Sciences meeting, Honolulu, HI.
- Bronk, DA**, WO Smith, Q Roberts, C Carlson, G. Henderson, D Steinberg, M Sanderson, E Wommack, and D Repeta. 2006. Influence of Grazing and Viral Infection on the Production of Dissolved Organic Matter. Talk presented at the ASLO/AGU Ocean Sciences meeting, Honolulu, HI.
- \*Henderson, GK, DK Steinberg, and **DA Bronk**. 2006. Dissolved Organic Matter (DOM) Composition and Release Rates from Meso- and Micro-Zooplankton Grazers in the Chesapeake Bay: Implications of Prey Type. Talk presented at the ASLO/AGU Ocean Sciences meeting, Honolulu, HI.
- \*Hoffman JC, **DA Bronk** and JE Olney. 2006. Do American shad grow on trees? Linking forests with the life history of an anadromous fish. Talk presented at the U.S. EPA Mid-continent Ecology Division, Duluth, MN.

- Heil, C. A, MR Mulholland, JM O'Neil and **DA Bronk**. 2005. *Karenia brevis* and *Trichodesmium*: Quantifying the link between N<sub>2</sub> fixation and HABs in the Gulf of Mexico. Invited talk at the Gordon Research Conference on Mycotoxins and Phycotoxins. Colby College, Waterville, Me.
- \*Hoffman JC, **DA Bronk** and JE Olney. 2005. Do American shad grow on trees? Linking forests with the life history of a marine fish. Talk presented at the Diversity in Research in Environmental and Marine Sciences (DREAMS) Seminar Series, Hampton University, Hampton, VA.
- \*Henderson, G. K., DK Steinberg and **DA Bronk**. 2005. The role of mesozooplankton and microzooplankton grazers in the production of dissolved organic matter (DOM). Poster presented at the ERF meeting in Norfolk, VA.
- Joyner, JJ, HW Paerl, JM O'Neil and **DA Bronk**. 2005. Nutrient effects on growth rates and metabolism of benthic cyanobacteria *Lyngbya* spp. From Florida. Talk presented at the ERF meeting in Norfolk, VA.
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2005. Terrestrial subsidies to zooplankton and anadromous fish production in a coastal plain estuary. Poster presented at the ERF meeting in Norfolk, VA.
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2005. Characterizing movement of young-of-year American shad within the nursery habitat using stable isotopes. Poster presented at the 2005 American Fisheries Society meeting in Alaska. (80)
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2005. Do American shad grow on trees? Terrestrial subsidies to the production of larval American shad in a coastal plain tributary. Talk presented at the 2005 larval fish conference in Barcelona, Spain.
- Hoffman, JC, **DA Bronk**, and JE Olney. 2005. Do American shad grow on trees? Terrestrial subsidies to the production of young-of-year American shad in a coastal plain tributary. Platform presentation at the American Fisheries Society 135<sup>th</sup> Annual Meeting, Anchorage, AK.
- \*Hoffman, JC, **DA Bronk**, and JE Olney. 2005. Characterizing movement of young-of-year American shad within the nursery zone using stable isotopes. Poster presented at the American Fisheries Society 135<sup>th</sup> Annual Meeting, Anchorage, AK.
- Bronk, DA**, MP Sanderson, JH See. 2005. Humic substances as a source of nitrogen to coastal plankton. Talk presented at the ASLO meeting in Spain.
- \*Sanderson, MP and **DA Bronk**. 2005. Inorganic and organic nitrogen uptake in two Georgia rivers. Talk presented at the ASLO meeting in Spain.
- \***Bronk, DA**, MP Sanderson, KC Filippino and C. A. Carlson. 2005. Preliminary results of a new method to quantify concentrations of dissolved organic nitrogen. Talk presented at the ASLO meeting in Salt Lake City.
- \*Bradley, P and **DA Bronk**. 2005. Use of flow cytometric sorting in the measurement of autotrophic nitrogen utilization. Talk presented at the ASLO meeting in Salt Lake City.

- \*Hoffman, JC and **DA Bronk**. 2005. Interannual variability in stable carbon and nitrogen isotope biogeochemistry in the Mattaponi River, Virginia. Talk presented at the AERS meeting.
- Bronk, DA** 2005. A new method to quantify DON concentrations. Physical Sciences Departmental Seminar, VIMS.
- \*Winget, DM, **DA Bronk**, C Heil, KE Wommack. 2005. Viral diversity and production during *Trichodesmium* blooms in the Gulf of Mexico. 4th Algal Virus Workshop, Amsterdam, The Netherlands. (70)
- Heil, CA, S Murasko, JM O'Neil, **DA Bronk** and M Mulholland. 2004. Phosphorus dynamics in the eastern Gulf of Mexico: phosphorus uptake and regeneration rates within *Trichodesmium* and *Karenia brevis* blooms. Talk at ASLO 2004, Honolulu, HI.
- Mulholland, M, P Bernhardt, **DA Bronk**, JM O'Neil and CA Heil. 2004. Does nitrogen regeneration from the N<sub>2</sub> fixing cyanobacteria *Trichodesmium* spp. fuel *Karenia brevis* blooms in the Gulf of Mexico? Talk presented at the ASLO 2004, Honolulu, HI.
- Bernhardt, P, M Mulholland, **DA Bronk**, JM O'Neil and CA Heil. 2004. N<sub>2</sub> fixation and N regeneration in *Trichodesmium* IMS101 grown in chemostats at various growth rates. Poster presented at the ASLO 2004, Honolulu, HI.
- O'Neil, JM, CA Heil, M Mulholland and **DA Bronk**. 2004. Effect of copepod grazers on alkaline phosphatase activity in *Trichodesmium* spp. from the Gulf of Mexico. Talk presented at the ASLO 2004, Honolulu, HI.
- \*Sanderson, MP, **DA Bronk**, KC Filippino, ME Frischer, PG Verity and JC Nejstagaard. 2004. Inorganic and organic nitrogen uptake in nutrient addition mesocosm experiments in a Norwegian fjord. Talk presented at the ASLO 2004, Honolulu, HI.
- \*D'Amico, M, **DA Bronk** and MP Sanderson. 2004. Photoproduction of labile substrates from dissolved organic matter produced by *Trichodesmium*. Poster at ASLO 2004, Honolulu, HI.
- \*Filippino, KC and **DA Bronk**. 2004. Methods to measure dissolved organic nitrogen concentrations and flux rates: the good, the bad and the ugly- revisited. Poster at ASLO 2004, Honolulu, HI.
- Bronk, DA**, MP Sanderson, M Mulholland, CA Heil and JM O'Neil. 2004. Organic and inorganic carbon and nitrogen uptake kinetics in field and culture populations of *Karenia brevis* Talk presented at the ASLO 2004, Honolulu, HI.
- Hoch, MP, **DA Bronk** and BB Ward. 2004. Relative availability of carbon, nitrogen and phosphorus for bacterioplankton in the eastern tropical north Pacific assessed by an enzymatic approach. Talk presented at the ASLO 2004, Savannah, GA.
- \*Hoffman, JC, **DA Bronk** and JE Olney. 2004. Ecological value of riverine and estuarine habitats for American shad in the York River, Virginia. Poster presented at the 2004 AERS meeting. (60)

- Heil, CA, S Murasko, JM O'Neil, MR Mulholland and **DA Bronk**. 2004. Phosphorus Uptake and Regeneration Within Two *Karenia brevis* Blooms on the West Florida Shelf. Presented at the XIth International Conference on Harmful Algae, Cape Town, South Africa.
- Murasko, S, CA Heil, JM O'Neil, MR Mulholland and **DA Bronk**. 2004. A Comparison of Alkaline Phosphatase Activity during three *Karenia brevis* blooms. Poster presented at the XI<sup>th</sup> International Conference on Harmful Algae. Capetown, South Africa.
- O'Neil, JM, S Albert, N Osborne, G Shaw, CA Heil, MR Mulholland and **DA Bronk**. 2004. Nitrogen acquisition by the toxic marine cyanobacterium *Lyngbya majuscula* from Moreton Bay, Australia and Tampa Bay, Florida. Presented at the XIth International Conference on Harmful Algae, Cape Town, South Africa.
- Bronk, DA**. Abstract was accepted but the talk was cancelled due to Hurricane Isabelle. Talk presented at the Estuarine Research Federation (ERF) 2003, Seattle, WA.
- \*Hoffman, J, J Olney and **D Bronk**. 2003. Determining essential habitat for American shad (*Alosa sapidissima*) in the York River, VA using stable isotope analysis. Talk presented at the American Fisheries Society meeting.
- Bronk, DA** 2003. Nitrogen cycling in the Gulf of Mexico. Physical Sciences Departmental Seminar, VIMS.
- Booth, MG, **D Bronk**, MP Sanderson, A Allen, PG Verity and ME Frischer. 2003. Linking Expression and Regulation of Assimilatory Nitrate Reductase in Heterotrophic Bacteria with Uptake of Inorganic Nitrogen. Poster presented at the American Society of Microbiology (ASM) Meeting.
- Bronk, DA** 2003. Methods to measure dissolved organic nitrogen concentrations and flux rates: the good, the bad and the ugly. Talk presented at the ASLO 2003, Salt Lake City, UT.
- Allen, AE, MG Booth, ME Frischer, PG Verity, **DA Bronk** and BB Ward. 2003. Relationship between abundance and diversity of assimilatory nitrate reductase and <sup>15</sup>N uptake of nitrate in heterotrophic marine bacteria. Talk presented at the ASLO 2003, Salt Lake City, UT.
- Booth, MG, **DA Bronk**, AE Allen, MP Sanderson, PG Verity and ME Frischer. 2003. Factors regulating assimilatory nitrate reductase (nasa) expression in marine bacterial communities detected by dual molecular and physio-chemical approaches. Talk presented at the ASLO 2003, Salt Lake City, UT. (50)
- Mulholland, M, **DA Bronk**, C. Heil, J O'Neil, P Bernhardt and MP Sanderson. 2003. N<sub>2</sub> fixation and N regeneration by *Trichodesmium* in the Gulf of Mexico and in cultures. Talk presented at the ASLO 2003, Salt Lake City, UT.
- O'Neil, JM, JM Lenes, C Heil, P Bernhardt, M Mulholland and **DA Bronk**. 2003. Dissolved iron uptake by the cyanobacterium *Trichodesmium* in surface waters of the Gulf of Mexico. Talk presented at the ASLO 2003, Salt Lake City, UT.

- Heil, CA, MR Mulholland, P Bernhardt, **DA Bronk**, JM O'Neil, GA Vargo, JJ Walsh and K A Fanning. 2003. Spatial and temporal patterns of DON concentration on the central West Florida shelf: Contributions from offshore nitrogen fixation and estuarine outflows. Talk presented at the ASLO 2003, Salt Lake City, UT.
- Lenes, JM, CA Heil, JM O'Neil, **DA Bronk**, MR Mulholland, JI Virani and RH Byrne. In situ Evidence of Photolysis of Refractory Iron. Poster presented at the 2003 ASLO Meeting, Salt Lake City, UT.
- \*See, JH and **DA Bronk**. 2003. C:N stoichiometry of estuarine humic substances. Talk presented at the ASLO 2003, Salt Lake City, UT.
- Rajaram, M, B Wawrick, A Smith, FR Tabita, TE Smith, **D Bronk**, and JH Paul. 2002. Regulation of carbon fixation by nitrogen in coastal plume environments. Talk presented at the Biotechnology Initiative-Ocean Margins Program (BI-OMP) conference in St. Petersburg, FL.
- Booth, MG, M Gilligan, **DA Bronk**, AE Allen, MP Sanderson, PG Verity and ME Frischer. 2002. Regulation of assimilatory nitrate reductase (*nasa*) expression in marine bacterioplankton communities and sustaining a research/education partnership. Talk at the BI-OMP conference in St. Petersburg, FL.
- Bronk, DA**, P Bradley, M Sanderson, and M Frischer. 2002. Diel study of inorganic and organic nitrogen utilization at LEO-15. Poster presented at the BI-OMP conference in St. Petersburg, FL.
- Bronk, DA**, MP Sanderson, M Mulholland, C.Heil, and JO'Neil. 2002. Organic and inorganic nitrogen uptake kinetics in field populations dominated by *Karenia brevis*. Poster presented at the International Conference on Harmful Algae.
- Heil, C, M Mulholland, **DA Bronk**, P Bernhardt and J O'Neil. 2002. Bacterial and size-fractionated primary production within the 2001 *Karenia brevis* bloom on the West Florida Shelf. Poster presented at the International Conference on Harmful Algae. (40)
- Mulholland, M, C Heil, **DA Bronk**, J O'Neil, and P Bernhardt. 2002. Does nitrogen regeneration from the N<sub>2</sub> fixing cyanobacteria *Trichodesmium* spp. fuel *Karenia brevis* blooms in the Gulf of Mexico. Talk presented at the International Conference on Harmful Algae.
- Bronk, DA**, MP Sanderson, M Mulholland, P Bernhardt, C Heil and J O'Neil. 2002. Fate of recently fixed nitrogen by *Trichodesmium* in the eastern Gulf of Mexico: results from dialysis experiments. Talk presented at the American Geophysical Union (AGU)/ASLO meeting in Honolulu, HI.
- \*Sanderson, MP, **DA Bronk**, M Mulholland, P Bernhardt, C Heil, and J O'Neil. 2002. Nitrogen Nutrition of *Trichodesmium* in the Eastern Gulf of Mexico. Talk presented at the AGU/ASLO meeting in Honolulu, HI.
- Frischer, ME, MG Booth, AE Allen, H Hendrickson, PG Verity, **DA Bronk** and MP Sanderson. 2002. Combined molecular and chemical tracer approaches for in situ

- identification of nitrate utilization by marine bacteria. Poster presented at the AGU/ASLO meeting in Honolulu, HI.
- \*See, J and **DA Bronk**. 2002. Effect of Salinity on the Release of Humic-Bound Ammonium. Talk presented at the AGU/ASLO meeting in Honolulu, HI.
- Mulholland, M, **DA Bronk**, C Heil, J O'Neil, P Bernhardt and MP Sanderson. 2002. N<sub>2</sub> fixation and N regeneration by *Trichodesmium* in the Gulf of Mexico and in cultures. Talk presented at the AGU/ASLO meeting in Honolulu, HI.
- Allen, A. E., MG Booth, ME Frischer, PG Verity, H. H. Hendrickson, MP Sanderson, **DA Bronk**. 2001. Relationship between abundance and diversity of assimilatory nitrate reductase and <sup>15</sup>N uptake of nitrate in heterotrophic marine bacteria. Poster presented at the International Society for Microbial Ecology, Amsterdam, the Netherlands.
- \*Sanderson, MP, **DA Bronk**, ME Frischer, PG Verity, MG Booth, and AE Allen. 2001. Baseline study of inorganic and organic nitrogen uptake in the South Atlantic Bight. Poster presented at the BI-OMP meeting in Savannah, GA.
- \*See, JH and **DA Bronk**. 2001. Effect of salinity on the release of nitrogen bound to humic substances. Talk presented at the meeting in Norfolk, VA.
- Booth, MG, AE Allen, MP Sanderson, **DA Bronk**, PG Verity and ME Frischer. 2001. Determination of *nasA* expression and nitrate utilization using molecular and physio-chemical approaches to characterize marine heterotrophic bacterial nitrite assimilation. Poster presented at the International Society of Microbial Ecology meeting. Amsterdam. (40)
- Bronk, DA**, MP Sanderson and DJ Koopmans. 2001. Contribution of photochemical ammonification to plankton nutrition in two rivers and a coastal and open ocean environment. Talk presented at the ASLO Meeting, Albuquerque, NM.
- \*Sanderson, M, BR Wheeler and **DA Bronk**. 2001. Inorganic and organic nitrogen uptake in the South Atlantic Bight. Talk presented at the ASLO Meeting, Albuquerque, NM.
- \*Koopmans, DJ and **DA Bronk**. 2001. Photoproduction of ammonium in an estuary and adjacent surficial groundwater. Talk presented at the ASLO Meeting, Albuquerque, NM.
- Allen, AE, ME Frischer, PG Verity, MG Booth, **DA Bronk** and J Zehr. 2000. The diversity and expression of assimilatory nitrate reductase in heterotrophic marine bacteria. Poster presented at the American Society of Microbiology. Orlando, FL.
- Lomas, MW, PM Glibert and **DA Bronk**. 2000. Long-term trends in Chesapeake Bay urea concentrations: relative roles of physical and biological processes. SCOR Symposium,
- Ward, BB and **DA Bronk**. 2000. Gross uptake of <sup>15</sup>N-labeled nitrogen by marine plankton: Evidence of large losses to the dissolved organic nitrogen Pool. Talk presented at the AGU/ASLO Meeting, San Antonio, TX.

- Lomas, MW, PM Glibert, **DA Bronk**, E Haramoto and C Fan. 2000. Temporal and spatial variability of dissolved organic nitrogen pools in Chesapeake Bay. Talk presented at the AGU/ASLO Meeting, San Antonio, TX.
- Bronk, DA** and L Campbell. 2000. Contribution of organic nitrogen, produced *in situ* by *Trichodesmium* and inorganic nitrogen to plankton nutrition in the South Pacific. Talk presented at the AGU/ASLO Meeting, San Antonio, TX.
- Cochlan, WP, **DA Bronk** and KH Coale. 2000. Effects of iron enrichment on planktonic nitrogen uptake during austral summer in the Ross sea, Antarctica. JGOFS Meeting, Brest, France.
- Allen, AE, ME Frischer, PG Verity, MG Booth, **DA Bronk**, J Zehr. 2000. Molecular and <sup>15</sup>N strategies for determining nitrate utilization by marine heterotrophic bacteria. Poster presented at the BI-OMP workshop, Tallahassee, FL. (30)
- \*Sanderson, MP, **DA Bronk**, PM Glibert, and MW Lomas. 1999. Comparison between and recommendations for measuring total dissolved nitrogen concentrations with the persulfate, UV and high temperature. Poster presented at the ASLO Meeting, Santa Fe, NM.
- Bronk, DA**, MP Sanderson, and D Koopmans. 1999. Characterization and bioavailability of dissolved organic nitrogen in two Georgia Rivers. Talk presented at the ASLO Meeting, Santa Fe, NM.
- Cochlan, WP and **DA Bronk**. 1999. Planktonic ammonium uptake in the Ross Sea, Antarctica: kinetics of uptake and potential inhibitory effects on nitrate utilization. Talk presented at the ASLO Meeting, Santa Fe, NM.
- Booth, MG, **D Bronk**, A Allen, PG Verity and ME Frischer. 1999. Expression and regulation of assimilatory nitrate reductase in heterotrophic bacteria by available nitrogen. Poster presented at the ASM Meeting, Chicago, IL.
- \*Koopmans, D and **DA Bronk**. 1999. The photochemical production of labile nitrogen in rivers and groundwater in the southeastern United States. Talk presented at the ERF Meeting, New Orleans, LA.
- Wiegner, TN, SP Seitzinger, PM Glibert, **DA Bronk** and J LaRoche. 1999. Regional and temporal patterns in riverine DOM composition and bioavailability. Talk presented at the ERF Meeting, New Orleans, LA.
- Allen, AE, ME Frischer, PG Verity, MG Booth, **DA Bronk**, J Zehr and S Zani. 1999. The genetic diversity of the assimilatory nitrate reductase gene in heterotrophic marine bacterioplankton. Poster presented at the SE ASM Meeting, Chicago, IL.
- Bronk, DA**, JP Kovacs and RK Bessinger. 1998. Comparison of methods to measure rates of dissolved organic nitrogen uptake and release. AGU/ASLO Ocean Sciences Meeting, San Diego, CA.
- Cochlan, WP, **DA Bronk**, KH Coale and SE Fitzwater. 1998. Effect of trace-metal enrichment on planktonic nitrogen uptake during austral summer in the Ross Sea,

- Antarctica. Talk presented at the AGU/ASLO Ocean Sciences Meeting, San Diego, CA. Eos 69: OS89.
- \*Wingate, LA, KJ Schukert and **DA Bronk**. 1998. Effect of vacuum pressure on post-filtration dissolved nitrogen concentrations. Talk presented at the South Eastern Estuarine Research Society (SEERS) Meeting, Athens, GA. (20)
- \*Koopmans, D, S Joye, **D Bronk**, WJ Cai and M Moore. 1998. The role of groundwater as a source of nutrients and organic materials to the South Atlantic Bight. Talk presented at the SE-COR Meeting, Savannah, GA.
- Bronk, DA** and BB Ward. 1997. Biological nitrogen transformations in the ocean: Where are we now? Session plenary at ASLO Meeting, Santa Fe, NM.
- Ward, BB and **DA Bronk**. 1997. Where does the nitrogen go? Tracer experiments in an enclosed planktonic system. Talk presented at the ASLO Meeting, Santa Fe, NM.
- Lomas, MW, PM Glibert and **DA Bronk**. 1997. Spatial and seasonal variability of dissolved organic nitrogen in Chesapeake Bay. Talk presented at the ERF Meeting, Providence, RI.
- \*Schukert, KJ, BR Wheeler, JP Kovacs, MW Lomas, PM Glibert and **DA Bronk**. 1997. Uptake of organic nitrogen vs. inorganic nitrogen in the Altamaha River, GA. Land Margin Ecosystem Research (LMER) All Scientists Meeting, Solomons, MD
- Bronk, DA** and BB Ward. 1996. Dissolved organic nitrogen release and estimates of new and regenerated production in California coastal waters. Talk presented at the AGU Meeting, San Diego, CA.
- Glibert, PM, PM Metzler and **DA Bronk**. 1995. Nitrogen uptake and the impact of dissolved organic nitrogen on estimates of the f-ratio and new production. 12<sup>th</sup> International Symposium on Environmental Biogeochemistry, Rio de Janeiro.
- Bronk, DA**, PM Glibert, E Sahlsten and S Banahan. 1995. Inorganic and organic nitrogen cycling in Chesapeake Bay: scales of variability and impacts on estimates of nitrogen uptake rates. Talk presented at the ERF Meeting, Corpus Christi, TX.
- Tarr, M, D Schulz-Jander, R Bourbonniere, W Miller, R Zepp, K Bushaw, **D Bronk**, R Hodson and MA Moran. 1995. Photo-ammonification: Effects of solar ultraviolet radiation on the release of ammonium from aquatic humic substances. International Humic Substance Symposium, Atlanta, GA.
- Bushaw, KL, MA Moran, RE Hodson, **DA Bronk** and RA Bourbonniere. 1994. The potential for photochemical processes to liberate labile forms of both carbon and nitrogen in humic waters. Talk presented at the ASLO Meeting, Miami, FL. (10)
- Bronk, DA** and BB Ward. 1994. Dissolved organic nitrogen release and the underestimate of new production. Talk presented at the ASLO/AGU meeting in San Diego, CA.
- Bronk, DA** 1994. Dissolved organic nitrogen release and nitrogen uptake in the Southern California Bight. Talk presented at the American Chemical Society Meeting, San Diego, CA.



- Bronk, DA**, PM Glibert and BB Ward. 1993. Release of dissolved organic nitrogen results in an underestimate of nitrogen uptake rates measured with  $^{15}\text{N}$ . Talk presented at the ASLO/SWS Meeting, Edmonton, Canada.
- Glibert, PM, **DA Bronk**, J Ludlam and S Banahan. 1993. Interannual variability in inorganic and organic nitrogen loading and plankton uptake in Chesapeake Bay. Talk presented at the ASLO/SWS Meeting, Edmonton, Canada.
- Bronk, DA** and PM Glibert. 1991. Size-fractionated dissolved organic nitrogen release in a subestuary of Chesapeake Bay. Primary Productivity and Biochemical Cycles in the Sea Symposium, Brookhaven National Laboratory, NY.
- Bronk, DA** and PM Glibert. 1991. Diel variability in total dissolved organic nitrogen uptake in the mesohaline Chesapeake Bay. Talk presented at the ERF Meeting, San Francisco, CA. *Awarded Honorable Mention for a student presentation.*
- Glibert, P. M., **DA Bronk**, S. Banahan and J. Ludlam. 1991. Diel variability in inorganic nitrogen uptake rates can equal that of seasonal variability in the mesohaline Chesapeake Bay. Talk presented at the ERF Meeting, San Francisco, CA.
- Bronk, DA** and PM Glibert. 1990. Dissolved organic nitrogen release in a subestuary of the Chesapeake Bay. Talk presented at the AGU/ASLO Ocean Sciences Meeting, New Orleans, LA.
- Ducklow, HW, ER Peele, **DA Bronk**, HL Quinby, JH Tuttle and RB Jonas. 1988. Bacterioplankton response to stratification and role in oxygen depletion in mesohaline Chesapeake Bay, April-June, 1988. Talk presented at the AGU Meeting, San Francisco, CA.

### Unrefereed Publications

- Fassbender, AJ, HI Palevsky, TR Martz, AE Ingalls, M Gledhill, SE Fawcett, JA Brandes, LI Aluwihare, the participants of COME ABOARD and DISCO XXV. 2017. Perspectives on chemical oceanography in the 21<sup>st</sup> century: Participants of the COME ABOARD meeting examine aspects of the field in the context of the 40 years of DISCO. Marine Chemistry.
- Conover, D and **DA Bronk**. 2015. A Transformational Path Forward for the Ocean Sciences community. EOS.
- Bronk, DA**. 2015. Invited autobiographical sketch. Oceanography. 27 (4): 71.
- Nikolaus, R and **DA Bronk**. 2015. Ocean Research and Facilities: Transforming the Frontier of Knowledge. Sea Technology. January
- Bronk, D**. 2012. Message from the President, ASLO Bulletin. 21 (2): 52-53.
- Bronk, D**. 2012. Message from the President, ASLO Bulletin. 21 (1): 6-7.
- Bronk, D**. 2011. Message from the President, ASLO Bulletin. 20 (4): 76-77.
- Bronk, D**. 2011. Message from the President, ASLO Bulletin. 20 (3): 59-60.

- Bronk, D.** 2011. Message from the President, ASLO Bulletin. 20 (2): 42-43.
- Bronk, D.** 2011. Message from the President: News from Puerto Rico, ASLO Bulletin. 20 (1): 3-4.
- Bronk, D.** 2010. Message from the President: Fundraising and Endowment Campaign, ASLO Bulletin. 19 (4): 84-55.
- Bronk, D.** 2010. Message from the President: A name change for ASLO? ASLO Bulletin, 19 (3): 64-65.
- Bronk, D,** P Taylor, and K Tedesco. 2010. IOC helping to lead and support the evolution of international ocean science. *Oceanography*. 23: 16-17.
- Bronk, DA,** MR Mulholland, NG Love, Q Roberts, KC Filippino, and E Canuel. 2009. Assessing the Bioavailability of Effluent Organic Nitrogen (EON) Using a Suite of Water Quality-Based Assays. Proceedings from the Nutrient Removal 2009 WEF meeting in Washington, D. C.
- Mulholland MR, NG Love, **DA Bronk,** VM Pattarkine, A Pramanik, and HD Stensel. 2009. Establishing a Research Agenda for Assessing the Bioavailability of Wastewater Treatment Plant-Derived Effluent Organic Nitrogen in Treatment Systems and Receiving Waters. WERF, STAC Publication.
- Bronk, DA,** S Henderson, Q Roberts, L Killberg, M Mulholland, and NG Love. 2007. Photochemical release of labile nitrogen from natural and effluent organic nitrogen. Proceedings of the Virginia and West Virginia Water Resources Symposium. Blacksburg, VA.
- Mulholland M, NG Love, VM Pattarkine, **DA Bronk,** and E Canuel. 2007. Bioavailability of organic nitrogen from treated wastewater. STAC Publication 07-001.
- Bronk, DA.** Invited autobiographical sketch. *The Oceanography Magazine*. March 2005.
- Bronk, DA,** BR Wheeler and WP Cochlan. 2005. Effects of iron addition on nutrient depletion and nitrogen uptake rates in an offshore region of the Ross Sea. *Antarctic Journal of the United States*. 33: 59-62.
- Cochlan, WP, J Herndon and **DA Bronk.** 2005. AESOPS: Ammonium Uptake Kinetics in the Ross Sea, Antarctica. *Antarctic Journal of the United States*. 33: 63-68.
- Bronk, DA.** 2003. Invited citation for "Carlson Receives Ocean Sciences Early Career Award". *EOS*. 84 (11): 101.
- Kerkhof, L, J Corredor, J Lopez, J Paul, **D Bronk** and J Cherrier. 2003. Experiment explores inter-calibration of biogeochemical flux and nucleic acid measurements. *EOS*. 84: 167.
- Bronk, DA** and P Yager. 2000. Research at the Extremes. UGA Research Reporter.
- Joye, SB, **DA Bronk,** WJ Cai and WS Moore. 1998. The influence of land use on groundwater derived nutrients and organic inputs to the South Atlantic Bight. NOAA Sea Grant, Technical Report, 38 pages.

Revised three chapters of Grolier's Encyclopedia 1996 Edition.

(original by Walter Munk) Waves

(original by Bart J. Bok) Tides

(original by Bart J. Bok) Currents

**Bronk, DA** . 1992. Microbially mediated transformations of dissolved organic nitrogen.  
Ph. D. Dissertation. University of Maryland.

### **Reviews of Books, etc.**

**Bronk, DA**. 2003. Invited book review of "*Aquatic Ecosystems: Interactivity of Dissolved Organic Matter*" Findlay, S. and R. Sinsabaugh (eds.). ASLO Bulletin. 12 (2): 38-39.

### **Other Scholarly Activity**

#### ***Research Cruise and Field Work Experience***

2018 (October) – Oneweek research cruise in the Delaware River Plume/Atlantic, *RV Hugh Sharp*

2017 (August) – Two-week research cruise to the Arctic Ocean, *RV Sikuliaq*

2017 (July-August) – Two-week field trip to Barrow, Alaska, *RV Ukpik*

2016 (September) – Four-week research cruise to the Arctic Ocean, *RV Sikuliaq*

2015 (January) – Three-week research trip to McMurdo Station, Antarctica

2013 (January) – Three-week research trip to McMurdo Station, Antarctica

2012 (January) – 8-day research trip to Barrow, Alaska

2011 (April) – 8-day research trip to Barrow, Alaska

2011 (January) – 8-day research trip to Barrow, Alaska

2010 (October) –14-day cruise in the Gulf of Mexico (ECONUTS), *RV Pelican* (LUMCON)

2010 (August) – 8-day research trip to Barrow, Alaska

2010 (August) – 7-day cruise in Chesapeake Bay, *RV Hugh Sharp* (U. Delaware)

2010 (April) – 8-day trip to Barrow, Alaska as part of an NSF project.

2008 (October) – 14-day cruise in the Gulf of Mexico (ECONUTS), *RV Pelican* (LUMCON)

2007 (October) – 14-day cruise in the Gulf of Mexico (ECONUTS), *RV Pelican* (LUMCON)

2006 (November) – 10-day cruise in the Gulf of Mexico (DOE), *RV Pelican* (LUMCON)

2006 (April) – 9-day cruise in the Santa Barbara channel (DOMINO), *RV Point Sur* (Moss Landing Marine Laboratory), Chief scientist

2005 (April) – Four-week mesosom study in Bergen, Norway (BI-OMP)

2005 (April) – 7-day cruise in the Chesapeake Bay (DOMINO), *RV Cape Henlopen* (University of Delaware), Chief scientist

2004 (August) – 5-day cruise in the Chesapeake Bay (DOMINO), *RV Cape Henlopen* (University of Delaware), Chief scientist

2003 (March) – Four-week mesosom study in Bergen, Norway (BI-OMP)

2003 (June) – 14-day cruise in the Gulf of Mexico (DOTGOM), *RV Pelican* (LUMCON)

2002 (July) – 7-day cruise in the Gulf of Mexico (DOTGOM), *RV Walton Smith* (University of Miami)

2002 (October) – 7-day cruise in the Gulf of Mexico (DOTGOM), *RV Walton Smith* (University of Miami)

2001 (December) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Savannah* (Skidaway Institute of Oceanography), Chief scientist

2001 (September) – 5-day cruise in the Gulf of Mexico (DOTGOM), *RV Suncoaster* (University of South Florida)

2001 (July) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

2001 (July) – 7-day cruise in the Gulf of Mexico (DOTGOM), *RV Walton Smith* (University of Miami)

2001 (April) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

2000 (November) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

2000 (July) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

2000 (April) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

1999 – 28-day cruise to the central North Pacific, *RV Melville* (Scripps Institution of Oceanography)

1999 – 7-day research cruise to the South Atlantic Bight (BIOMP), *RV Cape Hatteras* (Duke University/UNC)

1998 (October) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

1998 (July) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

1998 (April) – 13 day cruise in South Pacific, *RV Revelle*

1998 (April) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1997 – 6-week cruise to the Ross Sea, Antarctica (AESOPS), *RVIB Nathaniel Palmer*

1997 (September) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1997 (July) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1997 – 7-day research cruise to the South Atlantic Bight, *RV Cape Hatteras* (Duke University/UNC)

1997 (April) – 5-day cruise to the Altamaha, Ogeechee and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1996 (December) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

1996 – 6-week cruise to the Ross Sea, Antarctica (AESOPS), *RVIB Nathaniel Palmer*

1996 (July) – 5-day cruise to the Altamaha and Satilla Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography), Chief scientist

1996 (April) – 5-day cruise to the Altamaha and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1995 (October) – 5-day cruise to the Altamaha and Savannah Rivers in Georgia, *RV Blue Fin* (Skidaway Institute of Oceanography)

1995 – 7-day cruise to the Eastern Tropical North Pacific (NBABES), *RV New Horizon* (Scripps Institution of Oceanography)

1994 – 7-day cruise to the Southern California Bight, *RV Sproul* (Scripps Institution of Oceanography)

1993 – 7-day cruise to Monterey Bay, *RV Point Sur* (Moss Landing Marine Lab)

1993 – 7-day cruise to Monterey Bay, *RV Point Sur* (Moss Landing Marine Lab)

1992 – 7-day cruise to the Southern California Bight, *RV Sproul* (Scripps Institution of Oceanography)

1992 (April) – 4-week cruise to the Caribbean, *RV Columbus Iselin* (University of Miami)

1990 (August) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1990 (May) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1990 (April) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1989 (November) – 6-day cruise in Chesapeake Bay, *RV Wrigley Warfield* (Johns Hopkins)

1989 (September) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1989 (August) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1989 (July) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1989 (May) – 6-day cruise in Chesapeake Bay, *RV Cape Henlopen* (University of Delaware)

1989 – 4-week cruise to the Caribbean, *RV Columbus Iselin* (University of Miami)

### ***Additional Training - Executive Management and Communications***

2013-2017 – Executive Coaching

2012 – Merit Review Basic Training

2012 – Senior Executive Service Training

2013-2015 – Executive coaching

2013 – COMPASS science communication training

2016 – William and Mary leadership program

## **PROFESSIONAL SERVICE**

### **Membership in Professional Societies**

American Association of University Women (AAUW)

Association for the Sciences of Limnology and Oceanography (ASLO)

Coastal and Estuarine Research Federation (CERF)

Council of Scientific Society Presidents (CSSP)

The Oceanography Society (TOS)

American Geophysical Union (AGU)

### **College-Wide Service**

2016-2018 Member, Green to Gold Fund Administration Committee

2015-2016 Member, Career Development Committee, William & Mary

2005-2006 Participant in the William & Mary Teaching Project

2005-2009 Moderator for qualifying exams and thesis and dissertation defenses

2002-2003 Member, Search Committee for Dean/Director of the School of Marine Programs, VIMS, College of William & Mary

1995 Member, Search Committee for Director of the School of Marine Programs, University of Georgia

1994-2000 Originator and coordinator, Undergraduate Marine Sciences Program, Department of Marine Sciences, University of Georgia

### **School of Marine Science/VIMS Governance**

2017 Member, Selection Committee for Chancellor Professorship

2017-2018 Member, CBH Building Committee, VIMS

2016-2018 Chair, Department of Physical Sciences, VIMS

2016-2018 Member, Administrative Council, VIMS

2016-2018 Member, Catalog Committee, VIMS

2016-2018 Member, Department Chairs and Center Directors Committee, VIMS

2016-2018 Member, Space Committee, VIMS

2015-2016 Vice-chair, Department of Physical Sciences, VIMS

2015 Member, Review Committee for 12 year review of Dean/Director of VIMS

2015-2016 Member, AC Accreditation Task Force, VIMS

2015-2016 Departmental representative to the Academic Council, VIMS

2011-2012 Departmental representative to the Faculty Council, VIMS

2010 Member, Search Committee for Associate Dean of Graduate Studies, VIMS

2005-2018 Chair, VIMS Vending Commissions Fund Committee (i.e., the holiday party planning committee!)

2005-2007 Alternate, Faculty Council representing the Department of Physical Science, VIMS

2006-2008 Member, Seminar Committee, VIMS

2005-2006 Co-chair, Seminar Committee, VIMS

2004-2008 Elected departmental representative, Physical Sciences to Faculty Status and Tenure Review Committee, VIMS

2002-2004 Co-chair, Admissions Committee, VIMS

2001-2004 Member, Admissions Committee representing the Department of Physical Science, VIMS

2001-2002 Alternate, Academic Council representing the Department of Physical Science, VIMS

2001 Appointed the Department of Physical Science's representative to the Faculty Status and Tenure Review committee to evaluate W. Hobbs, VIMS

2000-2002 Member, Department of Physical Sciences Web Site Committee, VIMS

1997 Member, Search Committee for Assistant Professor position in Marine Science, Department of Marine Sciences, University of Georgia

1995-1999 Member, Division of Biological Sciences Curriculum Committee, University of Georgia

1995-2000 Academic advisor for the Division of Biological Sciences, University of Georgia.

1995-2000 Academic advisor for the Department of Marine Sciences, University of Georgia. *Nominated for the 1998 Outstanding Faculty Advisor Award in the Franklin College of Arts and Sciences.*



- 1994-2000 Co-Chair, Academic Affairs Committee, Department of Marine Sciences, University of Georgia
- 1994-2000 Chair, Subcommittee of Undergraduate Affairs, Department of Marine Sciences, University of Georgia

### **Editorial Board Services, Review Panels, etc.**

#### **Service as an external reviewer**

- 2020 Member, Science and Technology Advisory Board for AQUACOSM Plus, a large European mesocosm program
- 2019 Chair, Review committee for the Ecology, Evolution and Marine Biology Program, University of California, Santa Barbara, CA
- 2017 Member, AAAS review committee of Maine EPSCoR's Track-1 SEANET project
- 2017 Member, review committee for the Environmental Science Program, University of Virginia
- 2015 Chair, Institutional review committee of the Woods Hole Oceanographic Institution
- 2015 Member, AAAS review committee of Maine EPSCoR's Track-1 SEANET project
- As of 2018 – External reviewer of ~19 tenure packages and ~21 packages for promotion to full professor

#### **Service as a panelist**

- NSF Long Term Ecological Research (2016)
- Gordon and Betty Moore Foundation (2012)
- EPA Nutrient Criteria (2010-2011)
- EPA STAR – Global Change (2010)
- EPA STAR – Water Quality (2010)
- NASA – OBB13 (2013)
- NSF Antarctic Oceans & Atmospheric Sciences (2008)
- NSF Biocomplexity in the Environment – Coupled Biogeochemical Cycles (2003)
- NSF Chemical Oceanography (2002)
- NSF Environmental Geochemistry and Biogeochemistry (1995)
- NSF Research Coordination Networks (RCN, 2004)
- NSF Site Review, chair (2012)
- NOAA Ecology of Harmful Blooms (ECO HAB; 2004, 2008)
- NOAA Sea Grant (2007)

#### **Review service to funding agencies**

- American Chemical Society Petroleum Research Board
- Australia's Marine National Facility
- Chilean Research Council
- Environmental Protection Agency

Gordon Research Conference  
NASA  
National Environmental Research Council  
National Estuarine Research Reserves (multiple)  
National Underwater Research Council (NURC/UNCW)  
North Pacific Research Board  
NSF Arctic Natural Sciences  
NSF Antarctic Oceans & Atmospheric Sciences  
NSF Biocomplexity  
NSF Biological Oceanography  
NSF CBET  
NSF Chemical Oceanography  
NSF Ecosystem Sciences  
NSF Environmental Geochemistry and Biogeochemistry  
NSF Research Coordination Networks  
NOAA ECOHAB  
NOAA GOMEX  
NOAA Sea Grant (California, Delaware, Georgia, Massachusetts, Minnesota, Mississippi,  
New Jersey, New York, North Carolina, South Carolina, Texas, Wisconsin)  
Schmidt Ocean Institute  
US-Israel Binational Research Foundation  
Water Resources Research Council  
Water Resources Research Institute

**Review and Editorial Service to Journals**

Acta Oecologica  
Aquatic Biology  
Aquatic Microbial Ecology (review editor 2006-present)  
Biogeochemistry  
Biogeosciences  
Coastal Estuarine and Shelf Science  
Continental Shelf Research  
Critical Reviews in Environmental Science and Technology  
Deep Sea Research I and II  
Ecology  
Environmental Management  
Environmental Microbiology  
Environmental Pollution  
Environmental Science and Technology  
Estuaries  
Estuaries and Coasts  
Estuarine Coastal and Shelf Science  
European Nutrient Assessment  
Frontiers  
Geochim Cosmochim Acta

Geophysical Research Letters  
 Global Biogeochemical Cycles  
 Global Change Biology  
 Harmful Algae  
 Hydrobiologia  
 ICES Journal of Marine Science  
 Indicators for the National Climate Assessment  
 International Journal of Oceanography  
 Journal of Air and Waste Management Association  
 Journal of Experimental Marine Biology and Ecology  
 Journal of Geophysical Research – Ocean  
 Journal of Marine Science and Engineering  
 Journal of Marine Research  
 Journal of Marine Systems  
 Journal of Phycology  
 Journal of Plankton Research  
 Limnology and Oceanography  
 Limnology and Oceanography Fluids and Environments  
 Limnology and Oceanography Methods  
 Marine Biology  
 Marine Chemistry  
 Marine Ecology Progress Series  
 mBIO  
 Microbial Ecology  
 Nature  
 New Phytologist  
 Oceanography Magazine  
 Ophelia  
 Proceedings of the Royal Society of London B – Biological Sciences  
 Science  
 Science of the Total Environment  
 Water Research  
 Water Resources  
 US Global Change Research Program, National Climate Assessment – Ocean and Coastal  
 Indicators Report (pp 270)

### **Service to Professional Societies**

- 2017-present Co-chair (with John Downing), 2019 ASLO meeting in San Juan, PR
- 2017 ASLO Leadership Workshop **DA Bronk** and J Downing. ASLO meeting, Honolulu, HI
- 2017 Organizer and chair, combined special session, *Polar and high latitude research: Land, lakes, ice and ocean*, with K. Brown, B. Denfeld, M Fritz, O Schofield, R Sherrell, R Sipler, K Wickland, J Young. ASLO meeting, Honolulu, HI

- 2017 Invited Member, Graduate Student Panel
- 2017 Invited Member, Early Career Panel
- 2016 Member, Early Career Panel, ASLO Multicultural Program meeting mentor, Ocean Sciences meeting mentor, Ocean Sciences meeting, New Orleans
- 2012 Co-organizer and co-chair, special session, *Biogeochemical and ecological impacts of expanding oxygen minimum zones*, with D. Grundle and M. Altabet, ASLO meeting, Lake Biwa, Japan
- 2011 Co-organizer and co-chair, special session, *Advancing the science and ethics of plankton ecology: The legacy of Peter Verity*, with M Frischer, ASLO meeting, San Juan, Puerto Rico
- 2011-2012 Treasurer, Council of Scientific Society Presidents
- 2010-2014 Chair, ASLO Endowment Committee
- 2009-2011 Co-Chair, Committee on Energy and the Environment, Council of Scientific Society Presidents (CSSP)
- 2009-2010 Member-at-large, Council of Scientific Society Presidents
- 2009-2010 Chair, Finance Committee, American Society of Limnology and Oceanography (ASLO).
- 2009-2012 Member, Council of Scientific Society Presidents (CSSP)
- 2008-2014 President, American Society of Limnology and Oceanography (ASLO). Will serve two years as President-elect, two years as President, and two years as Past-President
- 2008 Co-organizer and co-chair, special session, *Taxon-specific Biogeochemistry in Aquatic Systems*, with M. Lomas and M Mulholland, ASLO meeting, Orlando, FL
- 2007-2011 Founding chair, then member, Time-Series Advisory Committee, NSF
- 2007 Mentor, MS PHDS (Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science) program at the OCB meeting, Woods Hole, MA
- 2007-2009 Chair, Meetings Committee, American Society of Limnology and Oceanography (ASLO)
- 2006 Member, *ad hoc* Committee on alternative sources of income, American Society of Limnology and Oceanography (ASLO)
- 2006-2009 Member, ASLO's Education Committee's Sub-committee on web-based lectures (ULTRA)
- 2006 Member, ASLO's *ad hoc* Committee drafting policy for Limnology and Oceanography special issues
- 2005-2007 Co-chair (with Jim Elser), 2007 ASLO meeting in Santa Fe, NM

- 2006 Co-organizer and co-chair, special session, *In search for allochthony*, with former student, Joel Hoffman, 2007 ASLO meeting in Santa Fe, NM
- 2003-2007 Member, ASLO's Publications Committee
- 2003-2006 Elected Member, ASLO's Board of Directors as a Member-at-Large
- 2003 Presenter, ASLO's minority mentoring program, 2003 ASLO meeting in Salt Lake City
- 2003 Organizer and chair, special session (with Margie Mulholland), *Cross-system comparison of sources, composition and reactivity of DON*, 2003 ASLO meeting in Salt Lake City
- 2002 Nominator, Craig Carlson for the AGU Ocean Science's Early Career Award. Dr. Carlson received the award at the December 2002 AGU meeting in San Francisco, CA
- 2000, 2001 Member, Hutchinson Award presented by ASLO
- 2001 Invited contributor, ERF reading list program - Nitrogen Cycling in Estuarine and Coastal Ecosystems for the ERF
- 1998 Organizer (with Mandy Joye), student poster contest, 1998 Ecological Society of America/ASLO. St. Louis, MI
- 1998 Member, 1998 ESA/ASLO meeting committee in St. Louis, MI
- 1997 Organizer and chair (with Bess Ward), special session *Biological Nitrogen Transformations in the Ocean: Biochemistry and Biogeochemistry*, 1997 ASLO meeting in Santa Fe, NM
- 1993 Minority mentor, ASLO meeting in Edmonton, Canada. April 1993
- 1993 Judge, Student Poster Contest, ASLO meeting in Edmonton, Canada

## **ADVISORY SERVICE ACTIVITY**

### **Service to State Agencies**

- 2007 Member, planning committee for Effluent Organic Nitrogen workshop, Annapolis, MD, September 2007
- 2006-2008 Scientific advisor to the Chesapeake Bay's Scientific and Technical Advisory Committee on DON bioavailability in wastewater
- 2003 Presentation at the April VIMS Council Meeting on new Biocomplexity grant
- 2001 Participant in the Collaborative Research Workshop sponsored by VIMS and the Applied Research Center
- 2000 Presented a talk on water column processes at the Institute's Industry Briefing Day

1998-1999 Member of the Nutrient Management and Monitoring Sub-Committee evaluating the effect of concentrated animal feeding operations. Georgia Department of Natural Resources, the Georgia Environmental Protection Division

### **Regional, National or International Management Commissions or Programs**

2020-present Member, U.S. Global Leadership Coalition's Maine Advisory Committee

2018-present Member, Maine Sea Grant Program's Policy Advisory Committee

2016-2017 VIMS representative, Consortium of Ocean Leadership

2015-2018 Member representing VIMS, Board of Oceans, Atmosphere, and Climate (BOAC), Association of Public Land-grant Universities (APLU)

2013-2015 Co-chair, Subcommittee on Ocean Science and Technology

2014 Steering committee, Critical Opportunities for Advanced Shipboard Oceanography in 2017, Schmidt Ocean Institute, Kahuku, HI

2014 NSF Town Hall, Joint Aquatic Sciences Meeting, Portland, OR

2014 NSF/OCE Town Hall, Ocean Sciences Meeting, Honolulu, HI

2013 NSF/OCE Town Hall, ASLO Meeting, New Orleans, LA

2012-2014 Co-chair, Ecosystem-Based Management subcommittee of the National Ocean Council

2011-2012 Centers for Ocean Sciences Education Excellence (COSEE Ocean), Advisory Board

2010-2012 Member, Ocean Time-Series Advisory Committee, NSF, NOAA, NASA

2010-2011 Member, EPA Science Advisory Board, Nutrient Criteria Review Panel

2009-2012 Member, U.S. National Committee for the Intergovernmental Oceanographic Commission (IOC)

2008-2010 Member, U. S. Carbon Cycle Science Plan Working Group

2008 Invited workshop participant, DOM Workshop on Florida Bay, Miami, FL

2007-2009 Chair, Ocean Time-Series Advisory Committee, NSF, NOAA, NASA

2007, 2011 Invited co-chair, The Cutting Edge: Early Career Geoscience Faculty Workshop Program – Setting up your lab and obtaining equipment. The College of William & Mary.

2006-2009 Member, Ocean Carbon and Biogeochemistry (OCB) Scientific Steering Committee (SSC) assembled by NSF, NOAA, and NASA to set priorities and develop programs for the study of ocean biogeochemistry and carbon cycling.

- 2006 Invited workshop participant, State of the Research on Red Tide in the Gulf of Mexico workshop, Mote Marine Laboratory in Sarasota, FL
- 2006 Invited participant, Ocean Carbon and Climate Change workshop, Woods Hole, MA
- 2005 Invited participant and invited speaker, Significant Processes, Observations, and Transformations in Ocean Nitrogen (SPOT-ON), Warnemunde, Germany
- 2000 Invited member, Ocean Carbon Transport, Exchanges and Transformations (OCTET) planning committee. OCTET was a group endorsed by NSF, NOAA and NASA to facilitate the articulation and pursuit of key issues in carbon research over the next decade

**Public Outreach (K-12, private organizations, citizenry) up to 2017**

- 2017 Public Talk, Hampton History Museum
- 2017 Barrow Science Fair, Barrow, AK
- 2016 Presentation on ocean gyres at St. Mary's Catholic School, Hampton, VA, May.
- 2014 Speaker, Ocean Science Festival, Woodlin Elementary School, Silver Spring, MD
- 2013 Skype Q&A with Rick Foerster's Science & Society class, Chicago, IL
- 2011 Presentation on plankton at St. Mary's Catholic School, Hampton, VA, May.
- 2010 ASLO/OCB booth – Ocean acidification in a cup, USA Science and Engineering Festival, Washington, D.C.
- 2010 Presentation on oceanography as a career, St. Mary's Catholic School, Hampton, VA
- 2010 Ocean Acidification, VIMS After Hours, Gloucester Point, VA.
- 2008 Presentation on research in Antarctica at Peninsula Catholic High School, Hampton, VA
- 2007 Presentations on research in Antarctica to three classes at New Kent High School, New Kent, VA (May and December)
- 2006 Participated in a mini-school of marine science entitled “Global Change and You” offered at the Williamsburg Public Library. Presented the introductory lecture for the series, entitled “Global Change: From Plankton to Planet”.
- 2006 Participated in the Hampton University Environmental Chemistry workshop designed to highlight aspects of environmental chemistry to chemistry professors from around the world.
- 2005 Participated in a mini-school of marine science entitled “Global Change and You” offered at the Williamsburg Public Library. Presented the introductory lecture for

the series, entitled “Global Change: From Plankton to Planet” and the final lecture, entitled “Virtual Reality: Computer Models, Global Change and You”.

- 2005 Represented the Department of Physical Sciences on a video highlighting VIMS.
- 2004 Judge for the Middle School Science Fair at Passage Middle School, Dec.
- 2004 Moderator for Blue Crab Bowl, Feb.
- 2004 Guest speaker at California Center of Ocean Sciences Education Excellence Program in Honolulu, HI during ASLO meeting, Feb.
- 2004 Nitrogen chemistry display at the Newport News/Williamsburg airport presented by VIMS outreach.
- 2003 Developed and participated in the development of a mini-school of marine science entitled “Global Change and You”. Presented the introductory lecture for the series, entitled “Global Change: From Plankton to Planet”.
- 2002 Judge for the Middle School Science Fair at Passage Middle School, Dec.
- 2001 E-mail mentor in the “Project Oceanographer Contact” program.
- 2001 Was “shadowed” by a high school student, Katrina Piezza, as part of a program to expose students to various careers.
- 1999 Presentation at Barnett Shoals Elementary School’s Community Science Day, GA.
- 1998 Presentation to the Athens Kiwanis Club, GA.
- 1998 Presentation to Victory Noll Catholic Convent, Huntington, IN.
- 1998 Presentation to Azalea Estates Retirement Community, Slidell, LA.
- 1998 Presentation to Jefferson High School students, GA.
- 1998 Presented two seminars to 6th graders at Clarke Middle School Day, GA.
- 1997 Presentation to 1st and 3rd graders at Cleveland Road Elementary, GA.
- 1997 Presentation to 7th graders at Lexington Middle School, GA.
- 1997 Presentation to 1st graders at Ila Elementary, GA.
- 1995 Presentation to 7th and 8th graders at Banks County Middle School, GA.
- 1995 Presentation to 3rd and 4th graders at Covenant Christian Academy, GA.
- 1994 Presentation to 5th graders as part of a 4-H program in Hart Co., GA.