Anne E. Bernhard

CONTACT INFORMATION

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Connecticut College
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New London, CT 06320

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(860) 439-2519 (fax)
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EDUCATION

Ph.D. **Oregon State University**, Corvallis, Oregon (Microbiology), July 2000
M.S. **Western Washington University**, Bellingham, Washington (Environmental Science-Marine and Estuarine Science option), August 1993
B.S. **Texas A&M University**, College Station, Texas (Biology), May 1987

PROFESSIONAL EXPERIENCE

Professor, 2016- Department of Biology, Connecticut College, New London, Connecticut
Biology Department Chair, 2012-2015, Department of Biology, Connecticut College, New London, Connecticut
Associate Professor, 2010-2016, Department of Biology, Connecticut College, New London, Connecticut
George and Carol Milne (Endowed Chair) Assistant Professor, 2006-2010, Department of Biology, Connecticut College, New London, Connecticut
Assistant Professor, 2004-2006, Department of Biology, Connecticut College, New London, Connecticut
NSF Postdoctoral Research Fellow*,* 2002-2004, Department of Civil and Environmental Engineering, University of Washington, Seattle*,* Washington
Undergraduate Research Faculty Mentor, 2002-2003, *Engr100H, Introduction to Engineering Design***,** University of Washington, College of Engineering, Seattle, Washington
Postdoctoral Research Associate*,* 2000-2002, Department of Civil and Environmental Engineering, University of Washington, Seattle*,* Washington
Graduate Research Assistant, 1998-2000, Department of Microbiology, Oregon State University, Corvallis, Oregon
Graduate Teaching Assistant, 1996-1998, Department of Microbiology, Oregon State University, Corvallis, Oregon
Instructor, Huxley College of Environmental Studies, Western Washington University, Bellingham, Washington, 1994-1995
Scientific Technician, Washington State Department of Fish and Wildlife, Olympia, Washington, 1994
Research Assistant, 1993-1994, University of Alaska-Fairbanks, Juneau School of Fisheries and Ocean Sciences, Juneau, Alaska
Graduate Teaching Assistant, 1991-1993, Huxley College of Environmental Studies, Western Washington University, Bellingham, Washington
Research Assistant II (1988-1991 and 1995-1996) University of Texas Health Science Center, Department of Biochemistry and Molecular Biology, Houston, Texas
High School Biology and Chemistry Teacher, 1987-1988, Incarnate Word Academy High School, Houston, Texas

PEER-REVIEWED PUBLICATIONS

(Undergraduate researchers are underlined.)

Bernhard AE, Sheffer R, Giblin AE, Marton JM, Roberts BJ (2016) Population dynamics and community composition of ammonia oxidizers in salt marshes impacted by the Deepwater Horizon oil spill. *Frontiers in Microbiology* 7:854, doi: 10.3389/fmicb.2016.00854

Marton JM, Roberts BJ, Bernhard AE, Giblin AE. (2015) Spatial and temporal variability of nitrification potential and ammonia-oxidizer abundances in Louisiana salt marshes. *Estuaries and Coasts* 38: 1824–1837, doi: 10.1007/s12237-015-9943-5.

Bernhard AE, Dwyer C, Idrizi A, Bender G, Zwick R. (2015) Long-term impacts of disturbance on nitrogen-cycling bacteria in a New England salt marsh. *Frontiers in Microbiology* 6:46.

Peng X, Yando E, Hildebrand E, Dwyer C, Kearney A, Waciega A, Valiela I, Bernhard AE. (2013) Differential responses of ammonia-oxidizing archaea and bacteria to long-term fertilization in a New England salt marsh. *Frontiers in Microbiology* 3:445

Bernhard AE, Marshall D, Yiannos L. (2012) Increased variability of microbial communities in restored salt marshes nearly 30 years after tidal flow restoration. *Estuaries and Coasts* 35:1049-1059

Bernhard, AE (2010) The Nitrogen Cycle: Processes, Players, and Human Impact. *Nature Education Knowledge* 1(10):12. (http://www.nature.com/scitable/knowledge/library/the-nitrogen-cycle-processes-players-and-human-15644632) ***(Invited article)***

Bernhard AE, Bollmann A. (2010) Estuarine nitrifiers: New players, patterns, and processes. *Estuarine Coastal and Shelf Science* 88: 1-11. ***(Invited feature article)***

Bernhard AE, Landry ZC, Blevins A, de la Torre JR, Giblin AE, Stahl DA. (2010) Abundance of ammonia-oxidizing *Archaea* and *Bacteria* along an estuarine salinity gradient in relation to potential nitrification rates. *Applied and Environmental Microbiology* 76: 1285-1289.

Moin NS, Nelson KA, Bush A, Bernhard AE. (2009) Distribution and diversity of archaeal and bacterial ammonia oxidizers in salt marsh sediments. *Applied and Environmental Microbiology* 75: 7461-7468.

Nelson KA, Moin NS, Bernhard AE. (2009). Archaeal diversity and the prevalence of *Crenarchaeota* in salt marsh sediments. *Applied and Environmental Microbiology.* 75: 4211-4215.

Bernhard AE, Tucker J, Giblin AE, Stahl DA (2007). Functionally distinct communities of ammonia oxidizing bacteria along an estuarine salinity gradient. *Environmental Microbiology* 9: 1439-1447.

(*Könneke M, Bernhard AE, de la Torre JR)†*,Walker CM, Waterbury JB, Stahl DA. (2005) Isolation of a mesophilic autotrophic ammonia-oxidizing marine archaeon. *Nature* 437:543-546. ***(selected as an exceptional paper by the Faculty of 1000 Biology)***

†authors contributed equally

Bernhard AE, Donn T, Giblin AE, Stahl DA. (2005) Loss of diversity of ammonia-oxidizing bacteria correlates with increasing salinity in an estuary system. *Environmental Microbiology* 7: 1289-1297. ***(selected as recommended paper by the Faculty of 1000 Biology)***

Dick LK, Bernhard AE, Brodeur TJ, Santo Domingo JW, Simpson JM, Walters SP, and Field KG. (2005). Host Distributions of uncultivated fecal *Bacteroidales* reveal genetic markers for fecal source identification. *Applied and Environmental Microbiology* 71:3184-3191.

Bernhard AE, Colbert D, McManus J, Field KG. (2005) Microbial community dynamics based on 16S rRNA gene profiles in a Pacific Northwest estuary and its tributaries. *FEMS Microbiology Ecology* 52:115-128.

Nielsen JL, Schramm A, Bernhard AE , van den Engh GJ, Stahl DA. (2004) Flow cytometry-assisted cloning of specific sequence motifs for complex 16S rRNA gene libraries. *Applied and Environmental Microbiology* 70: 7550-7554.

Field KG, Bernhard AE, Brodeur TJ. (2003) Molecular approaches to microbiological monitoring: Fecal source detection. *Environmental Monitoring and Assessment* 81: 313-326.

El Fantroussi S, Urakawa H, Bernhard AE, Kelly JJ, Noble PA, Smidt H, Yershov GM, Stahl DA. (2003) Direct profiling of environmental microbial populations by thermal dissociation analysis of native rRNAs hybridized to oligonucleotide microarrays. *Applied and Environmental Microbiology* 69: 2377-82.

Bernhard AE, Goyard T, Simonich MT, Field KG. (2003) Application of a rapid method for identifying fecal pollution sources in a multi-use estuary. *Water Research* 37:909-913.

Bernhard AE**,** Field KG. (2000) A PCR assay to discriminate human and ruminant feces on the basis of host-specific *Bacteroides/Prevotella* 16S rDNA. *Applied and Environmental Microbiology* 66: 4571-4574.

Bernhard AE, Field KG. (2000) Identification of nonpoint source pollution in coastal waters by using 16S ribosomal DNA genetic markers from fecal anaerobes. *Applied and Environmental Microbiology* 66: 1587-1594.

Bernhard AE, Peele ER. (1997) Nitrogen limitation of phytoplankton in a shallow embayment in Northern Puget Sound. *Estuaries* 20:759-769.

Thompson CM, Bernhard AE, Strobel HW (1997) Barbituate-induced expression of neuronal nitric oxide synthase in the rat cerebellum. *Brain Research* 754:142-146.

Roy D, Bernhard AE, Strobel HW, Liehr JG (1992) Catalysis of the oxidation of steroid and stilbene estrogens to estrogen quinone metabolites by the β-naphthoflavone-inducible cytochrome P450 IA family. *Archives of Biochemistry and Biophysics* 296: 450-456.

OTHER PUBLICATIONS

Field KG, Bernhard AE**.** (2001) Molecular detection of fecal *Bacteroides* and source indicators for fecal pollution in water. *In* Warwick, J. J. (ed.), Water quality monitoring and modeling, American Water Resources Association, Spring Specialty Conference, San Antonio, TX.

PATENTS

Detection of Fecal Contamination Using Nucleic Acid Molecules that Recognize Bacterial 16S rDNA Sequences, U. S. Patent Application No. 10/381,904. Filed July 21, 2003.

PRESENTATIONS AND PUBLISHED ABSTRACTS

(Undergraduate researchers are underlined; *indicates presenting author)

Bernahrd AE*, Giblin AE, Roberts, BJ. Patterns in Community Composition of Ammonia-Oxidizers in Louisiana Salt Marshes Following the Deepwater Horizon Oil Spill. Poster presentation at the International Society for Microbial Ecology meeting, August 21-26, 2016, Montreal, Canada.

Bernhard AE*, Sheffer R, Giblin AE, Marton JM, Roberts BJ. Population Dynamics and Community Composition of Ammonia Oxidizers in Salt Marshes Impacted by the

Macondo Oil Spill. Poster Presentation at American Society for Microbiology General Meeting, June 16-20, 2016, Boston, MA.

Bernhard AE*, Sheffer R, Marton JM, Roberts B, Giblin AE. Impacts of Oil on Population Dynamics and Community Composition of Ammonia Oxidizers and Relationships with Nitrification Rates in Louisiana Salt Marshes. Oral Presentation at the Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 1-4, 2016. Tampa, FL.

Bernhard AE*, Sheffer R, Marton JM, Roberts B, Giblin AE. Potential Impacts of Oil on Nitrifying Communities in Louisiana Salt Marshes. Oral Presentation at the Gulf of Mexico Oil Spill and Ecosystem Science Conference, February 16-20, 2015. Houston, TX.

Bernhard AE, Pandya K*, Sheffer R, Zazueta-Ramirez C, Marton JM, Roberts B, Giblin AE. 2014. Impacts of the Deepwater Horizon Oil Spill on Abundance, Activity, and Community Composition of Ammonia-Oxidizing Archaea and Bacteria in Louisiana Salt Marshes. Poster presentation at the American Society for Microbiology General Meeting, Boston, MA.

Marton JM*, Roberts B, Bernhard AE, Giblin AE, Mack S, Moore T. 2014. Differential biogeochemical responses of *Spartina alterniflora* and *Avicennia germinans* soils following the Deepwater Horizon oil spill. Oral presentation at the 2014 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL.

Roberts B*, Marton JM, Bernhard AE, Giblin AE. 2014. Biogeochemical responses of Louisiana marsh soils following the Deepwater Horizon oil spill. Oral presentation at the 2014 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL.

Bernhard A*, Marton JM, Roberts BJ, Giblin AE. 2014. Abundance and community composition of ammonia-oxdizing microorganisms in Louisana marshes impacted by the Deepwater Horizon oil spill. Oral presentation at the 2014 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL.

Bernhard A*, Marton JM, Roberts BJ, Giblin AE. 2013. Community composition of ammonia-oxdizing bacteria in Louisana marshes impacted by the Deepwater Horizon oil spill. Coastal and Estuarine Research Federation Biennial meeting, San Diego, CA.

Frankel L, Goldstein S, Zazueta-Ramirez C, Matthews S, Bernhard AE*. 2013. Patterns of nitrogen-cycling microbial abundance and diversity across a salt marsh landscape. American Society for Microbiology General Meeting, Denver, CO.

Bernhard AE*. 2013. Evaluating two teaching strategies to help students understand complex ecological concepts. Poster presentation at the American Society for Microbiology Conference on Undergraduate Education, Denver, CO.

Roberts BJ*, Marton JM, Bernhard AE, Giblin AE. 2013. Louisiana brackish and salt marsh nitrification potential and microbial diversity following the Deepwater Horizon oil spill. Oral presenation at the American Society for Limnology and Oceanography, New Orleans, LA.

Marton JM*, Roberts BJ, Bernhard AE, Giblin AE. 2013. Louisiana brackish and salt marsh nitrification potential and microbial diversity following the Deepwater Horizon oil spill. Oral presentation at the 2013 Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA.

Yando E, Dwyer C, Bernhard AE*. 2012. Landscape-scale patterns of ammonia-oxidizing bacteria in New England salt marshes. Poster presentation at the American Society for Microbiology General Meeting, San Francisco, CA

Bernhard AE*, Marshall D, Yiannos L. 2011. Increased variability of microbial communities in restored salt marshes nearly 30 years after tidal flow restoration. Talk presented at the Coastal and Estuarine Research Federation, Daytona Beach, FL.

Peng X, Yando E, Hildebrand E, Dwyer C, Kearney A, Valiela I, Bernhard AE*. 2011. Differential responses of ammonia-oxidizing archaea and bacteria to long-term fertilization in a New England salt marsh. Talk presented at the International Conference on Nitrification, Nijmegen, The Netherlands.

Peng X*, Yando E*, Hildebrand E, Dwyer C, Kearney A, Valiela I, Bernhard AE. 2010. Impact of long-term fertilization on community structure of ammonia oxidizers in the Great Sippewissett Marsh, Cape Cod, Massachusetts, USA. Poster presented at the International Society for Microbial Ecology, Seattle, WA.

Yiannos L, Marshall D, Bernhard AE*. 2009. Impact of salt marsh restoration on microbial community structure and diversity. Poster presentation at the American Society for Microbiology General Meeting, Philadelphia, PA.

Nelson KA, Moin NS, Bernhard AE*. 2009. Archaeal diversity and the prevalence of Crenarchaeota in a salt marsh. Poster presentation at the New England Estuarine Research Society spring meeting, Salem, MA.

Idrizi A*, Zwick R, Bender GW, Bernhard AE. 2008. High Diversity of Denitrifying Bacteria in a New England Salt Marsh. Poster presentation at the American Society for Microbiology General Meeting, Boston, MA.

Landry Z, Bernhard AE*. 2007. Crenarchaeota are differentially distributed in relation to salinity in a New England estuary. Oral presentation at the Estuarine Research Federation Biennial Meeting, Providence, RI.

Giblin AE*, Weston NB, Tucker J, Banta G, Bernhard AE, Hopkinson CS. 2007. Salinity effects on nitrogen cycling in estuaries. Oral presentation at the Estuarine Research Federation Biennial Meeting, Providence, RI.

Bender GW*, Bernhard AE. 2007. Diversity of *nir*S genes across a salt marsh restoration chronosequence. Poster presentation at the American Society for Microbiology General Meeting, Toronto, Canada.

Nelson K, Bernhard AE*. 2006. Archaeal diversity correlates with vegetation patterns in a New England salt marsh. Oral presentation at the International Symposium for Microbial Ecology, Vienna, Austria.

Nelson K*, Bernhard, AE. 2006. Patterns of Archaeal diversity correlate with salt marsh vegetation patterns. New England Estuarine Research Society spring meeting, Hull, MA.

Bender GW*, Bernhard AE. 2006. High bacterial diversity on different substrates in a rocky intertidal environment. New England Estuarine Research Society spring meeting, Hull, MA.

Bernhard AE*, Konneke M, de la Torre JR, Walker CM, Waterbury JB, Stahl DA. 2005. Isolation of an ammonia-oxidizing marine crenarchaeota from enrichment cultures. Gordon Research Conference, Applied and Environmental Microbiology, Connecticut College, New London, CT. ***(Awarded Best Poster)***

Bernhard AE*, Giblin AE, Tucker J, Donn TM, Stahl DA. 2004. Investigating the link between ammonia-oxidizing bacterial diversity and activity in estuarine sediments. American Society for Microbiology, General Meeting, New Orleans, LA.

Giblin AE*, Weston N, Banta G, Tucker J, Bernhard AE, Hopkinson CS. 2004. Salinity effects on the nitrogen cycle in estuaries. Presented at the New England Estuarine Research Society meeting, Block Island, RI.

Bernhard AE*, Donn TM, Stahl DA. 2003. Community structure of ammonia-oxidizing bacteria in estuarine sediments based on the diversity of the functional gene, ammonia monooxygenase. Estuarine Research Federation, Biennial Meeting, Seattle, WA.

Bernhard AE*, Giblin AE, Tucker J, Waterbury JB, Stahl DA. 2002. Salinity effects on community structure and numbers of ammonia-oxidizing bacteria and nitrification rates in estuarine sediments. American Society of Limnology and Oceanography, Victoria, B.C.

Bernhard AE*, Schramm A, Stahl DA. 2002. Shifts in community structure of ammonia-oxidizing bacteria along a salinity gradient. American Society of Microbiology General Meeting, Salt Lake City, UT.

Bernhard AE*, Goyard T, Field KG. 2000. Source identification of fecal pollution in coastal waters using *Bacteroides-Prevotella* host-specific genetic markers. American Society of Microbiology General Meeting, Los Angeles, CA.

Field KG*, Bernhard AE, Barry A. 1999. Genetic markers from anaerobic bacteria used to discriminate human and cattle fecal contamination of estuarine waters without culturing indicator organisms. American Society of Limnology and Oceanography, Sante Fe, NM.

Bernhard AE*, Field KG. 1999. Microbial diversity and community structure in a Pacific Northwest estuary. American Society of Microbiology General Meeting, Chicago, IL and Estuarine Research Federation Biennial Meeting, New Orleans, LA.

Bernhard AE*, Field KG. 1998. Genetic markers from anaerobic bacteria used to discriminate human and cattle fecal contamination without culturing indicator organisms. American Society of Microbiology General Meeting, Atlanta, GA.

Bernhard AE*, Peele ER, Cassidy PM. 1993. Nutrient limitation of phytoplankton in Padilla Bay, Washington. Pacific Estuarine Research Society, May 1993, Long Beach, WA and American Society of Limnology and Oceanography, Edmonton, Alberta.

GRANTS AND FELLOWSHIPS

Gulf of Mexico Research Initiative Consortium for Ocean Leadership, *Coastal Waters Consortium*, Co-Principal Investigator, 2015-2017, $301,956

Sherman Fairchild Foundation, *Summer Stipends in the Sciences*, Principal Investigator, 2014-16, $247,500.

NSF, *Science Leaders Scholarship,* Co-Prinicpal Investigator, 2012-2017, $436,307,

Gulf of Mexico Research Initiative Consortium for Ocean Leadership, *Effects of the Macondo Oil Spill on Coastal Ecosystems*, Co-Prinicpal Investigator, 2011-2014, $202,904.

NSF Ecosystems Program, *RUI: Population Dynamics and Niche Differentiation Among Ammonia-Oxidizing Prokaryotes in Salt Marsh Sediments,* Principal Investigator, 2008-2012, $142,449

NSF-Scholarships in Science, Technology, Engineering, and Mathematics Program, *NSF Lab Science Scholarships*, Co-Prinicpal Investigator, 2008- 2012, $513,900

Connecticut Department of Environmental Protection, Long Island Sound Funds Program *Impacts of salt marsh restoration on microbial community structure and diversity,* Prinicpal Investigator, 2006-2007, $23,440

NSF Research Starter Grant, *Population dynamics of ammonia-oxidizing bacteria in estuarine sediments*, Principal Investigator, 2005-2007, $42,500.

NSF Postdoctoral Research Fellowship in Microbial Biology, *amoA mRNA as an indicator for activity of ammonia-oxidizing bacteria in estuarine sediments*, 2002-2004, $100,000.

Washington State Department of Ecology, *Seasonal study of phytoplankton growth limitation*, 1992-1993, $3600.

AWARDS AND HONORS

John S. King Excellence in Teaching Award, Connecticut College, 2015
George and Carol Milne Endowed Chair in Life Sciences, 2006-2010
Best Poster, Gordon Research Conference on Applied and Environmental Microbiology (an international conference), New London, CT 2005
College of Agricultural Sciences Registry of Distinguished Students
Oregon State University, May 2000
P. F. Yerex & Nellie Buck Yerex Graduate Fellowship
College of Science, Oregon State University, 1998-99
Student Travel Award, American Society of Microbiology General Meetings
Atlanta, GA 1998 and Chicago, IL 1999
Best Presentation, Association of Women in Science
Oregon State University, Graduate Student Conference, 1998
Carl S. Schumacher Award for Students in Marine Science
Oregon State University, 1996
Student Travel Award, American Society of Limnology and Oceanography
Annual Meeting, Edmonton, Alberta, 1993
Phi Kappa Phi Honor Society

INVITED PRESENTATIONS

Princeton University, Trenton, NJ, September 2015: "Finding Waldo: Searching for Impacts of the Deepwater Horizon Oil Spill on Nitrification and Nitrifiers in a Louisiana Salt Marsh"
Marine Biological Laboratory, Woods Hole, MA, September 2014: "From Shore to Shore: A Story of Salt Marsh Nitrifiers from the Gulf of Mexico to New England"
Marine Biological Laboratory, Woods Hole, MA, March 2009: "Distribution and Diversity of Ammonia-Oxidizing Archaea in a Salt Marsh"
CCIC/Project Kaleidoscope meeting, Building a Connecticut College and University STEM Network: Supporting Pedagogies of Engagement, Yale University, October 2008: "Creating a Culture of Reflective Practice" presented with Gene Gallagher
Connecticut College Endowed Chair Lecture Series, March 2008: "Microbial Safari"
Distinguished Lecture Series, Department of Microbiology, University of New Hampshire, Durham, NH, October 2007: "Ammonia Oxidizing Archaea: A New Piece of the Nitrification Puzzle?"
Marine Biological Laboratory, Woods Hole, MA, February 2006: "Ammonia-oxidizing bacteria in estuaries: linking structure and function"
University of Massachusetts, Lowell, September 2005: "Ammonia-oxidizing bacteria in estuaries: a model for linking community diversity and ecosystem function"
Trinity College, Hartford, CT, Oct 2005: "Microbes living on the edge"

TEACHING EXPERIENCE AND DEVELOPMENT

Connecticut College (2004-present)
First Year Seminar 105F: The World According to Microbes
First Year Seminar 109C: Microbes, Molecules, and More
Biology 115: The Human Microbiome: A User's Manual

Biology 205: Coastal Marine Biology
Biology 207: Ecology
Biology 305: Marine Ecology
Biology 312: Molecular Ecology
Biology 330: Microbiology
Biology 494J: Marine Biodiversity and Conservation

Faculty Fellow, 2012-2016, Connecticut College Joy Shechtman Mankoff Center for Teaching and Learning

American Society for Microbiology Biology Scholar, 2011-2012

Western Washington University (1994-95)

Environmental Science 459/559: Aquatic Toxicology Laboratory
Environmental Science 429: Stream Ecology Laboratory
Environmental Science 508: Graduate Seminar: History of Environmental Science

UNDERGRADUATE STUDENT PROJECTS

Honors Thesis Projects

"Mercury speciation, retention, and genomics in fertilized salt marsh sediments." Caroline Collins, 2014-15

"The Effect of Long-Term Fertilization on the Population Dynamics of Ammonia-Oxidizing *Bacteria* and *Archaea* in a New England Salt Marsh." Xuefeng Peng*, 2009-2010

"Latitudinal gradients of bacterial diversity." David Marshall, 2008-2009

"Diversity of denitrifying bacteria in salt marshes based on terminal restriction fragment polymorphisms of *nir*S genes." Adrian Idrizi, 2007-2008

"Vertical and horizontal distribution of denitrifying bacteria in restored and undisturbed salt marsh sediment." Rachel Zwick*, 2007-2008

"Differences in diversity of denitrifying bacteria based on diversity of the *nir*S gene along a restoration chronosequence." Geoffrey Bender, 2006-2007

"Diversity of nitrogen-fixing bacteria in salt marsh sediment based on the *nif*H gene." Molly Goettsche, 2006-2007

"Abundance of ammonia-oxidizing archaea in the Barn Island salt marsh, CT." Nicole Moin, 2006-2007

"Impacts of restoration on bacterial community structure in a salt marsh." Lazaros Yiannos, 2006-2007

"Patterns of archaeal communities correlate with salt marsh vegetation." Katelyn Nelson, 2005-2006

*student has continued on to a graduate program in a related science

Independent Study Projects

"Impacts of Pesticide on Rhizobium in Clover Root Nodules." Mollie Dimise, Spring 2016

"Antibiotic Resistance Genes in Salt Marsh Sediments." Khushbu Pandya, Fall 2015

"Targeted metagenomics to characterize metabolic potential of ammonia-oxidizing archaea." Carla Menezes, Spring 2015

"Bacterial 16S rRNA Gene Characterization of a Salt Marsh Microbial Mat by Pyrosequencing." Ryan Dean, Spring 2015

"Nitrogen-fixation in clover and alfalfa plants." Mollie Dimise, Spring 2015

"The Effect of the BP Deepwater Horizon Oil Spill on Ammonia Oxidizing Archaea in a Louisiana Salt Marsh." Prima Sharuka, Fall 2013.

"Searching for ammonia-oxidizing bacteria in oiled and unoiled salt marshes in southern Louisiana." Nathaniel Chester, Spring 2013.
"Differences in *nif*H diversity in and around Barn Island salt marsh." Laura Frankel, Fall 2012, Spring 2013
"*nif*H Diversity and Expression in a Salt Marsh Microbial Mat Community." Sarah Goldstein*, Fall 2012, Spring 2013
"Abundance of the nifH gene from Multiple Sites at the Barn Island Salt Marsh." Sarah Matthews, Fall 2012
"Diversity of anammox bacteria in Barn Island salt marsh." Carmen Zazueta-Ramirez, Fall 2012, Spring 2013
"Impacts of restoration on the diversity and community composition of ammonia-oxidizing bacteria in a New England salt marsh." Courtney Dwyer, Fall 2011
"Effects of nitrate enrichment on ammonia-oxidizing archaea in salt marsh sediments." Fath Diagne, Fall 2011
"Differences in community composition of ammonia oxidizing archaea in control and high nitrogen fertilizer plots of the Great Sippewissett Marsh, Cape Cod, MA." Erica Hildebrand*, Fall 2009
"Diversity of Ammonia Oxidizing Bacterial Communities Based on *amo*A sequences from Nitrogen Enhanced Plots at the Great Sippewissett Marsh." Erik Yando*, Fall 2009 and Spring 2010
"Enrichment and isolation of nitrogen-fixing bacteria in soils." Maywadee Chinavanichkit, Spring 2009
"Drugs from the Sea." Christina Comfort*, Spring 2008
"Latitudinal gradients of bacterial diversity." David Marshall, Spring 2008
"High bacterial diversity on different substrates in a rocky intertidal environment." Geoffrey Bender, Spring 2006
"Nutrient analysis of porewater samples from Barn Island sediment." Alexander Bush, Fall 2006
"Diversity and abundance of Archaea in Plum Island Sound Estuary ." Zachary Landry*, Fall 2006
*student has continued on to a graduate program in a related science

Summer Research Undergraduate Students
2016: Sethu Babu, William Platt, Sydney Rentsch
2014: Carla Menezes, Luis Perez Valencia, Kali Roberts
2013: Glindys Luciano, Khushbu Pandya, Prima Sharuka
2012: Laura Frankel, Sarah Goldstein, Carmen Zazueta-Ramirez
2011: Lily Bartlett, Fath Diagne, Carmen Zazueta-Ramirez
2009: Courtney Dwyer, Anne Kearney, Alex Waciega
2007: Adrian Idrizi
2006: Geoffrey Bender, Molly Goettsche, Nicole Moin, Lazaros Yiannos
2005: Geoffrey Bender, Katelyn Nelson

Graduate Student Thesis Committees
Tiffany Warner, LSU/LUMCON master's student, 2012-2014

SERVICE

Connecticut College Service

Committee on Appointments, Promotion, and Tenure, 2016-
Biology Department Visiting Professor Search Committee, 2016
"Connections" Curricular Revision Steering Committee, 2015-2016
Director of Summer Science Research Institute, 2014-present
Sherman Fairchild Summer Science Research Grant, PI, 2014-2016
100-level "ConnCourse" Pilot, leader, 2014-2015
Chemistry faculty search committee, Physical chemistry, fall 2014
Dean of Faculty search committee, 2014
Student selection committee, summer student research program, 2014-present
Ad hoc budget committee (BEG), 2013-present
Chair, Department of Biology, 2012-2015
Center for Teaching & Learning, Faculty Fellow, 2012-2016
Center for Teaching & Learning Advisory Board member, 2010-present
Class of '57 Teaching Seminar Organizing Committee 2005-2008, 2010-2016
Goodwin-Niering Faculty Fellow, 2004-present
"Data into Action" Teagle Summer Workshop team member, summer 2013
Biology/CS Bioinformatics Visiting Professor Search Committee, 2013
Academic Resource Center Director Search Committee, 2012
AAC&U General Education Institute team member, summer 2012
Botany/ES Visiting Professor Search Committee, 2010
Committee on the Status of Faculty Women 2009-2010
Writing Across the Curriculum Advisory Board, 2009-2010
Life Sciences Building Committee, 2008-2009
Goodwin-Niering Center Conference Planning Committee 2007
Environmental Model Committee 2005-2006
Botany Department Plant Ecologist Search Committee 2006
Facilities and Land Management Committee, 2006-2009

Professional Service

Guest Associate Editor (with Co-Associate Editor John Kelly), *Frontiers in Microbiology*, Research Topic: "Linking Ecosystem Function with Microbial Diversity"

National Science Foundation, review panelist: Oct 2009, Feb 2014.

Co-convener of a Scientific Session "Microbial Communities and Biogeochemistry" at the Coastal and Estuarine Research Federation biennial meeting, San Diego, CA, 2013

Review Editor, *Frontiers in Aquatic Microbiology*, 2010-present

Connecticut Sea Grant External Research Advisory Panel, Nov 6, 2008.

Cooperative Institute for Coastal and Estuarine Environmental Technology panelist reviewer, Nov 2004.

Ad hoc reviewer: *Applied and Environmental Microbiology, Ecology Letters, Environmental Microbiology, Environmental Pollution, Estuarine Coastal and Shelf Science, Frontiers in Microbiology, ISME Journal, Journal of Environmental Quality*, *Journal of Marine Science and Engineering, , PLoS One, Science*, NSF CAREER, NSF Biodiversity, NSF Microbial Observatories, NSF Biological Oceanography, NSF Ecosystems, NSF Systems and Synthetic Biology

PROFESSIONAL MEMBERSHIPS

American Society for Microbiology

Coastal and Estuarine Research Federation
International Society for Microbial Ecology
New England Estuarine Research Society
Nitrification Network