

Jason Michel Smith

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EDUCATION

Ph.D.	Stanford University, Earth System Science	2013
M.S.	University of Florida, Soil & Water Science	2006
B.S.	University of Florida, Microbiology & Cell Science	2003

RESEARCH AND PROFESSIONAL EXPERIENCE

Monterey Bay Aquarium Research Institute (MBARI) Postdoctoral Fellow (Competitive, Institutional)	2013–
Stanford University, School of Earth, Energy and Environmental Sciences Graduate Research Fellow	2007–2013
NASA Ames Research Center, Exobiology Branch Planetary Biology Intern (2005) & Space Grant Fellow	2005–2007
University of Florida, Institute of Food & Agricultural Sciences Undergraduate & Graduate Research Assistant	2003–2006

FUNDED PROJECTS

National Science Foundation (2014, OCE-BIO #1357042) "Differential contributions of archaeal ammonia oxidizer ecotypes to nitrification under varying conditions" with FP Chavez & CA Francis. **\$826,907**
Role: concept development, primary writer and project manager

Stanford Woods Institute for the Environment (2013, Environmental Ventures Projects) "Resolving the great ammonium debate in San Francisco Bay" with CA Francis, KR Arrigo & S Monismith. **\$220,000**
Role: concept development, co-writer and collaborator

US Department of Energy (2012, JGI Community Sequencing Program) "Metagenomic and biogeochemical characterization of marine ammonia-oxidizing archaeal communities in a coastal upwelling system" with CA Francis. **Sequencing only.**
Role: concept development, primary writer and co-investigator

Stanford School of Earth Sciences (2008, McGee Fund) "Developing novel techniques for measuring dissolved gas stable isotopes in the environment". **\$6,000**
Role: principal investigator

PEER-REVIEWED PUBLICATIONS (16 published, 2 forthcoming, h-index: 7)

Smith, JM, J Damashek, FP Chavez and CA Francis. **In Press**. Factors influencing nitrification and the abundance and transcriptional activity of ammonia oxidizing microorganisms in the dark realm of the northeast Pacific Ocean. **Limnol. Oceanogr.**

Aylward, FO, JM Eppley, **JM Smith**, FP Chavez, CA Scholin and EF DeLong. **2015**. Microbial community transcriptional networks are conserved in three domains at ocean basin scales. **Proc Nat Acad Sci USA** doi: 10.1073/pnas.1502883112

Orsi, WD, **JM Smith**, HM Wilcox, JE Swalwell, P Carini, AZ Worden and AE Santoro. **2015**. Ecophysiology of uncultivated marine euryarchaea is linked to particulate organic matter. **ISME J** doi: 10.1038/ismej.2014.260

Sudek, S, RC Everroad, A Gehman, **JM Smith**, FP Chavez and AZ Worden. **2015**. Cyanobacterial distributions along a physico-chemical gradient in the northeastern Pacific Ocean. **Environ Microbiol** doi:10.1111/1462-2920.12742

Carolan, M, **JM Smith** and JM Beman. **2015**. Transcriptomic evidence for microbial sulfur cycling in the eastern tropical North Pacific oxygen minimum zone. **Front Microbiol** doi: 10.3389/fmicb.2015.00334

Smith, JM, FP Chavez and CA Francis. **2014**. Ammonium uptake by phytoplankton regulates nitrification in the sunlit ocean. **PLoS ONE** doi:10.1371/journal.pone.0108173

Smith, JM, KL Casciotti, FP Chavez and CA Francis. **2014**. Differential contribution of archaeal ammonia oxidizer ecotypes to nitrification in coastal surface waters. **ISME J** doi: 10.1038/ismej.2014.11

Damashek, J, **JM Smith**, AC Mosier and CA Francis. **2014**. Benthic ammonia oxidizers differ in community structure and biogeochemical potential across a riverine delta. **Front Microbiol** doi: 10.3389/fmicb.2014.00743

Smith, JM, AC Mosier and CA Francis. **2014**. Spatiotemporal relationships between the abundance, distribution and potential activities of ammonia-oxidizing and denitrifying microorganisms in intertidal sediments. **Microb Ecol** doi: 10.1007/s00248-014-0450-1

Santoro, AE, CM Sakamoto, **JM Smith**, JN Plant, AZ Worden, KS Johnson, CA Francis and KL Casciotti. **2013**. Measurement of nitrite production in and around the primary nitrite maximum in the central California Current. **Biogeosci** doi:10.5194/bg-10-7395-2013

Lund, MB, **JM Smith** and CA Francis. **2012**. Diversity, abundance, and expression of nitrite reductase (*nirK*)-like genes in marine thaumarchaea. **ISME J** 6: 1966-1977

Reed, DW, **JM Smith**, CA Francis and Y Fujita. **2010**. Responses of ammonia-oxidizing bacterial and archaeal populations to organic nitrogen amendments in low-nutrient groundwater. **Appl Environ Microbiol** 76: 2517-2523

Smith, JM, SJ Green, CA Kelley, L Prufert-Bebout and BM Bebout. **2008**. Shifts in methanogenic community structure and function associated with long-term sulfate manipulation in a hypersaline microbial mat. **Environ Microbiol** 10: 386-394

Smith, JM and AV Ogram. **2008**. Genetic and functional variation in denitrifier populations along a short-term restoration chronosequence. **Appl Environ Microbiol** 74: 5615-5620

Smith, JM, HF Castro and AV Ogram. **2007**. Structure and function of methanogens along a short-term restoration chronosequence. **Appl Environ Microbiol** 73: 4135-4141

Kelley, CA, BM Bebout, LE Prufert-Bebout and **JM Smith**. **2006**. Changes in carbon cycling under lowered sulfate concentrations in hypersaline microbial mats as ascertained by stable carbon isotopes. **SPIE Optics Photonics** 63090N-10

FORTHCOMING PUBLICATIONS (available upon request)

Orsi, WD, **JM Smith**, S Liu, Z Liu, C Sakamoto, S Wilken, C Poirier, TA Richards, PJ Keeling, AZ Worden, AE Santoro. Highly diverse microbial communities underlie marine biogeochemical cycling of dissolved protein. *Under revision for ISME Journal*

Smith, JM, M Messie, JT Pennington, M Blum, FP Chavez. Ammonium dynamics in the coastal ocean: sources, sinks and regulatory factors. *Fully drafted for submission to Global Biogeochemical Cycles*

FIELD AND SEA EXPERIENCE

CANON15	R/V Rachel Carson, Monterey Bay (9 day cruises, Chief Scientist)	2015
GOC15	R/V Western Flyer, Eastern Tropical North Pacific (11 days, Co-Chief Scientist)	2015
CANON14	R/V Western Flyer, Monterey Bay (7 days, Co-Chief Scientist)	2014
MBTS	R/V Rachel Carson, Monterey Bay (14 day cruises)	2014
CN13ID	R/V Western Flyer, Eastern North Pacific (11 days)	2013
CANON13	R/V Western Flyer, Eastern North Pacific (8 days)	2013
CANON12	R/V Western Flyer, Eastern North Pacific (8 days)	2012
GOC12	R/V Western Flyer, Eastern Tropical North Pacific (10 days)	2012
CANON11	R/V Western Flyer, Eastern North Pacific (10 days)	2011
CANON11	R/V John H. Martin, Monterey Bay (14 day cruises during April & June)	2011
MBTS	R/V Point Lobos, Monterey Bay (4 day cruises)	2011
SECRET 510	R/V Point Sur, Eastern North Pacific (5 days)	2010
SECRET 310	R/V MacArthur II, Eastern North Pacific (10 days)	2010
GoCAL4	R/V New Horizon, Eastern Tropical North Pacific (28 days)	2008

HONORS

MBARI Institutional Postdoctoral Fellowship	2013–2015
NSF Eco-DAS X, career development symposium	2012
ARCS Foundation Fellowship	2011–2013
Edmund Wattis Littlefield Fellowship	2009–2010
SIRFER Stable Isotope Ecology Course	2009
Whiteford Family Fellowship	2008–2009

National Space Grant Fellowship	2006–2007
Best Thesis Award (Master of Science)	2006
Marine Biological Laboratory's NASA Planetary Biology Fellowship	2004
Golden Key National Honor Society	2001–2003
National Society of Collegiate Scholars	2000–2003
Dupont Scholar	2000–2001

RECENT PRESENTATIONS (2010-)

New approaches to resolving spatial and temporal variability in biogeochemical cycles (invited). Monterey Bay Aquarium Research Institute, Moss Landing, CA	2015
Biological and environmental controls on nitrogen remineralization in the ocean (invited). Monterey Bay Aquarium Research Institute, Moss Landing, CA	2015
Relating the abundance, activity and physiological diversity of nitrifying microorganisms to rates of nitrogen cycling in the coastal ocean (poster). JGI User Meeting, Walnut Creek, CA	2015
Ammonium uptake by phytoplankton regulates nitrification in the sunlit ocean (oral). ASLO/AGU Ocean Science Meeting. Honolulu, HI	2014
Interactions between ammonia oxidizers and phytoplankton in the photic zone (oral, plenary). 3rd International Conference on Nitrification (ICON-3), Tokyo, Japan	2013
Relating functional gene markers for ammonia oxidizing archaea to rates of nitrification across ocean gradients (oral). ASLO Aquatic Sciences Meeting, New Orleans, LA	2013
Nitrification across upwelling gradients (oral). NSF Ecological Dissertation Symposium, Honolulu, HI	2012
Relating the abundance of archaeal <i>amoA</i> genes and transcripts to nitrification rates across upwelling gradients (oral). Symposium of the International Society for Microbial Ecology (ISME-14) Copenhagen, Denmark	2012
The distribution and activity of ammonia oxidizing archaea in the coastal ocean (oral). Stanford University Board of Trustees/ARCS Foundation Board of Directors. Stanford, CA	2012
Nitrification in upwelling influenced waters (poster). ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT	2011
Spatiotemporal variations in microbial nitrogen cycling in an agriculturally impacted estuary (poster). Symposium of the International Society for Microbial Ecology (ISME-13). Seattle, WA	2010

TEACHING AND ADVISEMENT EXPERIENCE

Teaching Assistant	EESS 46N Exploring the Critical Interface Between the Land and Monterey Bay: Elkhorn Slough	2008, 2009
	EESS 158/258 Geomicrobiology	2009

	BIOL 591 Examining Life in Extreme Environments	2005
	SWS 5050L Soils for Environmental Professionals Laboratory	2005
	SWS 5305C Soil Microbial Ecology & Laboratory	2005
	MCB 3023L Principles of Microbiology Laboratory	2003
Mentor	Jennifer Hwang (High School Student)	2010
	Helen Chen (Stanford '12)	2008
	Darcy McRose (Stanford '08)	2007

PROFESSIONAL SERVICES

Member: Association for Sciences of Limnology and Oceanography
International Society for Microbial Ecology
American Society for Microbiology
The Oceanography Society

Editorial board: Frontiers in Marine Biogeochemistry (2015 -)

Ad hoc reviewer: Antonie van Leeuwenhoek
Applied Microbiology & Biotechnology
Australia's Marine National Facility
Biogeosciences
FEMS Microbiology Ecology
Frontiers in Aquatic Microbiology
Frontiers in Marine Biogeochemistry
ISME Journal
Journal of Applied Microbiology
Letters in Applied Microbiology
Limnology and Oceanography
Microbial Ecology
PLoS ONE
Sea Grant of Connecticut/New York
US National Science Foundation (OCE, DEB)

REFERENCES

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Dr. Christopher A. Francis
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relationship: doctoral thesis advisor (2007-2013)

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relationship: collaborator (2013-)

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relationship: collaborator & co-author (2010-)