Samantha B. Joye

Professor of Marine Sciences
The University of Georgia

1. Academic History

Faculty Positions

Assistant Professor of Oceanography, Texas A&M University (1995-1997)

Assistant Professor of Marine Sciences, The University of Georgia (1997-2001)

Associate Professor of Marine Sciences, The University of Georgia (2001-2005)

Visiting Professor, Max Planck Institute for Marine Microbiology, Bremen, Germany (2002-2003)

Professor of Marine Sciences, The University of Georgia (2006)

Athletic Association Distinguished Professor of Arts & Sciences (2011)

Adjunct Professor of Marine Sciences, The University of North Carolina (2013)

Other Professional Employment:

Graduate Research Assistant, The University of North Carolina (1989-1992)

Post-Doctoral Associate, San Francisco State University (1993-1995)

Post-Graduate Awards and Honors:

Research Fellow, Marine Biological Laboratory, Woods Hole, MA (1997, 1999)

Cronin Award, Estuarine Research Federation Award Recognizing Outstanding Performance by an Early Career Estuarine Scientist (1997)

Georgia Trend "40 under 40" Award for Outstanding Scientific Achievement (2001)

Sabbatical Fellowship, Hanse Institute for Advanced Study, Delmenhorst, Germany (2002-2003)

Research Fellow, Smithsonian Institution, Caribbean Coral Reef Ecosystem Program, Carrie Bow Cay, Belize (2005)

Distinguished Service Award for Education and Outreach, U.S. Department of the Interior, Minerals Management Service (2007)

Creative Research Medal, University of Georgia (2008)

Whole Living Eco-Heroine Award for Science (2010)

University of Georgia Athletic Association Distinguished Professorship (2011)

University of Georgia Franklin College Faculty Ambassadors to Alumni and Friends Award (2011)

Georgia Trend "100 Most Influential Georgians" award (2012)

Fellow (elected) of the *American Association for the Advancement of Science* (2014)

Southeastern Conference *Faculty Achievement Award (2015)*

Professional Society Membership

American Association for the Advancement of Science
American Chemical Society
American Geophysical Union
Association for the Sciences of Limnology and Oceanography
American Society for Microbiology
Estuarine Research Federation

Areas of Expertise

Geobiology of deep-sea methane hydrate, hydrothermal, and chemosynthetic habitats; Bio-geo-chemical cycling of nutrients, metals, and organic materials in the environment; Global carbon cycle, emphasis on hydrocarbon dynamics; Global nitrogen cycle; Microbial ecology, metabolism and physiology; Molecular biology, emphasis on *in situ* detection of functional microbial groups and active microbial populations.

2. Scholarly Activities

a. Publications

Note: [1]Joye group co-authors; [2]Joye group visiting students/post docs (from other labs)

Book Reviews (1)

Joye, S. B., 1999. Review of Biological and Environmental Chemistry of DMSP and related sulfonium compounds (Kiene, R. P., P. T. Visscher, M. D. Keller and G. O. Kirst [Eds.]). *Limnology & Oceanography,* 44(7): 1845.

Edited Volumes (2)

Joye, S. B., 2003. Molecular Biogeochemistry, *Geomicrobiology*, 156 pages.

Joye, S. B., R. W. Howarth & V. S. Smith, 2006. Eutrophication of freshwater and marine ecosystems. *Limnology & Oceanography,* 51(2), 800 pages.

Joye, S.B., 2015. The Gulf of Mexico Ecosystem: Before, During and After the Macondo Blowout. *Deep Sea Research-II* (includes 44 papers); publication expected in January 2015.

Book Chapters (10)

1. **Joye, S. B.**, & H. W. Paerl, 1993. Nitrogen fixation and denitrification in the intertidal and subtidal sediments of Tomales Bay, California. In: Oremland, R. S. (Ed.) Biogeochemistry of Global Change: Radiative Trace Gases, pp. 633-653. Chapman & Hall, New York.

2. **Joye, S. B.**, R. Wisniewski[1] & S. An[1], 1999. Interactions between the nitrogen, carbon and oxygen cycles in shallow coastal sediments, pp. 49-53. In: Armannsson, H. (Ed.) Geochemistry of the Earth's Surface. Balkema Press, Iceland.

3. Valiela, I., M. L. Cole, J. McClelland, J. Hauxwell, J. Cebrian, & **S. B. Joye**, 2001. Role of salt marshes as part of coastal landscapes. In: Weinstein, M. P. and D. A. Kreeger (Eds.), Concepts and Controversies in Tidal Ecology, pp. 23-38, Kluwer Academic Publishers, Dordrecht, The Netherlands.

4. González, J. M., R. P. Kiene, **S. B. Joye**, D. Y. Sorokin, & M. A. Moran, 2002. Oxidation of organic and inorganic sulfur compounds by aerobic heterotrophic marine bacteria. In: Singh, V. P. (Ed.) Biotranformations: Bioremediation Technology for Health and Environmental Protection, pp. 291-310. Elsevier Science Pub., Amsterdam, the Netherlands.

5. **Joye, S. B.**, 2002. Denitrification in the Marine Environment. In: Collins, G. (Ed.), Encyclopedia of Environmental Microbiology, pp. 1010-1019. John Wiley & Sons, Inc., New York.

6. **Joye, S. B.**, W. P. Porubsky[1], N. B. Weston[1], & R. Y. Lee[1], 2003. Benthic microalgal production and nutrient dynamics in intertidal sediments. In**:** Rullkötter, Jürgen (Ed.), BioGeoChemistry of Tidal Flats, pp. 67-70. Forschungszentrum Terramare Berichte Nr. 12, Proceedings of a Workshop held at the Hanse Institute of Advanced Study, Delmenhorst, Germany, May 14-17 2003, ISSN 1432-797X.

7. **Joye, S. B.**, D. A. Bronk, D. Koopmans, & W. S. Moore, 2006. Potential for groundwater-derived carbon, nitrogen and phosphorus inputs to coastal ecosystems in South Carolina and Georgia, pp. 139-167. In: Kleppel, G.S., M.R. DeVoe, & M. Rawson (Eds.), Implications of Land Use Change to Coastal Ecosystems. Springer Verlag, New York.

8. **Joye, S. B.** and I. Anderson, 2008. Nitrogen Cycling in Coastal Sediments. In: Capone, D., Bronk, D., Carpenter, E. and Mulhollond, M. (Eds), Nitrogen in the Marine Environment, Elsevier, pp. 867-915.

9. **Joye, S. B.**, P. Cook, and D. de Beer, 2008. The Biogeochemistry of Tidal Flats. In: Perillo, G. M. E., E. Wolanski, D. Cahoon, and M. Brinson (Eds), Coastal Wetlands: An Integrated Ecosystem Approach, Elsevier, pp. 345-373.

10. Pennings, S., M. Alber. C. Alexander, M. Booth, W.J. Cai, C. Craft, C.B. DePratter, D. DiIorio, J.T. Hollibaugh, C. Hopkinson, **S.B. Joye**, C.D. Meile, W.S. Moore, B. Silliman, V. Thompson, and J. Wares, 2010. South Atlantic Tidal Wetlands. *Book Chapter,* pp. 45-61.

Peer-reviewed Journal Articles (124 published/in press; 15 in review/revision; 2/2015)

1. **Joye, S. B.**, and H. W. Paerl, 1993. Contemporaneous nitrogen fixation and denitrification in marine microbial mats: Rapid response to runoff events. *Marine Ecology Progress Series*, 94: 267-274.

2. Paerl, H. W., **S. B. Joye,** and M. W. Fitzpatrick, 1993. An evaluation of nutrient limitation of carbon and nitrogen fixation in marine microbial mats. *Marine Ecology Progress Series,* 105: 23-36.

3. Paerl, H. W., B. M. Bebout, **S. B. Joye,** and D. J. Des Marias, 1993. Microscale characterization of dissolved organic matter production and uptake in marine microbial mat communities. *Limnology & Oceanography*, 38: 1150-1161.

4. **Joye, S. B.**, and H. W. Paerl, 1994. Nitrogen cycling in marine microbial mats: Rates and patterns of nitrogen fixation and denitrification. *Marine Biology*, 119: 285-295.

5. Sansone, F. J., J. T. Hollibaugh, S. M. Vink, R. M. Chambers, **S. B. Joye**, and B. N. Popp, 1994. Diver-operated piston corer for nearshore use. *Estuaries,* 17: 716-720.

6. **Joye, S. B.**, and J. T. Hollibaugh, 1995. Sulfide inhibition of nitrification influences nitrogen regeneration in sediments. *Science,* 270: 623-625.

7. **Joye, S. B.**, S. V. Smith, J. T. Hollibaugh, and H. W. Paerl, 1996. Estimating denitrification in estuarine sediments: comparisons of stoichiometric and acetylene based methods. *Biogeochemistry*, 33: 197-215.

8. **Joye, S. B.**, M. L. Mazzotta[1], and J. T. Hollibaugh, 1996. Community metabolism in intertidal microbial mats: the importance of iron and manganese reduction. *Estuarine Coastal and Shelf Science,* 43: 747-766.

9. Currin, C. A., **S. B. Joye**, and H. W. Paerl, 1996. Nitrogen fixation and denitrification in a transplanted *Spartina* marsh: Implications for nitrogen budgets. *Estuarine Coastal and Shelf Science,* 42: 597-616.

10. [1]An, S., and **S. B. Joye**, 1997. An improved gas chromatographic method for measuring nitrogen, oxygen, argon and methane in gas or liquid samples. *Marine Chemistry,* 59 (1,2): 63-70.

11. Connell, T., **S. B. Joye**, L. G. Miller, and R. S. Oremland, 1997. Bacterial oxidation of methyl bromide in Mono Lake, California. *Environmental Science and Technology,* 31: 1489-1495.

12. Lee, R., **S. B. Joye**, B. Roberts, and I. Valiela, 1997. Release of N_2 and N_2O from salt marsh sediments subject to different land-derived N loads. *The Biological Bulletin,* 193: 292-293.

13. Mayer, L. M., R. G. Keil, S. A. Macko, **S. B. Joye**, K. C. Ruttenberg, and R. C. Aller, 1998. The importance of suspended particulates in riverine delivery of bioavailable nitrogen to coastal zones. *Global Biogeochemical Cycles*, 12: 573-580.

14. Sassen, R., I. R. MacDonald, N. L. Guinasso, **S. B. Joye**, A. G. Requejo, S. T. Sweet, J. Alcala-Herrera, D. A. DeFrietas, and D. R. Schink. 1998. Bacterial methane oxidation in sea-floor gas hydrate: Significance to life in extreme environments. *Geology,* 26: 851-854.

15. **Joye, S. B.**, T. M. Connell, L. G. Miller, and R. S. Oremland, 1999. Oxidation of ammonia and methane in an alkaline, saline lake. *Limnology & Oceanography,* 44(1): 178-188.

16. Sassen, R., **S. B. Joye**, S. T. Sweet, D. A. Defrietas, A. V. Milkov, and I. R. MacDonald, 1999. Thermogenic gas hydrates and hydrocarbon gases in complex chemosynthetic communities, Gulf of Mexico, Continental Slope. *Organic Geochemistry,* 30: 485-497.

17. Ward, B. B., D. Martino, C. Diaz, and **S. B. Joye**, 2000. Analysis of ammonia-oxidizing bacteria from hypersaline Mono Lake, California on the basis of 16S rRNA sequences. *Applied and Environmental Microbiology,* 66(7): 2873-2881.

18. Fisher, C. R., I. R. MacDonald, R. Sassen, C. M. Young, S. A. Macko, S. Hourdez, R. S. Carney, **S. B. Joye**, and E. McMullin, 2000. Methane ice worms:

Hesiocaeca methanicola colonizing fossil fuel reserves. *Naturwissenschaften,* 87(4): 184-187.

19. [1]An, S., and **S. B. Joye**, 2001. Enhancement of coupled denitrification by benthic photosynthesis in shallow subtidal estuarine sediments. *Limnology & Oceanography,* 46: 62-74.

20. Moore, W. S., J. Krest, G. Taylor, E. Roggenstein, **S. B. Joye**, and R. Y. Lee[1], 2002. Thermal evidence of water exchange through a coastal aquifer: Implications for nutrient fluxes. *Geophysical Research Letters,* 10: 1029/2002GL014923, 31 July 2002

21. Sun, M. Y., W. J. Cai, **S. B. Joye**, H. Ding, J. Dai, and J. T. Hollibaugh, 2002. Degradation of algal lipids in microcosm sediments with different mixing regimes. *Organic Geochemistry,* 33: 445-459.

22. [1]MacAvoy, S. E., S. A. Macko, and **S. B. Joye**, 2002. Fatty acid carbon isotope signatures in chemosynthetic mussels and tubeworms from Gulf of Mexico hydrocarbon seep communities. *Chemical Geology,* 185: 1-8.

23. [1]Carini, S. A., B. N. Orcutt[1], and **S. B. Joye**, 2003. Interactions between nitrification and methane oxidation in estuarine sediments. *Geomicrobiology,* 20(4): 355-374.

24. **Joye, S. B.** and R. Y. Lee[1], 2004. Benthic microbial mats: important sources of fixed nitrogen and carbon to the Twin Cays, Belize ecosystem. *Atoll Research Bulletin,* 528: 1-24.

25. Arvidson, R., J. W. Morse, and **S. B. Joye**, 2004. The Sedimentary Biogeochemistry of Chemosynthetic Cold Seep Communities, Gulf of Mexico, USA. *Marine Chemistry*, 87: 97-119.

26. [1]Orcutt, B. N., A. Boetius, S. K. Lugo[1], I. R. MacDonald, V. Samarkin[1], and **S. B. Joye**, 2004. Life at the edge of methane ice: methane and sulfur cycling in Gulf of Mexico gas hydrates. *Chemical Geology*, 205(3/4): 239-251.

27. **Joye, S. B.**, A. Boetius, B. N. Orcutt[1], J. P. Montoya, H. N. Schulz[2], M. Erickson[1], and S. K. Lugo[1], 2004. The anaerobic oxidation of methane and sulfate reduction in sediments from Gulf of Mexico cold seeps. *Chemical Geology*, 205(3/4): 219-238.

28. **Joye, S. B.**, I. R. MacDonald, J. P. Montoya, and M. Peccini, 2005. Geophysical and geochemical signatures of Gulf of Mexico seafloor brines. *Biogeosciences*, 2: 637-671.

29. [2]Magalhães, C. M., **S. B. Joye**, R. M. Moreira, W. J. Wiebe, and A. A. Bordalo, 2005. Salinity and inorganic nitrogen effects on nitrification and denitrification rates in intertidal sediments and rocky biofilms: Douro River estuary, Portugal. *Water Research*, 39(9): 1783-1794.

30. [1]Carini, S. A., G. LeCleir, N. Bano, and **S. B. Joye**, 2005. Activity, abundance and diversity of aerobic methanotrophs in an alkaline, hypersaline lake (Mono Lake, CA, USA). *Environmental Microbiology*, 7(8): 1127-1138.

31. Hollibaugh, J. T., S. Carini[1], R. Jellison, **S. B. Joye**, G. LeCleir, C. Meile, L. Vasquez, H. Gürleyük, and D. Wallschläger, 2005. Distribution of arsenic species in an

alkaline, hypersaline, meromictic lake in response to the seasonal stratification. *Geochimica et Cosmochimica Acta*, 69(8): 1925-1937.

32. [2]Magalhães, C. M., W. J. Wiebe, **S. B. Joye** and A. A. Bordalo, 2005. Nitrogen cycle dynamics and processes in intertidal rocky biofilms and adjacent sediment of the Douro River estuary (Portugal). *Estuaries*, 28(4): 592-607.

33. Scholten, J. C. M., **S. B. Joye**, J. T. Hollibaugh, and J. C. Murrell, 2005. Molecular analysis of the sulfate reducing and methanogenic community in a meromictic lake (Mono Lake, California) by targeting 16SrRNA, Methyl CoM-, APS- and DSR-genes. *Microbial Ecology*, 50: 29-39.

34. [1]Orcutt, B. N., V. Samarkin[1], A. Boetius, M. Elvert, and **S. B. Joye**, 2005. Molecular biogeochemistry of sulfate reduction, methanogenesis and the anaerobic oxidation of methane at Gulf of Mexico methane seeps. *Geochimica et Cosmochimica Acta*, 69: 4267-4281.

35. [2]Kalanetra, K. M., **S. B. Joye**, N. R. Sunseri, and D. C. Nelson, 2005. Novel, large, vacuolate, nitrate-accumulating sulfur bacteria discovered in the Gulf of Mexico reproduce by reductive division in three dimensions. *Environmental Microbiology*, 7(9): 1451-1460.

36. [2]Lin, J.-L., **S. B. Joye**, H. Schafer, J. C. M. Scholten, I. McDonald, and J. C. Murrell, 2005. Analysis of methane monooxygenase genes in Mono Lake suggests that increased methane oxidation activity may correlate with a change in methanotroph community structure. *Applied and Environmental Microbiology*, 71: 6458-6462.

37. [1]Weston, N. B. and **S. B. Joye**. 2005. Temperature driven accumulation of labile dissolved organic carbon in marine sediments. *Proceedings of the National Academy of Sciences (US)*, 102: 17036-17040.

38. Niemann, H., M. Elvert, E. Damm, J. Gutt, B. Orcutt[1], I. Suck, G. Wendt, J. Wunderlich, **S. B. Joye**, K. Finster, and A. Boetius, 2005. Methane emission and consumption at a North Sea pockmark (Tommeliten area). *Biogeosciences*, 2: 335-351.

39. Nercessian, O., M. G. Kalyuzhnaya, **S. B. Joye**, M. E. Lidstrom, and L. Chistoserdova, 2005. Analysis of *fae* and *fhcD* genes in Mono Lake, California. *Applied and Environmental Microbiology*, 71: 8949-895.

40. [1]Lee, R. Y., and **S. B. Joye**, 2006. Patterns and controls on nitrogen fixation and denitrification in intertidal sediments of a tropical oceanic mangrove island. *Marine Ecology Progress Series,* 307: 127-141.

41. [1]Weston, N. B., W. P. Porubsky[1], V. Samarkin[1], S. MacAvoy[1], M. Erickson[1], and **S. B. Joye***,* 2006. Pore water stoichiometry of terminal metabolic products, sulfate, and dissolved organic carbon and nitrogen in intertidal creek-bank sediments. *Biogeochemistry*, 77: 375-408.

42. [1]Weston, N. B., R. Dixon[1], and **S. B. Joye**, 2006. Microbial and geochemical ramifications of salinity intrusion into tidal freshwater sediments. *Journal of Geophysical Research: Biogeosciences*, 111: (G1): G01009, 10.1029/2005JG00007.

43. Smith, V., **S. B. Joye** & R. W. Howarth, 2006. Eutrophication in aquatic ecosystems. *Limnology & Oceanography,* 51(2): 351-355.

44. Moore, W. S., J. Blanton, and **S. B. Joye**, 2006. Estimates of flushing times, submarine groundwater discharge, and nutrient fluxes to Okatee Estuary, South Carolina. *Journal of Geophysical Research*, Vol. 111, No. C9, C09006, 10.1029/2005JC003041.

45. Howard, E. C., J. R. Henricksen, A. Buchan, C. R. Reisch, B. Burgmann, R. Welsh, W. Ye, J. M. Gonzalez, K. Mace[1], **S. B. Joye**, R. P. Keine, W. B. Whitman, and M. A. Moran. 2006. Bacterial taxa that limit sulfur flux from the ocean. *Science*, 314: 649-652.

46. Bailey, J. V., **S. B. Joye**, K. M. Kalanetra, B. E. Flood, and F. A. Corsetti, 2007. Evidence for giant sulfur bacteria in Neoproterozoic phosphorites. *Nature*, 445: 198-201.

47. Bailey, J. V., **S. B. Joye**, K. M. Kalanetra, B. E. Flood, and F. A. Corsetti, 2007. Palaeontology: Undressing and redressing Ediacaran embryos. *Nature* 446, E10 - E11 (reply to a comment).

48. Kniemeyer, O., F. Musat, S. M. Sievert, K. Knittel, H. Wilkes, M. Blumenberg, W. Michaelis, A. Classen, C. Bolm, **S. B. Joye**, and F. Widdel, 2007. Anaerobic oxidation of propane and ethane by novel marine sulphate-reducing bacteria. *Nature*, 449: 898-902.

49. Roberts, H. H., C. Fisher, B. Bernard, J. Brooks, M. Bright, R. Carney, E. Cordes, S. Hourdez, J. Hunt, **S. Joye**, I. MacDonald, C. Morrison, K. Nelson, V. Samarkin[1], W. Shedd, E. Becker, M. Bernier[1], M. Bowles[1], L. Goehring, M. Kupehik, S. Lessard-Pilon, H. Niemann, C. Petersen, J. Petersen, J. Potter, and G. Telesnicki, 2007. ALVIN Explores the Deep Northern Gulf of Mexico Slope. *EOS Transactions of the American Geophysical Union*, 88: 341-342.

50. Edmonds, J. W., N. B. Weston[1], **S. B. Joye** and M. A. Moran, 2008. Variation in prokaryotic community composition as a function of resource availability in tidal creek sediments. *Applied and Environmental Microbiology*, 74: 1836-1844.

51. Krüger, M., H. Wolters, M. Gehre, **S. B. Joye**, and H.-H. Richnow, 2008. Tracing the slow growth of anaerobic methane oxidizing communities by ^{15}N-labeling techniques. *FEMS Microbiology Ecology*, 63(3): 401-411, doi: use10.1111/j.1574-6941.2007.00431.x.

52. [1]Orcutt, B. N., V. Samarkin[1], A. Boetius and **S. B. Joye**, 2008. On the relationship between methane production and oxidation by anaerobic methanotrophic communities from cold seeps of the Gulf of Mexico. *Environmental Microbiology*, 10(5): 1108-1117; doi:10.1111/j.1462-2920.2007.01526.x.

53. [1]Lee, R. Y., W. P. Porubsky[1], I. C. Feller, K. L. McKee and **S. B. Joye**, 2008. Porewater biogeochemistry and soil metabolism in dwarf red mangrove habitats (Twin Cays, Belize). *Biogeochemistry*, 87: 181-198, doi: 10.1007/s10533-008-9176-9.

54. [1]Carini, S. A., and **S. B. Joye**, 2008. Nitrification in Mono Lake, California (USA): Activity and community composition during contrasting hydrological regimes. *Limnology and Oceanography,* 53: 2546-2557.

55. [1]Porubsky, W. P., L. Velasquez[1], and **S. B. Joye**, 2008. Nutrient replete benthic microalgae as a source of labile dissolved organic carbon to coastal waters. *Estuaries*

and Coasts, 31: 860-876.

56. Craft, C., J. Clough, J. Ehman, H. Guo, **S. B. Joye**, M. Machmuller[1], D. Park, and S. Pennings, 2009. Effects of accelerated sea level rise on ecosystem services provided by tidal marshes: A simulation of the Georgia Coast. *Frontiers in Ecology and Environment*, 7(2): 73-78.

57. Lasher, C., G. Dyszynski, K. Everett, W. Ye, W. Sheldon, **S. B. Joye**, M. A. Moran, and W. B. Whitman, 2009. The diverse bacterial community in intertidal, anaerobic sediments at Sapelo Island, Georgia. *Microbial Ecology*, 58: 244-261.

58. [1]Weston, N. B., J. T. Hollibaugh, and **S. B. Joye**, 2009. Population growth away from the coastal zone: Thirty years of land use change and nutrient export from the Altamaha River, GA. *Science of the Total Environment*, 407: 3347-3356.

59. **Joye, S. B.**, V. A. Samarkin[1], B. N. Orcutt[1], I. R. MacDonald, K.-U. Hinrichs, M. Elvert, A. P. Teske, K. G. Lloyd, M. A. Lever, J. P. Montoya, and C. D. Meile, 2009. Surprising metabolic variability in seafloor brines revealed by carbon and sulfur cycling. *Nature Geoscience*, 2: 349-354.

60. House, C. H., V. O. Orphan, K. A. Turk, B. Thomas, A. Pernthaler, J. M. Vrentas and **S. B. Joye**, 2009. Extensive carbon isotopic heterogeneity among methane seep microbiota. *Environmental Microbiology,* 11(7): 1632-1645.

61. [1]Porubsky, W. P., N. B. Weston[1], and **S. B. Joye**, 2009. Interactions between benthic primary production, denitrification and dissimilatory nitrate reduction to ammonium in intertidal sediments. *Estuarine Coastal and Shelf Science,* 83: 392-402.

62. Boetius, A., and **S.B. Joye**, 2009. Thriving in Salt: Life in hypersaline habitats. *Science* 324: 1523-1525.

63. Edmonds, J. E., N. B Weston[1], **S. B. Joye**, X. Mou, and M. A. Moran, 2009. Microbial Community Response to Seawater Amendment in Low-Salinity Tidal Sediments. *Microbial Ecology*, 58: 558-568.

64. Bailey, J. V., V. J. Orphan, **S. B. Joye**, and F. A. Corsetti, 2009. Chemotrophic microbial mats and their potential for preservation in the rock record. *Astrobiology*, 9: 843-859.

65. Feller, I.C., C. Lovelock, K. McKee, U. Berger, **S.B. Joye**, and M. Ball, 2010. Biocomplexity in Mangrove Ecosystems. *Annual Review of Marine Science*, 2: 395-417.

66. Tavormina, P.L., W. Ussler, **S.B. Joye**, S. Giovannoni, and V.J. Orphan, 2010. Intergenic spacer length of particulate methane monooxygenases reveals distributions of microbial methane oxidizers in the mesopelagic ocean. *The ISME Journal*, doi:10.1038/ismej.2009.155.

67. [1]Samarkin, V.A., M.T. Madigan, M.W. Bowles[1], K.L Casciotti, J. Priscu, C. McKay, and **S.B. Joye**, 2010. Abiotic brine-rock reactions produce nitrous oxide in a cold, hypersaline, Don Juan Pond, Antarctica. *Nature Geoscience*, 3: 341-344, doi:10.1028/ngeo847.

68. **Joye, S. B.**, M.W. Bowles[1], V.A. Samarkin[1], K.S. Hunter[1] and H. Niemann, 2010. Biogeochemical signatures and microbial activity of different cold seep habitats along

the Gulf of Mexico lower slope. *Deep Sea Research*, doi:10.1016/j.dsr2.2010.06.001.

69. Wankel, S.D., **S. B. Joye**, V.A. Samarkin[1], S. Shah, G. Friderich, J. Melas-Kryiazi, and P.R. Girguis, 2010. New constraints on diffusive methane fluxes and rates of anaerobic methane oxidation in a Gulf of Mexico brine pool through the use of a deep sea *in situ* mass spectrometer. *Deep Sea Research*, doi:10.1016/j.dsr2.2010.05.009.

70. [1]Orcutt, B.N., **S. B. Joye**, S. Kleindienst, K. Knittel, A. Ramette, A. Reitz, V. A. Samarkin[1], T. Truede, and A. Boetius, 2010. Impact of natural oil and higher hydrocarbons on microbial diversity, distribution and activity in Gulf of Mexico cold seep sediments. *Deep Sea Research*, doi:10.1016/j.dsr2.2010.05.014.

71. [1]Porubsky, W.P., **S.B. Joye**, W.S. Moore, K. Tuncay, and C. Meile, 2010. Hammock groundwater flow and biogeochemistry: Field measurements, laboratory assays and predictive modeling. *Biogeochemistry*, DOI: 10.1007/s10533-010-9484-8.

72. Roberts, H.H., D. Feng, and **S.B. Joye**, 2010. Cold seep carbonates of the middle and lower continental slope, northern Gulf of Mexico. *Deep Sea Research*, doi:10.1016/j.dsr2.2010.09.003.

73. **Joye, S.B.**, and I.R. MacDonald, 2010. Offshore oceanic impacts from the BP oil spill. *Nature Geoscience*, 3:446, doi:10.1038/ngeo902.

74. [1]Bowles, M.W., and **S.B. Joye**, 2010. High rates of denitrification and nitrate consumption in cold seep sediments. *The ISME Journal*, 5: 565-567; doi:10.1038/ismej.2010.134.

75. [1]Bowles, M.W., V. A. Samarkin[1], K. L. M. Bowles, and **S.B. Joye**, 2010. Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments in *ex situ* incubations. *Geochimica et Cosmochimica Acta*, doi:10.1016/j.gca.2010.09.043 (in print: 75: 500-519).

76. Diercks, A.R., R.C. Highsmith, V.L. Asper, D. Joung, L. Guo, Z. Zhou, A.M. Shiller, **S.B. Joye**, A.P. Teske, and S.E. Lohrenz, 2010. Characterization of subsurface polycyclic aromatic hydrocarbons at the Deepwater Horizon site. *Geophysical Research Letters*, 37, L20602, doi:10.1029/2010GL045046.

77. Wilson, A., W.S. Moore, **S.B. Joye**, J. Anderson and C. Schutte[1], 2010. Storm-driven groundwater flow in a salt marsh. *Water Resources Research*, doi:10.1029/2010WR009496.

78. **Joye, S.B.**, I.R. MacDonald, I. Leifer, and V. Asper, 2011. Magnitude and oxidation potential of hydrocarbon gases released from the BP blowout**.** *Nature Geoscience,* 4: 160-164 (doi:10.1038/ngeo1067).

79. Dohm, J.M., H. Miyamoto, G.G. Ori, A.G. Fairen, A.F. Davila, G. Komatsu, W.C. Mahaney, P. Williams, **S.B. Joye**, and 27 others, 2011. Prime candidate environments for life detection on Mars. *Geological Society of America, Frontiers Volume, "Analogs for Planetary Exploration"*, Special Paper 483.

80. **Joye, S. B.**, I. Leifer, I. R. MacDonald, J. P. Chanton, C. D. Meile, A. P. Teske, J. E. Kostka, L. Chistoserdova, R. Coffin, D. Hollander, M. Kastner, J. P. Montoya, G. Rehder, E. Solomon, T. Treude and T. A. Villareal, 2011. Technical Comment on "A

Persistent Oxygen Anomaly Reveals the Fate of Spilled Methane in the Deep Gulf of Mexico" by Kessler et al. *Science*, 27 May 2011, 1033. DOI:10.1126/science.1203307.

81. [1]Bowles, M.W., V.A. Samarkin[1], and **S.B. Joye**, 2011. Improved measurement of microbial activity in deep-sea sediments at in situ pressure and methane concentration. *Limnology and Oceanography: Methods*, 9: 499-506.

82. Wade, T.L., S.T. Sweet, J.L. Sericano, N.L. Guinasso, A.R. Diercks, R.C. Highsmith, V.L. Asper, D. Joung, A.M. Shiller, S.E. Lorehnz, and **S.B. Joye**, 2011. Analyses of water samples from the Deepwater Horizon Oil Spill: Documentation of the Sub-Surface Plume. *Journal of Geophysical Research: Oceans*, Geophysical Monograph Series 195: 77-82.

83. Peterson, C.H., Anderson, S., G. Cherr, R. Ambrose, S. Anghera, S. Bay, M. Blum, R. Condon, T. A. Dean, M. Graham, M. Guzy, S. Hampton, **S.B. Joye**, J. Lambrinos, B. Mate, D. Meffert, S. P. Powers, C. Reddy, P. Somasundaran, R. B. Spies, C. Taylor, and R. Tjeerdema, 2012. A Tale of Two Spills. *BioScience,* 62:461-469.

84. [2]Teixeira, C., C. Magalhaes, **S.B. Joye**, A.A. Bordalo, 2012. Rates and environmental controls of anaerobic ammonium oxidation in estuarine sediments. *Aquatic Microbial Ecology,* doi: 10.3354/ame01548.

85. Mendelssohn, I.A., G. Anderson, D. Baltz, R. Caffey, K. Carman, J. Fleegar, **S.B. Joye**, E. Maltby, E. Overton, and L. Rozas, 2012. Oil impacts to coastal wetland systems: Implications for the Mississippi River Delta Plain Ecosystem after the Deepwater Horizon Oil Discharge. *BioScience*, 62: 562-574.

86. Wankel, S., M. Adams, D. Johnstone, **S.B. Joye**, and P.R. Girguis, 2012. Anaerobic methane oxidation in metalliferous hydrothermal sediments: influence on carbon flux and decoupling from sulfate reduction. *Environmental Microbiology*, 14: 2726-2740.

87. [1]Palomo, L., C.D. Meile, and **S.B. Joye**, 2012. Drought impacts on biogeochemistry and microbial processes in salt marsh sediments: a flow-through reactor approach. *Biogeochemistry*, doi 10.1001/s10533-012-9734-z.

88. Orcutt, B.N., R.A. Barco, **S.B. Joye**, and K.J. Edwards, 2012. Summary of carbon, nitrogen, and iron leaching characteristics and fluorescence properties of materials considered for IODP Expedition 336 subseafloor observatory assembly. In: Edwards, K.J., W. Bach, A. Klaus and the Expedition 226 Scientists. *Proceedings of the Integrated Ocean Drilling Program, Vol. 336*, doi: 10.2204/iodp.proc.336.108.2012.

89. [1]Bowles, M.W., L.M. Nigro, A.P. Teske, and **S.B. Joye**, 2012. Denitrification and the environmental factors influencing nitrate removal in Guaymas Basin hydrothermally-altered sediments. *Frontiers of Microbiology*, doi:10.3389/fmicb.2012.00377.

90. **Joye, S.B.**, 2012. A piece of the methane puzzle. *Nature*, 491: 538-539; doi:10.138/nature11749.

91. Teixeira, C., C. Magalhaes, **S. B. Joye**, and A. A. Bordalo, 2012. The role of salinity in shaping dissolved inorganic nitrogen and N_2O fluxes at the estuarine

sediment-water interface. *Marine Pollution Bulletin,* http://dx.doi.org/10.1016/j.marpolbul.2012.11.004

92. [1]Segarra, K.E.A., V. Samarkin[1], E. King, C. Meile, and **S.B. Joye**, 2013. Seasonal variations of methane fluxes from a tidal, freshwater sediment (Hammersmith Creek, GA). *Biogeochemistry,* DOI 10.1007/s10533-013-9840-6.

93. Peterson, R.N., R.F. Viso, I.R. MacDonald, and **S.B. Joye**, 2013. On the utility of radium isotopes as tracers of seafloor hydrocarbon discharge. *Marine Chemistry,* http://dx.doi.org/10.1016/j.marchem.2013.02.008.

94. [1]Segarra, K.E.A., C. Comerford[1], J. Slaughter[1], and **S.B. Joye**, 2013. Impact of electron acceptor availability on the anaerobic oxidation of methane in coastal freshwater and marine sediments. *Geochimica et Cosmochimica Acta*, 115: 15-30, http://dx.doi.org/10.1016/j.gca.2013.03.029.

95. Shah, S.R., **S.B. Joye**, J. Brandes, and A.P. McNichol, 2013. Carbon isotopic evidence for microbial control of carbon supply to Orca Basin, Gulf of Mexico. *Biogeosciences*, 10: 3175-3183.

96. Adams, M.M., A.L. Hoarfrost, A. Bose, **S.B. Joye**, and P.R. Girguis, 2013. Anaerobic short-chain alkanes in hydrothermal sediments: influences on sulfur cycling and microbial diversity. *Frontiers in Microbiology*, doi: 10.3389/fmicb.2013.00110.

97. Rivers, A.A., S. Sharma, S. Tringe, J. Martin, **S.B. Joye**, and M.A. Moran, 2013. Transcriptional response of bathypelagic marine bacteria to the Deepwater Horizon Oil Spill. *The ISME Journal*, doi:10.1038/ismej.2013.129.

98. Feng, D., H.H. Roberts, **S.B. Joye**, and E. Heydari, 2013. Formation of low-magnesium calcite at cold seeps in an aragonite sea. *Terra Nova* doi:10.111/ter.12081

99. Dekas, A.E., G. Chadwick, S. Connon, M. Bowles[1], **S.B. Joye**, and V.J. Orphan, 2013. Investigating methane seep nitrogen fixation at Mound 12, Costa Rica: Spatial distribution of diazotrophy and significance of the ANME archaea. *Environmental Microbiology*, DOI: 10.1111/1462-2920.12247.

100. [1]Baas, P., M.W. Hester, and **S.B. Joye**, 2013. Benthic primary production and nitrogen cycling in *Spartina alterniflora* marshes impacted by acute dieback. *Biogeochemistry*, DOI 10.1007/s10533-013-9897-2.

101. [1]Schutte, C.A., K.S. Hunter[1], P. McKay, D. DiIorio, **S.B. Joye**, C.D. Meile, 2013. Patterns and controls on nutrient levels in a southeastern United States tidal river. *Oceanography* 26(3): 132-139, http://dx.doi.org/10.5670/oceanog.2013.55

102. Bose, A., D.R. Rogers, M.M. Adams, **S.B. Joye**, and P.R. Girguis, 2013. Rates of sulfate reduction and alkane oxidation in cold seep sediments and their contribution to the dissolved inorganic carbon pool. *Frontiers in Microbiol.* DOI: 10.3389/fmicb.2013.00386.

103. [1]Porubsky, W.P., N.B. Weston[1], W.S. Moore, C.D. Ruppel and **S.B. Joye, 2014**. Groundwater as a potential source of nutrients, organics and trace gases to the Okatee River estuary (South Carolina, USA). *Geochimica et Cosmochimica Acta* 131: 81-97.

104. Yang, T., L. Nigro, T. Gutierrez, **S.B. Joye**, and A.P. Teske, 2014. Bacterial community signatures of the Deepwater Horizon Oil spill reflect inherent metabolic potential and rapid physiological adaptability. *Deep Sea Res.* doi: 10.1016/j.dsr2.2014.01.014.

105. Treude, T., L. Levin, C. Smith, and **S.B. Joye**, 2014. Marine ecosystems associated with near surface methane gas hydrate. *In*: Beaudoin, Y.C., W. Waite, and R. Boswell (Eds.), UPEP Global Outlook on Methane Hydrates, Volume 1. United Nations Environment Programme, ISBN: 978-92-807-3319-8.

106. Ziervogel, K., **S.B. Joye**, and C. Arnosti, 2014. Microbial enzymatic activity and secondary production in sediments affected by the sedimentation pulse following the Deepwater Horizon oil spill. *Deep Sea Research*, http://dx.doi.org/10.1016/j.dsr2.2014.04.003.

107. [1]Crespo-Medina, M., C.D. Meile, K.S. Hunter[1], V.J. Orphan, P. Tavormina, L.M. Nigro[1], J.J. Battles[1], A.R. Diercks, V. Asper, J.P. Chanton, A.M Shiller, D.J. Joung, J. Montoya, T. Villareal, M. Wood, R. Amon, and **S.B. Joye**, 2014. The rise and fall of methanotrophy following a deepwater oil-well blowout. *Nature Geoscience,* 7:423-427.

108. **Joye, S.B.**, A.P. Teske, and J.E. Kostka, 2014. Microbial dynamics following the Macondo Oil Well Blowout across Gulf of Mexico environments. *BioScience*, invited review and "Editor's Choice" paper for the Sept. 2014 issue, 64 (9): 766-777, DOI: 10.1093/biosci/biu121.

109. Peters, B., K. Casciotti, V.A. Samarkin[1], M. Madigan, C. Schutte[1], and **S.B. Joye**, 2014. Stable isotope analysis of NO_2^-, NO_3^-, and N_2O in hypersaline ponds and soils of the McMurdo Dry Valleys, Antarctica. *Geochimica et Cosmochimca Acta*, 135: 87–101.

110. Avrahamov, N.G. Antler, Y. Yechieli, I. Gavrieli, M. Saxton[2], **S.B. Joye**, and O. Sivan, 2014. Anaerobic oxidation of methane by sulfate in hypersaline groundwater in the Dead Sea aquifer. *Geobiology*, doi: 10.1111/gbi.12095.

111. Feng, D., D. Birgel, H.H. Roberts, J. Peckman, **S.B. Joye**, C.R. Fisher, R. Sassen, X-L. Liu, K.-U. Hinrichs, and D. Chen, 2014. Time integrated variation of sources of fluids and seepage dynamics archived in authigenic carbonates from Gulf of Mexico Gas Hydrate Seafloor Observatory. *Chemical Geology*, 385: 129-139.

112. Wilson, A.M., T. Evans, J. Anderson. A. H. Hughes, W.S. Moore, C.A. Schutte, and **S. B. Joye**, 2014. Groundwater controls ecological zonation of macrophytes in salt marshes. *Ecology*, doi/abs/10.1890/13-2183.1.

113. **Joye, S.B.**, J.P. Montoya, S.A. Murawski, T.M. Özgökmen, T.L. Wade, R. Montuoro, B.J. Roberts, D.J. Hollander, W.H. Jeffrey, and J.P. Chanton, 2014. A Rapid Response Study of the Hercules Gas Well Blowout. *EOS Transactions of the American Geophysical Union*, 95, 38, 23 Sept. 2014, pp. 341-342.

114. Kostka, J.E., A.P. Teske, **S.B. Joye**, and I.M. Head, 2014. The metabolic pathways and environmental controls of hydrocarbon biodegradation in marine ecosystems. *Frontiers in Microbiology,* doi: 10.3389/fmicb.2014.00471.

115. Chanton, J.P., T. Zhao, B. Rosenheim, **S.B. Joye**, S. Bosman, C. Brunner, K. Yeager, and D. Hollander, 2014. Radiocarbon tracing of the flux of petrocarbon to the sea floor associated with the Deepwater Horizon event. *Environmental Science and Technology*, DOI: 10.1012/es5046524.

116. [2]Teixiera, C., C. Magalhaes, **S.B. Joye**, and A.A. Bordalo. The contribution of anaerobic ammonium oxidation to nitrogen loss in temperate eutrophic estuaries. *Estuarine Coastal and Shelf Sci.* 143: 41–47.

117. [1]Crespo-Medina, M., M.W. Bowles[1], V.A. Samarkin[1], K.S. Hunter[1], and **S.B. Joye**, 2015. Microbial diversity and activity in seafloor brine lake sediments (Alaminos Canyon 601, Gulf of Mexico). *Geobiology,* in press.

118. [1]Kleindienst, S.K, J.H. Paul and **S.B. Joye**, 2015. Assessing the impacts of chemical dispersants on microbial community composition and activity. *Nature Reviews Microbiology*, doi:10.1038/nrmicro3452 (published on line 6 May 2015).

119. Tregoning, G.S., M.L. Kempher, D.O. Jung, V.A. Samarkin[1], **S.B. Joye**, and M.T. Madigan, 2015. A Halophilic Bacterium Pervasive in the Warm, Ca-Rich Deep Waters of Lake Vanda, McMurdo Dry Valleys, Antarctica. *Applied and Environmental Microbiology*, in press.

120. [1]Segarra, K.E.A., F. Schubotz, V. Samarkin, M.Y. Yoshinaga, K.-U. Hinrichs, and **S.B. Joye**, 2015. High rates of anaerobic oxidation of methane in freshwater wetlands reduce potential atmospheric methane emissions. *Embargoed Journal*, in press.

121. Seidel, S., S. Kleindienst[1], T. Dittmar, **S.B. Joye**, and P.M. Medeiros, 2015. Biodegradation of crude oil and the influence of dispersant in deep sea water from the Gulf of Mexico: Insights from ultra-high resolution mass spectrometry. *Deep Sea Research II*, in press.

122. Stevens, E.N., J.V. Bailey, B.E. Flood, D.S. Jones, W.P. Gilhooly III, **S.B. Joye**, 2015. A.P. Teske, and O.U. Mason. Barite encrustation of benthic sulfide-oxidizing bacteria at a marine cold seep. *Geobiology*, in press.

123. Weber, S., J.J. Battles, R. Peterson, B. Roberts, D. Hollander, J. Chanton, **S.B. Joye**, and J.P. Montoya. Hercules 265 Rapid Response: Immediate ecosystem impacts of a natural gas blowout incident. *Deep Sea Research II*, in press.

124. Wilson, A., T. Evans, W. Moore, C.A. Schutte[1], and **S.B. Joye**. What times scales are important for monitoring submarine groundwater discharge? Insights from a salt marsh. *Water Resources Research*, in press.

<u>Submitted/In Review Manuscripts</u> (15)

125. [1]Bowles, M.W., S.A. Carini[1], L. Jarrell[1], and **S.B. Joye**. Impact of substrate availability on methane oxidation, nitrification, and associated microbial community dynamics in Mono Lake (CA, USA). *Aquatic Microbial Ecology* (in revision).

126. [2]Teixiera, C., C. Magalhaes, **S.B. Joye**, and A.A. Bordalo. Inorganic nitrogen regulation of anaerobic ammonium oxidation in estuarine sediments. *FEMS Microb.*

Ecol. (submitted, in review).

127. [1]Bowles, M.W., V.A. Samarkin[1], K.S. Hunter[1], I.R. MacDonald, P.R. Girguis, A.P. Teske and **S.B. Joye**. Extreme rates of anaerobic oxidation of methane, decoupling from sulfate reduction, and novel metabolic modes at high *in situ* methane concentration. *Embargoed Journal* (in revision).

128. Takagi, K.K., K.S. Hunter, and **S.B. Joye**. Agents of change and temporal shifts in Altamaha River nutrient dynamics. *Biogeochemistry* (in revision).

129. Meile, C.D., M-J. Lai, A. Bracco, H. Luo, and **S.B. Joye**. Interpretation of oxygen profiles in the aftermath of the BP/Deepwater Horizon hydrocarbon discharge. *Deep Sea Research-II* (in revision).

130. Weston, N.B., C. Troy, W. Porubsky, C. Hyacinth, C. Meile, P. Van Cappellen, and **S.B. Joye**. Controls on nitrous oxide production in soils and sediments: The role of stress. *Biogeochemistry* (submitted July 2014, in review).

131. Shakhova, N., I. Semiletov, V. Sergienko, L. Lobkovsky, N. Dmitrevsky, V. Yusupov, A. Salyuk, A. Salomatin, V. Karnaukh, o. Dudarev, D. Chernykh, R. Anaiev, D. Kosmach, D. Nicolsky, G. Panteleev, V. Samarkin$_1$, **S.B. Joye**, A. Charkin, A. Roslyakov, and A. Meluzov. Current and future scales of permafrost-related methane emisions from the East Siberian Arctic Shelf. *Proc. Royal Acad. Sci.* (in review).

132. [1]Bowles, M.W., K.S. Hunter[1], V. Samarkin[1], and **S.B. Joye**. Variations in geochemical signatures and microbial activity amongst and between diverse cold seep habitats along the lower continental slope of the Gulf of Mexico. *Deep-Sea Research II* (submitted, in review)

133. [1]Kleindienst, S., S. Grim, M. Sogin, M. Crespo-Medina[1], and **S.B. Joye**. The response of diverse low-abundance bacteria to a deep-sea hydrocarbon plume. *The ISME Journal* (accepted pending revision).

134. Schutte, C.A., **S.B. Joye***, A.M. Wilson, T. Evans, W.S. Moore, and K. Casciotti. Intense nitrogen cycling in permeable intertidal sediment revealed by a nitrous oxide hotspot. *Global Biogeochemical Cycles* (accepted pending revision).

135. [1]Schutte, C.A., A.M. Wilson, T. Evans, W.S. Moore, and **S.B. Joye**. Methanotrophy controls groundwater methane export from a barrier island. *Geochemica et Cosmochimca Acta* (in revision).

136. Zhuang, G.-C., F.J. Elling, L.M. Nigro, V. Samarkin, **S.B. Joye**, A. Teske, and K.-U. Hinrichs. Multiple evidence for methylotrophic methanogenesis as the dominant methanogenic pathway in deep-sea hypersaline sediments. *Environmental Microbiology* (submitted, in review).

137. Bowles, M.W., K.S. Hunter, V.S. Samarkin, and **S.B. Joye**. Variations in geochemical signatures and microbial activity with and between diverse cold seep habitats along the lower continental slope of the Gulf of Mexico. *Deep Sea Research II* (submitting, in review).

138. Maltby, J., T. Treude, and **S.B. Joye**. Denitrification and sulfate reduction in sediments impacted by weathered oil deposition in the Northern Gulf of Mexico. *Deep*

Sea Research II (submitting, in review).

139. Kleindienst, S., M. Siedel, K. Ziervogel, S. Grim, K.M. Loftis, M.J. Perkins, J.A. Field, M. Sogin, T. Dittmar, U. Passow, P.M. Medeiros, and **S.B. Joye**. Chemical dispersants can suppress the activity of natural oil-degrading microorganisms. *Embargoed Journal, in review.*

Technical Reports (8)

1. **Joye, S. B**. and S. An, 1999. Denitrification in Galveston Bay. Final Technical Report to the Texas Water Development Board, 97 pages.

2. **Joye, S. B**. and ***S***. An, 1998. Denitrification in Galveston Bay. Texas Water Development Board, 1997 Technical Report, 79 pages.

3. **Joye, S. B.**, D. A. Bronk, W.-J. Cai, and W. S. 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.

4. Morse, J. W., R. Arvidson, **S. B. Joye** and S. Macko, 2000. Inorganic biogeochemistry of cold seep sediments. Final Report to the Minerals Management Service, 67 pages.

5. Morse, J. W., R. Arvidson, **S. B. Joye**, S. P. Escorcia, C. Cooper, J. Morin, L. Cifuentes, E. Grossman and S. Macko, 1999. Inorganic biogeochemistry of cold seep sediments, Minerals Management Service, Information Transfer Meeting, Extended abstract and summary of progress to date, 10 pages.

6. Brooks, J.M., C. Fisher, H. Roberts, B. Bernard, I. McDonald, R. Carney, **S. B. Joye**, E. Cordes, G. Wolff, E. Goehring. 2008. Investigations of chemosynthetic communities on the lower continental slope of the Gulf of Mexico: Interim Report 1. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2008-365 pp.

7. Brooks, J.M., C. Fisher, H. Roberts, B. Bernard, I. McDonald, R. Carney, **S. B. Joye**, E. Cordes, G. Wolff, E. Goehring. 2009. Investigations of chemosynthetic communities on the lower continental slope of the Gulf of Mexico: Final Report 1. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2008-455 pp.

8. National Research Council, Water Sciences Technology Board, Committee on Strategic Research for Integrated Water Resources Management (Westcoat, J.L., X. Cai, G.M. Kondolf, B.R. Hodges, **S.B. Joye**, W.M. Lewis, L.A. Shabman, and E. van Beek). Delta Waters: Research to Support Integrated Water and Environmental Management in the Lower Mississippi River. Washington, DC: The National Academies Press, 2013.

b. Research Grants Received (only active awards are shown; >40 total federal and private research grants awarded since 1997)

Private Funding Sources (Foundations, etc.) (5 total, 1 active)

1. 2015-2018: Gulf of Mexico Research Initiative (GoMRI): "ECOGIG: Ecosystem Impacts of Oil and Gas Inputs to the Gulf-2"; *Project total: $18,850,500*; Joye, ECOGIG Program Director (27 co-PIs).

State Agencies (3 total, none active)

Federal (37 total, 3 active)

1. 2010-2015: National Science Foundation, Office of Polar Programs/Arctic Natural Sciences: "Collaborative Research: The East Siberian Arctic Shelf as a Source of Atmospheric Methane: First Approach to Quantitative Assessment" *total*: $1,167,516; Joye, UGA-lead co-Principal Investigators N. Shakova and I. Semeletov (U Alaska) and V. Samarkin (UGA).

2. 2011-2015: NASA Astrobiology/Exobiology: Patterns and mechanisms of nitrous oxide formation in saline habitats of the McMurdo Dry Valleys; *total*: $650,000; Joye, lead PI (K. Casciotti and M. Madigan, co-PIs).

3. 2014-2017: National Science Foundation, Biological Oceanography: Microbial carbon cycling and its interactions with sulfur and nitrogen transformations in Guaymas Basin hydrothermal sediments; *total*: $1.02M; A. Teske (UNC), lead PI with S. Joye and B. MacGregor (UNC) co-PIs.

g. Conference Papers and Seminars (2010-2015 only)

Note: ***invited talk**, [1]co-authors from the Joye lab; [2]students or post docs from other labs who conducted research in the Joye Lab. Gulf of Mexico Oil Spill related *outreach* talks are underlined.

2015 *19. **Joye, S.B.** A Sea of Change: Altered microbial dynamics in the wake of the Macondo Blowout. Plenary Lecture, American Society of Microbiology General Meeting, New Orleans, LA, May 2015.

***18. **Joye, S.B.**, Oil Spill Science Seminar: Five Years Later, What Have We Learned: Dispersants. Webinar organized by Mississippi/Alabama Seagrant.

***17. **Joye, S.B.** Assessing the ecosystem impacts of a deepwater oil well blowout: collecting, interpreting and evaluating ecosystem-scale data sets to assess a large environmental perturbation. SlingShot Festival, "Big Data" session, Athens, Georgia, March 2015.

16. M. Seidel, S. Kleindienst[1], L. Babcock-Adams, T. Dittmar, **S.B. Joye**, and P. M. Medeiros. Unraveling Microbial Degradation of Dispersant and Water-Soluble Oil Compounds in Deep Seawater from the Gulf of Mexico using Ultrahigh Resolution Mass Spectrometry. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

15. Peterson, L., R. Peterson, **S.B. Joye**, C. Meile, J. Montoya, and S. Weber. Assessing Hydrocarbon Flow Through Sediments Using Radium Isotopes. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

14. [1]Harrison, S. J., S. Y. Malkin[1], K. M. Loftis[1], and **S. B. Joye**. Biodegradation of dispersed versus non-dispersed oil by surface microbial communities. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

13. [1]Malkin, S., V. Salman[1], M. Saxton[1], S. Harrison[1], A. Teske, and **S. B. Joye**. Cable Bacteria: "invisible" sulfide oxidizing mats at cold seeps? 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

12. [1]Malkin, S., S. Harrison[1], M. Saxton[1], K. Loftis[1], J. Battles[1], M. Seidel, P. Medeiros, M. Perkins, J. Field, U. Passow, and **S. B.Joye**. Do Chemical Dispersants Impede or Hasten Microbial Degradation of Hydrocarbons in Surface Waters? 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

11. Weber, S.C., J. J. Battles[1], L. Peterson, B. J. Roberts, T. Özgökmen, R. N. Peterson, D. J. Hollander, J. P. Chanton, **S.B. Joye**, and J. P. Montoya. Hercules 265 Rapid Response: Immediate ecosystem impacts of a rig natural gas blowout incident. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

10. Montoya, J.P., S. C. Weber, T. A. Villareal, A. Bracco, and **S.B. Joye**. Impact of the Deepwater Horizon incident on planktonic ecosystems: Carbon is important, but so is Nitrogen. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

9. Meile, C.D., M. Lai, A. Bracco, H. Luo, and **S.B. Joye**. Interpretation of oxygen profiles in the aftermath of the BP/Deepwater Horizon hydrocarbon discharge. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

8. Washburn, T. W., A. Demopoulos, P. Montagna, and **S.B. Joye**. Natural vs. anthropogenic oil: an ecological comparison. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

7. Chanton, J.P., B. Rosenheim, **S.B. Joye**, D. Hollander, K. Yeager, R. Wilson, S. Bosman, and C. Brunne. Radiocarbon Tracing of the Flux of Petrocarbon to the Sea Floor and Coastal Foodweb Associated with the Deep Water Horizon Event. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

6. Peterson, R., L. E. Peterson, J. P. Montoya, S. C. Weber, C. D. Meile, and **S. B. Joye.** Radium Isotopes as Conservative Tracers of Hydrocarbon Transport Through the Water Column. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

5. **Joye, S.B.**, U. Passow, P. Medeiros, R. Sibert, T. Yang, V. Asper, A. Diercks, J. Montoya, K. Ziervogel, C. Martens, P. Montagna, J. Baguley, K. Hunter, M. Crespo-Medina[1], W. Moore, C. Benitez-Nelson, and A. Teske. Rapid sedimentation, resuspension and redistribution of hydrocarbons in the wake of the Macondo Blowout. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

4. [1]Sibert, R., B. B. Bernard, J. Brooks, K. Hunter, and **S. B. Joye**. Short-chain alkane production in Gulf of Mexico cold seep sediments.

3. [1]Saxton, M.A., S. V. Callaghan[1], L. M. Nigro[1], and **S. B. Joye**. Spatial biogeography of aerobic methane-oxidizing bacteria at natural methane seeps in the Gulf. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

2. [1]Rogener, M., B. Roberts, N. Rabalais, and **S. B. Joye**. The effects of nitrogen loading and low oxygen conditions on the fate of nitrogen in coastal ecosystems. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

1. Martens, C. S., H. Mendlovitz, H. Seim, L. Lapham, C. Magen, I. MacDonald, **S.B. Joye**, M. D'Emidio, and A. Diercks. Tracing Methane Friction Layer Maxima and Plumes from Natural Hydrocarbon Seeps in Deep Waters of the Northern Gulf of Mexico. 2015 Oil Spill Science and Ecosystem Science Conference, Houston, TX, February 2015.

2014 28**.** Sibert, R. and **S.B. Joye.** Biological production of alkanes – methane, propane and ethane – in marine subsurface sediments. AGU Fall Meeting, San Francisco

27**.** Fields, L. and **S. B. Joye.** Multiple modes of nitrate reduction in deep sea environments of the Gulf of Mexico**.** AGU Fall Meeting, San Francisco

26**.** Schutte, C.A., V.A. Samarkin, M. Madigan and **S.B. Joye.** Microbial activity in the extreme hypersaline waters and sediments of Lake Vanda, Dry Valleys, Antarctica. AGU Fall Meeting, San Francisco.

*****25**. Joye, S.B**., and J.P. Montoya. Diazomethanograph: methane oxidation drives dinitrogen fixation in the deep ocean. AGU Fall Meeting, San Francisco

*****24. **Joye, S.B.** Using UNOLS deep submergence assets to enable deep sea exploration and discovery. UNOLS/Deep Submergence Science Committee Distinguished Lecturer. AGU Fall Meeting, San Francisco

*****23. **Joye, S.B.** The BP/Deepwater Horizon Oil Well Blowout: Pelagic impacts of a open ocean oil idischage. BLUE Ocean Conservation Summit, St. Petersburg, FL, Nov.

22. LaPorte, C., C. Fisher, K. Croft Bell, A. Fundis, and **S.B. Joye**. ECOGIG* and Telescience: Research cruises utilize immersive technology for DWH research and education. Conference on Ecological and Ecosystem Restoration, New Orleans LA, July.

*****21. **Joye, S.B.** The BP/Deepwater Horizon Oil Well Blowout: What we've learned. Athens Rotary Club, Athens GA, June.

*****20. [1]Kleindienst, S., S. Grim, M. Seidel, K. Ziervogel, M. Perkins, A. Allen, U. Passow, M. Crespo-Medina[1], J. Field, T. Dittmar, P. Medeiros, M. Sogin, and **S.B. Joye**. The microbial response to the *Deepwater Horizon* deep-sea plume. Goldschmidt2014 Meeting, Sacramento CA, June.

19. [1]Takagi, K.K., K.S. Hunter[1] and **S.B. Joye**. Drivers of change: How climate and people are influencing the Altamaha River watershed biogeochemical dynamics. ASLO Aquatic Sciences Meeting, Portland OR, May.

18. [1]Fields, L., and **S.B. Joye**. Fates of dissolved inorganic nitrogen in cold seep sediments along the Gulf of Mexico deep slope. ASLO Aquatic Sciences Meeting, Portland OR, May.

17. Weber, S.C., B. Garcia, **S.B. Joye**, A. Subramaniam, J.P. Montoya. The influence of oil and gas from spills and seeps on particle and zooplankton biogeochemistry in the Northern Gulf of Mexico. ASLO/AGU/TOS Ocean Sciences Meeting, Honolulu HI, February.

16. Montoya, J.P., S.C. Weber, C.C. Padilla and **S.B. Joye**. Deepwater N_2-fixation in the Northern Gulf of Mexico: spills and seeps connect the N and C cycles. ASLO/AGU/TOS Ocean Sciences Meeting, Honolulu HI, February.

15. **Joye, S.B.**, S. Kleindienst, S. Grim, M. Crespo-Medina, and M. Sogin. The role of the rare biosphere in pelagic hydrocarbon degradation during the Deepwater Horizon Oil Spill. ASLO/AGU/TOS Ocean Sciences Meeting, Honolulu HI, February.

14. Babcock-Adams, L.C., **S.B. Joye**, P.M. Medeiros. Tracking oil transformations in the Gulf of Mexico sediments after the 2010 macondo blowout using biomarker ratios. ASLO/AGU/TOS Ocean Sciences Meeting, Honolulu HI, February.

13. Rogers, D.R., A. Bose, M.M. Adams, **S.B. Joye**, and P.R. Girguis. Geomicrobiological linkages between short-chain alkane consumption and sulfate reduction rates in seep sediments. ASLO/AGU/TOS Ocean Sciences Meeting, Honolulu HI, February.

12. ***Joye, S.B.,** and A.P. Teske. Microbiology of Gulf of Mexico sediments and waters before and after the Macondo Blowout. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

11. Rogener, M.K., B. Roberts, N. Rabalais, and **S.B. Joye**. The Effects of Large Nitrogen Loading and Low Oxygen Conditions on Nitrogen Removal Processes in Coastal Waters. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

10. Saxton, M.A., L.M. Nigro, J.J. Battles, P.L. Tavormina, and **S.B. Joye**. Spatial and temporal biogeography of aerobic methane-oxidizing bacteria surrounding Gulf of Mexico methane seeps. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

9. Montoya, J., S.C. Weber, J. Battles, C.C. Padilla, and **S.B. Joye**. N_2-fixation in deep waters of the Northern Gulf of Mexico: Spills. Seeps, and links between the N and C cycles. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

8. Weber, S.C., J. Battles, **S.B. Joye**, J.P. Montoya. Hercules 265 rapid

response: hydrographic, methane, and rate measurements quantify ecosystem impacts of a rig blowout incident. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

7. **Joye, S.B.**, M. Seidel, P. Medeiros, K. Hunter, S. Grim, M. Sogin, K. Ziervogel, M. Perkins, J. Field, and S. Kleindienst. Chemical dispersants used in oil spill response alter microbial community composition and evolution but not microbial activity. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

6. Chanton, J., T. Zhao, J. Cherrier, **S.B, Joye**, D. Hollander, C. Brunner, J. Montoya, U. Passow, V. Asper, S. Bosman, and A. Mickle. A Radiocarbon-Based Determination of the Flux of Oil to the Sea Floor. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

5. Sibert, R., K.S. Hunter, and **S.B. Joye**. The Influence of Sulfate Availability and Gas Concentration on the Oxidation of Short Chain Alkanes. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

4. King, E., R. Sibert, J. Battles, L. Fields, **S.B. Joye**, and C. Meile. Hydrocarbon Processing At A Natural Seep In The Gulf Of Mexico. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

3. Fields, L., and **S.B. Joye**. Fates of dissolved inorganic nitrogen in natural oil seep habitats along the Gulf of Mexico deep slope. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

2. Babcock-Adams, L., **S.B. Joye**, and P.M. Medeiros. Changes In Sedimentary Ratios Of Oil-Derived Biomarkers Within Three Years Following The Macondo Blowout. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

1. Yang, T.T., K. Speare, **S.B. Joye**, and A. Teske. Bacterial community dynamics in oil polluted seafloor sediment. Gulf Oil Spill and Ecosystem Science Conference, Mobile AL, January.

2013 **22. *Joye, S.B.** (on behalf of the ECOGIG science team) Ecological Impacts of Oil and Gas Inputs to the Gulf: understanding long-term Macondo impacts and the influence of natural seepage on the Gulf Ecosystem. Ocean University of China, Qingdoa, China, November 2013 (**presented by Piers Chapman)

21. *Joye, S.B. An ocean of oil: rapid sedimentation and accumulation at th seafloor in the aftermath of the Macondo Blowout. Marine Oil Snow Sedimentation, Flocculation, and Accumulation Workshop. Tallahassee, FL, October.

20. *Joye, S.B., The Deepwater Horizon Oil Well Blowout: Scientific Inquiry, exploration, and discovery in rapid-response mode. Cary Institute for Ecosystem Studies, Millbrook, NY, October.

19. *Joye, S.B. Hydrocarbon degradation following the Deepwater Horizon Oil Well Blowout: the rapid response of novel microbial groups to perturbation. Institute of Marine Sciences, Rutgers University, Rutgers, NJ, October.

18. ***Joye, S.B.** Oceangraphy in a crisis: Blue water and the Macondo Blowout.

UGA Honors Lunchbox Lecture Series, invited speaker, Athens, April.

17. ***Joye, S.B.** The Gulf of Mexico before and after the Macondo Blowout. UGA Women's History Month, Women in STEM, panelist/speaker, Athens, March.

16. ***Joye, S.B.** Pelagic impacts of the 2010 BP Macondo Blowout in the Gulf of Mexico. USDA ARC, Women's History Month Symposium (Plenary Speaker), Athens, March.

15. ***Joye, S.B.**, M. Crespo-Medina[2], K. Hunter, U. Passow, V. Asper, A. Diercks, J. Montoya, C. Benitez, W. Moore, and A. Demopoulus. Increased sedimentation and altered nutrient cycling in the aftermath of the Macondo oil well blowout. American Chemical Society, Spring Meeting, New Orleans.

14. ***Joye, S.B.**, M. Crespo-Medina[2], K. Hunter, P. Medeiros, J. Montoya, A. Demopoulos. Altered pelagic and benthic biological dynamics following the BP Macondo oil well blowout. American Chemical Society, Spring Meeting, New Orleans.

13. ***Joye, S.B.**, U. Passow, J.P. Montoya, V. Asper, A. Diercks, W.S. Moore, C. Benitez-Neilson, and P.M. Medeiros. Impact of the Gulf Oil Crisis on the Seafloor. American Association for the Advancement of Science, Spring Meeting, Boston, February.

12. [1]Schutte, C. A., and **S.B. Joye**. Hotspots of greenhouse production in the subterranean estuary. ASLO 2013 Aquatic Sciences Meeting, New Orleans, LA, February.

11. **Joye, S.B.**, K. Habicht, K. Hinrichs, I. MacDonald, A. Teske and B. MacGregor. Variability in the biogeochemistry and microbial activity and diversity in gulf of mexico seafloor brines. ASLO 2013 Aquatic Sciences Meeting, New Orleans, LA, February.

10. Babcock-Adams, L., P.M. Medeiros, and **S.B. Joye**. Petroleum Biomarker Levels in the Gulf Sediments Following the 2010 Macondo Blowout. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

9. Chanton, J., J. Cherrier, J. Sarkodeeadoo, W. Graham, **S.B. Joye**, D. Hollander, and C. Brunner. Radiocarbon analysis of the Gulf Oil Spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

8. [2]Fleer, V., M. Crespo-Medina[2], R. Sibert[2], J. Battles[2], and **S.B. Joye**. Methane Concentrations and Methane Oxidation Rates Following the 2010 Macondo oil well blowout. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

7. Gilbert, J., **S.B. Joye**, and A. Teske. Creating a predictive model of microbially mediated carbon remediation in the Gulf of Mexico. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

6. **Joye, S.B.**, and E. Robinson. Draft Specifications of the ECOGIG Data Warehouse Data Model and Physical Architecture. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

5. **Joye, S. B.**, M. Crespo-Medina[2], K.S. Hunter, V. Asper, A. Diercks, R. Highsmith, and J.P. Montoya. Pelagic methane oxidation in the Northern Gulf of Mexico: Activity patterns before, during, and after the Macondo Blowout. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

4. [2]Kleindienst, S., M. Seidel, M. Perkins, J. Field, H. Morison, M. Sogin, T. Dittmar, P. Medieros, and **S.B. Joye**. The influence of dispersants on pelagic microbial oil degradation in the Gulf of Mexico. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

3. Montoya, J.P., S.C. Weber, A. Subramanian, A. Juhl, T. Villareal, A. Bracco, and **S.B. Joye**. Rates and fates of nitrogen and carbon in the water column: impact of seeps and spills on plankton biogeochemistry. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

2. [2]Sibert, R., V. Fleer[2], K. Hunter, M. Crespo-Medina[2], J.P. Montoya, and **S.B. Joye**. Hydrocarbon Distributions, Cycling and Impacts in Blue Water Benthic and Pelagic Environments. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

1. Weber, S.C., A. Subramaniam, M. Crespo-Medina[2], **S.B. Joye**, A. Bracco, T. Villareal, and J. P. Montoya. Spills, seeps, and pelagic foodwebs in the Northern Gulf of Mexico: What do stable isotopes tell us about oil, gas, and discolored zooplankton? Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, January.

2012 20. Shah, S.R., A.P. McNichol, and **S.B. Joye**. Radiocarbon and stable carbon isotopic evidence for microbial control of carbon supply to Orca Basin Brine, Gulf of Mexico. American Geophysical Union Fall Meeting, San Francisco, December.

19. Stevens, E.W., J.V. Bailey, B.E. Flood, D.S. Jones, **S.B. Joye** and A.P. Teske. Sulfide-oxidizing bacteria preserved within barite crusts from a brine pool in the Gulf of Mexico. American Geophysical Union Fall Meeting, San Francisco, December.

18. **Joye, S.B.** and A.P. Teske. Microbial biogeochemical dynamics in contrasting cold seep ecosystems in the Gulf of Mexico. American Geophysical Union Fall Meeting, San Francisco, December.

17. [1]Samarkin, V.A., I. Semiletov, N. Finke[1], N. Shakhova, and **S.B. Joye**. Methane stable isotope signatures in waters and sediments of the Laptev Sea Shelf. American Geophysical Union Fall Meeting, San Francisco, December.

16. Peters, B., K. Casciotti, V. Samarkin[1], M. Madigan, C. Schutte[1], and **S.B. Joye**. Anamolous isotopic measurements of N_2O in a hypersaline pond. American Geophysical Union Fall Meeting, San Francisco, December.

15. [1]Segarra, K.E.A., V. Samarkin[1], F. Schubotz, M.Y. Yoshinaga, K.-U. Hinrichs, and **S.B. Joye**. Freshwater wetland sediment support substantial rates of AOM. American Geophysical Union Fall Meeting, San Francisco, December.

14. [1]Schutte, C.S., C. Meile, D. Di Iorio, J. Schalles, K. Hunter, and **S.B. Joye**.

Physical-biogeochemical coupling in the Duplin River Estuary. LTER All Scientist Meeting, Estes Park, CO, September.

13. ***Joye, S.B.**, Undersea plumes of oil and dissolved gas and sedimented oil along the seafloor alter the ocean system following the BP oil well blowout. American Chemical Society, Local Chapter, Athens, Georgia, September.

12. ***Joye, S.B.**, New constraints of methane production in the deep sea from quasi-in-situ incubations. Gordon Research Conference on C1-metabolism. Lewiston, Maine, August.

11. Weber, H.S., **S.B. Joye**, and K.S. Habicht. Sulfur isotope fractionation in various habitats around mud volcanoes and brine pools in the Gulf of Mexico. ISME14, Copenhagen, Denmark, August.

10. Stevens, E.W., J.V. Bailey, B.E. Flood, D.S. Jones, **S.B. Joye**, and A.P. Teske. Sulfide-oxidizing bacteria preserved in barite crusts from a brine pool in the Gulf of Mexico. NASA Astrobiology Science Graduate Conference.

9. [1]Schutte, C., A. Wilson, W. Moore, and **S.B. Joye**. Tidally-driven hotspots of nitrogen cycling in shallow coastal aquifers. NASA Astrobiology Science Conference 2012, Atlanta, GA, April.

8. [1]Finke, N., S. Baer, and **S.B. Joye.** Methane production in marine sea ice in the Chukchi Sea, Barrow, Alaska. NASA Astrobiology Science Conference 2012, Atlanta, GA, April.

7. [1]Finke, N., V. Samarkin D. Kosmach, I. Semiletov, N. Shakova, and **S.B. Joye**. Methane oxidation in the oligotrophic surface waters of the Laptev Sea and East Siberian Arctic Shelf. Gordon Research Conference on Marine Gas Hydrates, Ventura, CA, March.

6. Yang, T.T., L. M. Negro, T. Guitierrez, L. d'Ambrosio, **S. B. Joye**, R. Highsmith, and A. P. Teske. Pelagic microbial community composition before, during and after the Deepwater Horizon Oil Spill. TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

5. Montoya, J., A. Subramaniam, M. Crespo-Medina, **S. B. Joye**, A. Bracco, and T. Villareal. The Deepwater Horizon oil spill and pelagic foodwebs in the Northern Gulf of Mexico: What do stable isotopes tell us about oil, plumes, and discolored zooplankton? TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

4. **Joye, S. B**., M. Crespo-Medina, P. Madieros, C. Benitez-Nelson, W. Moore, J. Montoya, V. Asper, A. Diercks, and R. Highsmith. Intense sedimentation to the seafloor following the 2010 Macondo Blowout: geochemical composition, mechanisms, and microbial impacts. TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

3. Peterson, R. N., R. F. Viso, I. R. MacDonald, and **S. B. Joye**. Ongoing fluid discharge near the Macondo Wellhead. TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

2. Rivers, A., S. Sharma, E. Lindquist, S. Tringe, S. B. Joye and M.A. Moran. Transcriptional response of deepwater Bacteria and Archaea to hydrocarbon contamination from the Deepwater Horizon spill. TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

1. Crespo-Medina, M., A. Vossmeyer, K. Hunter, J.J. Battles, J.P. Montoya, V. Asper, A. Diercks, T.A. Villareal, and **S. B. Joye.** Water column methane dynamics in response to the Deepwater Horizon Hydrocarbon Spill. TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, UT, February.

2011 39. Leifer, I., G. J. Rehder, E. A. Solomon, M. Kastner, V. Asper and **S. B. Joye**. Methane rising from the deep: Hydrates, bubbles, oil spills and global warming. AGU Fall Meeting, San Francisco, CA, December.

38. [1]Finke, N., M. Crespo-Medina[1], J. Schweers[1], and **S. B. Joye**. Aerobic methane production in surface waters of the Gulf of Mexico. AGU Fall Meeting, San Francisco, CA, December.

37. **Joye, S. B.**, V. A. Samarkin[1] and N. Finke[1]. Microbial methane consumption in the oligotrophic surface waters of the East Siberian Arctic Shelf. AGU Fall Meeting, San Francisco, CA, December.

36. [1]Tinker, K., M. Crespo-Medina[1], and **S.B. Joye**. Impacts of dispersants on microbial metabolism in Gulf of Mexico sediments. State of North Carolina Undergraduate Research and Creativity Symposium, Raleigh, NC, November.

35. Wilson, A., J. Morris, W. Moore, **S. Joye**, J. Anderson and C. Schutte. The effects of variability in tidal forcing on groundwater exchange in coastal wetlands. CERF Annual Meeting, Daytona, FL, November.

34. Montoya, J., V. Asper, A. Bracco, M. Crespo-Medina[1], A. Diercks, **S. Joye**, U. Passow, A. Subramaniam, and T. Villareal. Deepwater Horizon oil and pelagic foodwebs in the Northern Gulf of Mexico: what do stable isotopes tell us about oil, subsurface turbid layers, and discolored zooplankton. CERF Annual Meeting, Daytona, FL, November.

33. ***Joye, S.B.**, K.S. Hunter[1], A. Vossmeyer[1], and M. Crespo-Medina[1]. Open Ocean impacts of the Macondo oil well blowout. CERF Annual Meeting, Daytona, FL, November (talk presented by M. Crespo-Medina).

32. [1]Segarra, K.E.A., V. Samarkin[1], M. Yoshinaga, F. Schubotz, V. Heuer, K.-U. Hinrichs, and **S.B. Joye**. Seasonal carbon cycling in freshwater wetland sediments: analysis of microbial activities, lipid biomarkers, and isotope geochemistry. CERF Annual Meeting, Daytona, FL, November.

31. [1]Crespo-Medina, M. and **Joye, S.B.** Fate and consequences of Macondo methane in the water column of the Gulf of Mexico, 2010-2011. Deepwater Horizon Oil Spill Principal Investigator Conference, University of South Florida, St. Petersburg FL, October.

30. ***Joye, S.B.**, and M. Crespo-Medina[1]. Oil distributions and impacts following the Macondo Blowout. SCMEA-GAME Annual Conference, Savannah, GA, October (talk presented by M. Crespo-Medina).

29. ***Joye, S.B.**, R. Highsmith, and C. Martens. ECOGIG: ECOGIG: Ecological Consequences of Oil and Gas Inputs to the Gulf. Gulf of Mexico Research Initiative Lead Investigator Meeting, October, New Orleans, LA. (presented by C. Martens because I was on medical leave).

28. ***Joye, S.B.** Undersea impacts of the BP Blowout. Presentation to the UGA Parent's Program, UGA Chapel, September, Athens, GA.

27. ***Joye, S.B.** Undersea impacts of the BP Blowout. Distinctive Voices Lecture Series, National Academy of Sciences, September, Irvine, CA.

26. ***Joye, S.B.** The offshore fate and consequences of hydrocarbon gases and oil released from the Macondo Blowout. Department of Marine and Environmental Biology, University of Southern California, Invited Seminar, September, Los Angeles, CA.

25. ***Joye, S.B.** The offshore fate and consequences of hydrocarbon gases and oil released from the Macondo Blowout. Institute of Marine Sciences, University of North Carolina, Invited Seminar, September, Morehead City, NC.

24. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to the UGA Government Legislative Retreat, Athens, GA, August (M. Crespo-Medina presented the talk).

23. ***Joye, S.B.** The offshore fate and consequences of hydrocarbon gases and oil released from the Macondo Blowout. Gordon Research Conference, Chemical Oceanography, August, Andover, NH.

22. [1]Tinker, K., M. Crespo-Medina[1], and S.B. Joye. Impacts of dispersants on microbial metabolism in Gulf of Mexico sediments. Microbiology REU Symposium, Athens, GA, July.

21. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to the Kiwanis Club, Athens, GA, July.

20. ***Joye, S.B.,** M. Crespo-Medina[1], A. Vossmeyer[1], K.S. Hunter[1], C.D. Meile, A.R. Diercks, V. Asper, A.M Shiller, D.J. Joung, J.P. Chanton, J.J. Battles[1], C. Mann[1], J. Montoya, T. Villareal, M. Wood, and R. Amon. Pelagic aerobic methane oxidation: natural background and response to a deepwater blowout. FEMS Annual Congress, Geneva, Switzerland, June 2011.

19. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to the Bavarian Government Delegation, Athens, GA, June.

18. ***Joye, S.B.** Doing Research Following the Gulf of Mexico Macondo Disaster. Presentation to the UGA Arch Foundation, Athens, GA, May.

17. ***Joye, S.B.,** M. [1]Crespo-Medina, A. Vossmeyer[1], K.S. Hunter[1], C.D. Meile, A.R. Diercks, V. Asper, A.M Shiller, D.J. Joung, J.P. Chanton, J.J. Battles[1], C. Mann[1], J. Montoya, T. Villareal, M. Wood, and R. Amon. Evolution of water column methane cycling after the 2010 Gulf BP oil well blowout. American Society for Microbiology, Annual Meeting, New Orleans, LA, May 2011 (talk presented by Melitza Crespo-Medina).

16. ***Joye, S.B** and M. Crespo-Medina[1]. The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to the Alabama League of Woman Voters, Tuscaloosa, AL, April (talk presented by M. Crespo-Medina).

15. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to the UGA Roosevelt Institute, Athens, GA, April.

14. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Plenary talk at the UGA CURO Symposium, Athens, GA, April.

13. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to OLLI Lunch and Learn, Athens, GA, April.

12. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Presentation to Franklin College Dean's Council, Sapelo Island, GA, April.

11. ***Joye, S.B.** The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. UGA Law School, Environmental Law Association/Constitutional Law Society, Invited Seminar, Athens, GA, February.

10. ***Joye, S.B.** Slime, Soot, and Blue Water: The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. Department of Geosciences, Princeton University, Invited Seminar, February.

9. ***Joye, S.B.,** M. Crespo-Medina[1], K. Hunter[1], A. Vossmeyer[1], M. Bowles[1], V. Asper, A. Diercks, A. Teske, J. Montoya, C. Arnosti, C. Benitez-Nelson, J. Brandes, W. Moore, U. Passow, A. Subramaniam, T. Wade, K. Zeirvogel and R. Highsmith. The Microbial Slime Highway: An efficient mechanism of oil transport to the benthos and consequences on microbial dynamics in Deep Gulf of Mexico Environments. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, San Juan Puerto Rico, February.

8. [1]Crespo-Medina, J. Slaughter[1], A. Vossmeyer[1], J.P. Montoya, A. Subramaniam, V. Asper, A. Diercks, T.A. Villareal, and **S.B. Joye**. Patterns of water column aerobic methane oxidation rates in response to the Deepwater Horizon Blowout. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, San Juan Puerto Rico, February.

7. [1]Schutte, C.A. and **S.B. Joye**. High rates of nitrogen cycling in coastal aquifers. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, San Juan Puerto Rico, February.

6. Dekas, A., R.W. Lee, M. Bowles[1], **S.B. Joye**, and V. Orphan. Benthic nitrogen fixation detected at diverse deep-sea sites. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, San Juan Puerto Rico, February.

5. Montoya, J.P., A. Subramaniam, V. Asper, A. Diercks, U. Passow, M. Crespo-Medina[1], **S.B. Joye** and T.A. Villareal. Subsurface turbid layers in the Gulf of Mexico: Ghosts of the Deepwater Horizon Oil Spill. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, San Juan Puerto Rico,

February.

4. ***Joye, S.B.** Slime, Soot, and Blue Water: The offshore fate of hydrocarbon gases and oil released from the Macondo Blowout. American Association for the Advancement of Science, Annual Meeting, Invited Topical Lecture, Washington D.C. February.

3. ***Joye, S.B.**, Oil and Gas in the Gulf of Mexico after the Macondo Blowout. Cedar Shoals High School, AP Oceanography Class, Athens, GA, January.

2. ***Joye, S.B.**, Doing science following the Macondo Blowout. UGA Alumni Assembly, Athens, GA, January.

1. ***Joye, S.B.**, Oil and gas dynamics following the Macondo Blowout. UGA Oil Spill Science Symposium, Athens, GA, January.

2010 14. Redmond, M.C., D.L. Valentine, and **S.B. Joye**. Microbial Community Response to the Deepwater Horizon Oil Spill, American Geophysical Union, Fall Meeting, December.

13. ***Joye, S.B.,** A. Diercks, A. Teske, and D. Valentine. Open ocean impacts of the BP Oil Well Blowout. American Geophysical Union, Fall Meeting, Union Lecture, December.

12. Wade, T.L., Sweet S.T., Sericano, J.L., Guinasso, N.L. Jr., Lohrenz, S.E., Shiller, A.M., **S.B. Joye**, Dierks, A.R., Asper, V.L. and Highsmith, R.C. . 2010 Documentation of Sub-Surface Oil Plume by Analyses of Toxic PAH in Water Samples from the Deep Water Horizon Oil Spill. SETAC 31th Annual Meeting, November 7-11, 2010, Portland OR.

11. Diercks, A.R., V.L. Asper, R. Highsmith, M. Woolsey, S. Lohrenz, K. McLetchie, A. Gossett, M. Lowe, D. Joung, L. McKay, **S. Joye**, and A. Teske. The NIUST Deepwater Horizon Oil Spill Response Cruise. OCEANS 10 MTS/IEE Conference, Seattle.

10. [1]Samarkin, V.A., M. Madigan, M. Bowles[1], and **S.B.Joye**. Novel mechanism of anaerobic methane oxidation in permanently ice-covered Lake Fryxell, Antarctica. Goldschmidt 2010 Conference, Knoxville, TN, June.

9. [1]Hyacinthe, C., L. Palomo[1], K.S. Hunter[1], B. Wherli, and **S.B. Joye**. Nutrient and organic carbon alteration during transit through shallow coastal sediment. Goldschmidt 2010 Conference, Knoxville, TN, June

8. [1]Segarra, K.E., V. Samarkin[1], and **S.B. Joye**. Terminal metabolism in coastal freshwater sediments: Seasonal and temperature-controlled fluctuations in rates and pathways. Goldschmidt 2010 Conference, Knoxville, TN, June

7. [1]Crespo-Medina, M., M.W. Bowles[1], V.A. Samarkin[1], and S**.B.Joye**. Spatial patterns in sediment microbial diversity around Gulf of Mexico brine lakes. Goldschmidt 2010 Conference, Knoxville, TN, June.

6. [1]Schutte, C.A., W.S. Moore, A.S. Wilson, and **S.B. Joye**. Nitrogen cycling and trace gas dynamics in coastal aquifers. Goldschmidt 2010 Conference, Knoxville, TN, June

5. [1]Bowles, M.W., V.A. Samarkin[1], and **S.B. Joye**. Pressure regulation of microbial methane cycling in deep-sea sediments. Goldschmidt 2010 Conference, Knoxville, TN, June.

4. King, E.L., K. Segarra[1], V. Samarkin[1], **S.B. Joye**, and C. Meile. Anaerobic metabolism in freshwater sediments as a methane source: A modeling study. Goldschmidt 2010 Conference, Knoxville, TN, June.

3. Kempher, M.L., G.S. Tregoning, **S.B. Joye**, and M.T. Madigan. Calcium-tolerant bacteria isolated from the deep waters of Lake Vanda, McMurdo Dry Valleys, Antarctica. Am. Soc. Microbiology, 110th General Meeting, San Diego, CA, May.

2. Tavormina, P.L., W. Ussler, **S.B. Joye**, C. Scholin, and V.J. Orphan. Real-time detection of aerobic methane oxidizers in the marine water column. Astrobiology Science Conference (AbSciCon), April.

1. **Joye, S.B.**, M.W. Bowles[1], V. Samarkin[1], C. Hyacinthe[1], and M. Crespo-Medina[1]. The importance of biological methanogenesis in the methane cycle of cold seeps. AGU/ASLO/TOS Ocean Sciences Meeting, Portland, Oregon, February.

3. Education and Public Outreach

a. Instruction – courses I have developed and/or taught

i) Texas A&M University (1995-1997)

Oceanography 251H (Undergraduate, Honors Oceanography)

Oceanography 640 (Graduate, Chemical Oceanography)

Oceanography 689 (Graduate, Biogeochemistry)

i) University of Georgia (1998-present)

FRES 1010 (Undergraduate Seminar, Extreme Environments)

FRES 1010 (Undergraduate Seminar, Geobiology: a history of life on Earth)

MARS 1010 (Undergraduate, The Marine Environment)

MARS 4100 (Undergraduate, Chem. and Phys. Oceanography)

MARS 4190 (Undergraduate, Laboratory Research Credit)

MARS 4190H (Undergraduate, Honors Lab. Research Credit)

MARS 3150 (Undergraduate, Oceans in Peril)

MARS 6810 (Graduate, Microbial Biogeochemistry)

MARS 6220 (Graduate, Microbial Ecology)

MARS 7000 (Graduate, Masters Research Credit)

MARS 8220 (Graduate, Geobiology)

MARS 8130 (Graduate, Professional Development)

MARS 8900 (Graduate, Paper Seminar)

MARS 9000 (Graduate, Ph.D. Research Credit)

b. Student and Post Doc Mentoring

Post Doctoral Associates (13):

Previous: Stephen MacAvoy (8/00 – 9/01), Kimberly Mace (9/05-5/06), Laura Palomo (10/08-5/10), Christelle Hyacinthe (7/07-2/10), Melitza Crespo-Medina (1/09-12/12), Niko Finke (3/11-1/14), Kim Takagi (9/12-9/14), Kathy Loftis (8/13-8/14), Sara Kleindienst (8/12-12/13), Matt Saxton (8/13-5/15)

Current: Lindsey Fields (6/13-present), Sairah Malkin (1/14-present), Guangchao Zhang (1/15-present)

Graduate Students as Major Professor (22; 15 have graduated):

Previous (10 Ph.D.; 5 M.Sc.): Soonmo An, Ph.D. 1999; Marshall Bowles, Ph.D., 2011; Steve Carini, Ph.D. 2007; Ross Downer, M.Sc. 2003; Susie Escorcia, M.Sc. 2000; Rosalynn Lee, Ph.D. 2006; Beth Orcutt, Ph.D. 2007; Jonathan Pahlas, M.Sc. 2013; Bill Porubsky, Ph.D. 2008; Charles Schutte, PhD. 2014; Kate Segarra, Ph.D. 2012; Julia Slaughter, M.Sc. 2013; Catarina Teixeira (co-advisor; University of Porto, Portugal), Ph.D. 2012; Liliana Velasquez, M.Sc. 2005; Nathaniel Weston, Ph.D. 2005.

Current (6 Ph.D.; 1 M.Sc.): Ph.D.: Sarah Harrison, Andy Montgomery, Mary-Kate Rogener, Tito Peña, Ryan Sibert & Jess Washington; M.Sc.: Joy Battles.

Graduate Students as Committee Member (34; 30 have graduated)

Undergraduate Students as Mentor (44; 38 have graduated)

c. Outreach and press coverage

Web sites and social media

Joye Group Web Site: www.JoyeResearchGroup.uga.edu

ECOGIG-2: www.ecogig.org

Blog: http://www.joyeresearchgroup.uga.edu/public-outreach/research-cruise-blog

Twitter: @SeepExplorer

Facebook: www.facebook.com/ecogig.epo

Press Coverage

1. "*The practical significance of mud: Mandy Joye sees the world in a spoonful of sediment*" by Rahilla Shatto for *Quarterdeck* magazine (4(3) 1996.

2. "*Café Methane*" by Lee Siegel for the *NASA Astrobiology Institute* http://nai.arc.nasa.gov/news_stories/news_detail.cfm?ID=86 , 2001.

3. "*Geophenomena: Underwater asphalt living"* by Sarah Pratt for *Geotimes* http://www.geotimes.org/july04/geophen.html, 2004.

4. "*Extreme Living: Researchers find life in unexpected places like underwater asphalt flows*" by Sara Drake for *Chemical & Engineering News*, 2004.

http://pubs.acs.org/isubscribe/journals/cen/82/i29/html/8229asphaltflowfree.html

5. Interviewed for *Science Now* article on the Pompeii worm (*Alvinella pompejana*), "*Vent Worms Make Good Neighbors*" by Charlene Crabb, http://sciencenow.sciencemag.org/cgi/content/full/2005/429/2, 2005.

6. Interviewed for *Microbe World Radio* program on the Pompeii worm, http://www.flpradio.com/microbeworld/audio/050808-050902/050824.mp3, August 2005.

7. Autobiographical sketch featured in a special issue of *Oceanography* on *Women in Oceanography,* published by the Oceanography Society, 18(1), March 2005.

8. *"Mandy Spreads her 'Joye' of Microbes and Mud"*, by Kristen Kusek, feature article in *The Marine Scientist*, Vol. 11, 2005.

9. National Science Foundation, Press Release 05-198 by Cheryl Dybas, "Microbes in Marine Sediments React to Temperature Changes", http://www.nsf.gov/news/news_summ.jsp?cntn_id=104606&org=NSF&from=news, 2005.

10. Interviewed for "Imagine That!" Radio, 'Temperature control of mud microbes', http://www.nsf.gov/news/mmg/index.cfm?s=1, 2005.

11. Joye's research was featured in "Troubled Waters: Our Changing Seas" by Charles Seabrook in ***The UGA Research Magazine***, Fall 2008.

12. National Science Foundation, Press Release 09-058 by Lily Whiteman, "Better Living through Chemistry: Brine-loving microbes reveal secrets to success in chemically extreme environments". http://www.nsf.gov/news/news_summ.jsp?cntn_id=114510&org=NSF&from=news, 2009 (this story was featured by USAToday, Science Daily, and others and was featured on the UGA Web page).

13. Duan Juan Pond Abiotic Nitrous Oxide Release (Samarkin et al. 2010 *Nature Geoscience*) was featured on the NSF web site (http://www.nsf.gov/news/news_summ.jsp?cntn_id=116854&org=NSF&from=news), Science Daily (http://www.sciencedaily.com/releases/2010/04/100425151148.htm), and the NASA web site (http://earthobservatory.nasa.gov/Newsroom/archive.php?cat_id=19&m=05&y=2010), among others.

14. Gulf of Mexico Deepwater Horizon (DWH) Oil Well Blowout: My research on the 2010 DWH Oil Spill received extensive media coverage and I continue to be a source for the media regarding the geobiological processing of hydrocarbons. In 2010, I was interviewed, quoted, or featured in over 4,000 news stories, including multiple interviews by CNN, ABC, CBS, MSNBC, BBC, Canadian Broadcast Cooperation (CBC), National Public Radio, ***The New York Times***, ***The Wall Street Journal***, ***The LA Times***, ***Science***, ***Nature***, and ***USA Today***, among others. My oil spill research was the topic of two UGA-produced documentaries (Black and Blue: Beneath the Gulf Oil Disaster and Atlantis Revealed: Where the Oil Went) and she was highlighted in the fall issue of the *Georgia Magazine* and the *UGA Research Magazine*. The Black and Blue documentary was awarded a regional Emmy award for best documentary. I was featured in oil spill documentaries produced by *National Geographic*, *Animal Planet*, *the CBC* and *the BBC*

and am a major character in a book on the oil spill (Black Tide, authored by Antonia Juhasz and published in April 2011). I testified before Congress in June 2010 and May 2015 about the oil spill and its impacts on the Gulf of Mexico's blue water ecosystem.

Service

Reviewing

Journals*: Applied & Environmental Microbiology; Aquatic Geochemistry; Aquatic Microbial Ecology; Biogeochemistry; Ecology; Ecological Monographs; Environmental Microbiology; Environmental Science & Technology; Estuaries & Coasts; Estuarine, Coastal & Shelf Science; FEMS Microbiology Ecology; Geobiology; Geochimica et Cosmochimica Acta; Geomicrobiology Journal; Journal of Environmental Quality; Limnology & Oceanography; Marine Chemistry; Marine Ecology Progress Series; Nature; Nature Communications; Nature Geoscience; Proceedings of the National Academy of Science (USA); Science; Science of the Total Environment; Tellus; The ISME Journal*

Funding Agencies and Scholarly Institutions: Netherlands Organization for Scientific Research; National Academy of Sciences; National Environment Research Council (United Kingdom); National Science Foundation (Biological &Chemical Oceanography, CAREER, Ecosystems, Environmental Biology, Hydrologic Sciences, Instrumentation & Infrastructure, Molecular & Cellular Biology, Ocean Drilling Program, Polar Programs); NOAA Coastal Ocean Program; NOAA Sea Grant (California, Louisiana, Maine, Maryland, Massachusetts, New Jersey, Rhode Island and Virginia); The Petroleum Research Fund/American Chemical Society; The Civilian Research and Development Foundation; The Long Island Sound Research Fund; The Wisconsin Water Resources Institute; US-Israel Bi-National Science Foundation.

Editorship or Editorial Board Membership

Associate Editor:

Aquatic Microbial Ecology, 1997-2006; *Estuaries and Coasts* (Estuarine Research Federation), 2001-2006; *Biogeochemistry* (Elsevier), 2003-2006; *Limnology and Oceanography: Methods* (Am. Soc. Limnology and Oceanography), 2003-2007; *Limnology and Oceanography* (Am. Soc. Limnology and Oceanography), 2003-2011; *Aquatic Microbial Ecology* (Inter-Research), 2007-2013; *Environmental Microbiology* (Blackwell), 2008-present; *Ecosystems*, 2013-present.

Guest Editor:

Special issue of *Geomicrobiology* on "Molecular Biogeochemistry", Joye, Guest-Editor-in-Chief (2003);

Special issue of *Limnology & Oceanography* on "Eutrophication", Joye (lead Editor) with V. Smith and R. Howarth (2006).

Special issue of *Deep Sea Research-II* on "The Gulf of Mexico Ecosystem: Before, during and after the Deepwater Horizon Blowout", Joye, Guest Editor; publication in 2015.

c. Local and University of Georgia Service.

Faculty Senate: College of Arts and Sciences, The University of Georgia (1999-2000).

Academic Standards Committee: UGA Arts and Sciences Faculty Senate (1999-2000).

Graduate Affairs Committee, UGA Department of Marine Sciences (2001-present).

Franklin College Outreach, speaker at local schools in Georgia (1998-2001).

Space Committee, UGA Department of Marine Sciences (2002-2004).

Public Outreach, Chase Street Elementary School, "What is Marine Biology", presentation to 2nd and 3rd graders (2004).

Seminar Coordinator (fall semester), UGA Department of Marine Sciences (2001-2006).

Franklin College Awards Committee, Fall 2007.

Internal Review Committee Member for the Center for Applied Isotope Studies, charged by the Office of the Vice President Research, Fall 2007, Spring 2008.

Invited Speaker, Graduate School Symposium on Fellowship Proposal Writing for Graduate Students, Fall 2008.

Life Sciences Review Committee Member, Office of the Vice President Research, Faculty Research Grant, Fall 2008-2010.

Invited Speaker, Office of Government Relations and Office of the Vice President Research, Legislative Briefing, August 20, 2009.

Graduate Faculty, Physical Sciences Area, Review Committee, UGA Graduate School, 2009-2012.

2010 Local Lectures on the Gulf of Mexico Oil Spill: NE Georgia Children's Environmental Health Coalition (July 2010); Columbus Rotary Club (July 2010).

2011 Local Lectures on the Gulf of Mexico Oil Spill: UGA Alumni Leadership Assembly (January 2011); Cedar Shoals High School AP Biology Class (January 2011); UGA Chapter of the Junior Rotarians (March 2011).

2011-present, Chair of the Franklin College Life Sciences Promotion and Tenure Committee

2013 Panelist for UGA Women's History Month, promoting women and underrepresented minorities in STEM discussion.

2013-2015 Member (elected) of the UGA President's Faculty Advisory Committee

d. National and International Service.

Panelist: National Science Foundation, Division of Ocean Sciences (1997).

Session Chair: National Academy of Sciences, Japan-America "Frontiers of Science" Symposium, Tokyo, Japan (1999).

Invited Session Chair: "Molecular Biogeochemistry: Linking the distribution of bacteria to their biogeochemical function in the environment." American Society of Microbiology, Annual Meeting, Los Angeles, CA (2000).

Member-at-Large (elected) of the Board of Directors of the American Society of Limnology and Oceanography (2000-2003).

Member of the Public Policy Committee of the American Society of Limnology and Oceanography (2000-2005).

Invited Discussion Leader for "hypersaline ecotypes" working group at the NSF PI workshop for Microbial Observatories and Life in Extreme Environments Programs, Arlington, VA (2002).

Special Session co-Chair: "The History and Current Status of Eutrophication in Aquatic Ecosystems." American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Salt Lake City, UT (2003) (with Drs. Bob Howarth and Val Smith).

Special Session co-Chair: "Biogeochemistry, microbiology and molecular ecology of cold seeps." American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Salt Lake City, UT (2003) (with Dr. Antje Boetius).

Special Session co-Chair: "Methane fluxes on Earth: Budgets and Biological controls." European Geophysical Society, American Geophysical Union, and European Union of Geophysics Joint Assembly, Nice, France (2003) (with Dr. Antje Boetius).

Special Session co-Chair: "Methane seeps and mud volcanoes," European Geochemical Union Assembly, Nice, France (2004) (with Dr. Antje Boetius).

Scientific Expert at an open press conference on "Methane seeps and mud volcanoes," at the European Geochemical Union Assembly, Nice, France (2004).

Invited Plenary Speaker, Gordon Research Conference on the "Molecular Basis of Microbial C-1 Metabolism", Mt. Holyoke College, South Hadley, MA (2004).

Special Session co-Chair: "Microbial Habitats" American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Salt Lake City, UT (2005) (with Drs. Antje Boetius and Matthew Kane).

Invited Speaker: "The role of denitrification in the nitrogen cycle", American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Salt Lake City, UT (2005).

Invited Plenary Speaker: "Microbial mats and the biogeochemistry of mangrove ecosystems", 9th International Symposium on the Biogeochemistry of Wetlands, Wetlands Biogeochemistry Institute, Baton Rouge, LA (2005).

Invited Speaker: "Cold Seeps and Hydrothermal Vents", Special Session, European Geochemical Union, Annual Meeting, Vienna, Austria (2005).

Special Session co-Chair: “Methane fluxes on continental margins: Budgets and Biological Controls” European Geochemical Union, Annual Meeting, Vienna, Austria (2005) (with Dr. Antje Boetius).

Scientific Expert at an open press conference on “Cold seeps and mud volcanoes,” at the European Geochemical Union Assembly, Vienna, Austria (2005).

Chair of the Publications Committee, American Society of Limnology and Oceanography (2005-2008).

Panelist: NASA Astrobiology Science and Technology (2005).

Member (appointed) of the Science Steering and Evaluation Panel for the International Ocean Drilling Program (2005-2008).

Invited Plenary Speaker: Gordon Research Conference on the “Molecular Basis of Microbial C-1 Metabolism”, Oxford University, Oxford, England (2006).

Panelist: National Science Foundation, Division of Environmental Biology (2006).

Invited Speaker: “Methane Fluxes along Continental Margins”, Special Session, European Geochemical Union, Annual Meeting, Vienna, Austria (2007).

Invited Plenary Speaker: Gordon Research Conference on the “Chemical Oceanography”, Tilton School, Tilton, New Hampshire (2007).

Invited Keynote Lecture: Gordon Research Conference on the “Molecular Basis of Microbial C-1 Metabolism”, Bates College, Lewiston, Maine (2008).

Special Session co-Chair: “Production and consumption of methane and higher alkanes in extreme environments” Goldschmidt Geochemistry Meeting, Davos, Switzerland (June 2009) (with Dr. Jean-Luc Charlou).

Invited Member, External Review Committee for the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography and Applied Ocean Science and Engineering, May to August 2009.

External Reviewer for Tenure and Promotion: Harvard University (March 2009); University of North Carolina (September 2009), University of South Carolina (September 2009), University of Hawaii (October 2009), Occidental College (2013), University of Washington (2014), University of California Los Angeles (2014).

Special Session co-convener: “The evolutionary history of sulfur metabolisms: innovation, ecology, and their role in Earth's evolving geochemistry” Goldschmidt Geochemistry Meeting, Knoxville TN (June 2010) (with Drs. James Farquhar, David Johnston and Dirk de Beer).

Invited Member, External Review Committee for the University of Texas Marine Science Institute, January-April 2010

Invited Member, External Review Committee for the National Science Foundation site review of the Oregon Center for Coastal Ocean Health (Science and Technology Center), February-April 2010.

Appointed committee member, American Society for Microbiology, Public and Scientific Affairs Board 2010-2013.

Invited Witness, Testified before the U.S. House of Representatives Committee on Science and Technology investigating the Deepwater Horizon Oil Spill, June 2010.

Member (appointed), Deepwater Horizon Study Group, Environmental Impacts Science Team (June 2010-January 2011).

Invited Union Lecture: Open Ocean Impacts of the BP Blowout: Underwater Plumes and sedimented oil, AGU Fall Meeting, December 2010.

Invited Topical Lecture: Offshore Oceanic impacts of the BP Oil Well Blowout, AAAS Annual Meeting, February 2011.

Invited Plenary Lecture: The Gulf of Mexico BP Oil Spill, Gordon Research Conference on Chemical Oceanography, Andover, New Hampshire (August 2011).

Panelist, NSF Antarctic Organisms and Ecosystems, September 2012.

Scientific Advisory Board, Max Planck Institute for marine Microbiology, Bremen Germany, 2011-2016 (appointed by the Max Planck Society President)

Scientific Advisory Board, The Future Ocean, Excellence Cluster, IFM-GEOMAR, Leibniz-Institut for Marine Sciences, University of Kiel (appointed by the University President), 2010-2016.

Invited Lecture: Rapid sedimentation of Macondo oil to the Seafloor, AAAS Annual Meeting, Boston, MA (February 2011).

Expert Scientific Consultant, FOX TV Series ***Bones***, 2013-present.

National Academy of Sciences, National Research Council, Division of Earth and Life Sciences, appointed committee member, Committee on Strategic Research for Integrated Water Resources Management, 2013.

Appointed committee member, American Society for Microbiology, Public and Scientific Affairs Board 2013-2016.

Two Invited Lectures on the Deepwater Horizon Oil Spill*,* American Chemical Society Annual Meeting New Orleans, LA (April 2013).

Reviewer, NAS Institute of Medicine, Report on Coastal Ecosystem Services and Human Health (August 2013).

Invited Speaker, Council on Foreign Relations, Climate change impacts on oceanic methane cycling (September 2014).

Invited Participant, UNH/NCCR - BOEM-NOAA-EPA-DOI *Workshop on "Oil Spill Response: From EVOS to DWH, what have we learned?* UNH, Durham, NH (October 2014).

Invited Participant, Speaker and Film Festival Judge, Blue Ocean Film Festival and Ocean Conservation Summit, USF, St. Pete, FL (November 2014)

Invited Speaker, UNOLS/Deep Submergence Science Committee Distinguished Lecturer for the DeSSC Early Career Science program (AGU, Dec. 2014).

Invited Speaker, AGU Fall Meeting, "Novel Microbial Metabolisms" (AGU meeting, San Francisco, Dec. 2014).

Invited Witness, Testified before the U.S. Senate Committee on Commerce, Science and Technology examining Lessons Learned in the five years since the Deepwater Horizon Oil Well Blowout, May 2015.

Plenary Speaker, ASM General Meeting, "A Sea of Change: Altered microbial dynamics in the wake of the Macondo Blowout" (ASM General Meeting, May 2015, New Orleans)

Invited Speaker, Gordon Conference on Applied and Environmental Microbiology, "Microbial hydrocarbon degradation in the environment" (GRC, July 2015, Mount Holyoke College, Massachusetts)

e. Organization of Scientific Meetings

Organizing Committee: National Academy of Sciences, Japan-America "Frontiers of Science" Symposium, Tokyo, Japan (1999).

Co-Chair of the Organizing Committee: National Academy of Sciences, Japan-America "Frontiers of Science" Symposium, Irvine, CA (2000).

Chair of the Organizing Committee: American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Salt Lake City, UT (2003).

Member of the International Planning Committee, International Symposium for Environmental Biogeochemistry (ISEB) (2001-2010).

Scientific Planning Committee, 9th International Conference on Gas in Marine Sediments (Bremen Germany, Sept. 2008)

International Planning Committee, Goldschmidt Geochemistry Meeting (Davos, Switzerland), 2007

Chair of Theme Team: "Life at the Edge: Extreme Environments" for Goldschmidt 2009

Session Organizer: "Bio-Geo-Chemical Hydrocarbon Dynamics in the Gulf", GoMRI Annual meeting, 2013

Session Organizer: "Microbiology, Metabolism and Biogeochemistry of Hydrocabrons in the ocean" for 2014 Ocean Sciences Meeting

Lead Organizer Extreme Theme: "Life on Oil and Gas" for Goldschmidt (2014)

Session Organizer: "Environmental Meta -omics" for 2015 ABRF General Meeting

Session Organizer: "Hydrocarbon microbiology across terrestrial and marine environments" for 2015 ASM General Meeting