

Curriculum Vitae (April 2017)
Frank James Stewart, Ph.D.

Contents

I. Earned Degrees	2
II. Employment History	2
III. Honors and Awards	2
IV. Research, Scholarship, and Creative Activities	2
A. Published Books, Book Chapters, and Edited Volumes	2
A1. Books	2
A2. Refereed Book Chapters	2
A3. Edited Volumes	3
B. Refereed Publications and Submitted Articles	3
B1. Published and Accepted Journal Articles	3
B2. Conference Presentations with Proceedings (Refereed)	6
B3. Other Refereed Material	6
B4. Submitted Journal Articles	6
B5. Publications in Preparation	6
C. Other Publications and Creative Products	7
D. Presentations	7
D1. Presentations – Invited Seminars	7
D2. Presentations – Contributed Conference Posters or Seminars	7
E. Grants and Contracts	10
E1. As Principal Investigator	10
E2. As Co-Principal Investigator	11
E3. As Senior Personnel or Contributor	11
E4. Proposals Submitted but Not Funded (2015-2015)	11
F. Other Scholarly and Creative Accomplishments	11
G. Societal and Policy Impacts	11
H. Other Professional Activities	11
V. Teaching	12
A. Courses Taught	12
B. Individual Student Guidance	13
B1. Ph.D. Students	13
B2. M.S. Students	13
B3. Undergraduate Students	13
B4. Service on Thesis or Dissertation Committees	13
B5. Mentorship of Postdoctoral Fellows and Visiting Scholars	13
C. Other Teaching Activities	13
VI. Service	14
A. Professional Contributions	14
B. Public and Community Service	14
C. Institute Contributions	14

Frank James Stewart
Assistant Professor
School of Biological Sciences

I. EARNED DEGREES

B.A. in Biology	Middlebury College	2000
M.S. in Environmental Science	University of Nevada-Reno	2002
Ph.D. in Biology (advisor: C.M. Cavanaugh)	Harvard University	2008

II. EMPLOYMENT HISTORY

Postdoc (advisor: E.F. DeLong)	MIT	2008-2010
Assistant Professor in School of Biological Sciences	Georgia Tech	2011-present

III. HONORS AND AWARDS

Cullen-Peck Fellowship, Georgia Tech, 2016
 Georgia Tech "Thank a Teacher" recipient, 2016
 Simons Foundation Early Career Investigator, 2015
 Teasley Fellowship, Georgia Tech, 2014
 Sloan Fellowship, Ocean Sciences, 2012
 NSF CAREER Award, 2012
 Class of 1969 Teaching Fellow, Georgia Tech, 2011
 Harvard NSF IGERT Fellowship, Biomechanics, 2007
 NIH Genetics Training Grant, 2003-2005
 Phi Kappa Phi induction, 2002
 NASA Spacegrant Fellowship, 2001-2002
 Governor Kenny Guinn Environmental Research Fellowship, 2001-2002
 Outstanding Student Poster Award, ASLO Aquatic Sciences Meeting, 2001
 Sierra Pacific Fellowship, 2000-2001
 Phi Beta Kappa induction, 2000
 Barry Goldwater Scholarship, 1999-2000
 HHMI Undergraduate Research Fellowship, 1998
 Paul W. Ward Memorial Writing Award, Honorable Mention, Middlebury College, 1997

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

** = resulting from work done at Georgia Tech

boldface = Stewart lab students, postdocs, or visiting scholars

Google Scholar profile: <https://scholar.google.com/citations?user=-234SKAAAAAJ&hl=en>

A. PUBLISHED BOOKS, BOOK CHAPTERS, AND EDITED VOLUMES

A1. Books

No data

A2. Refereed Book Chapters

1. ****Sarode N, Parris DJ, Ganesh S, Seston SL, Stewart FJ.** 2015. Generation and analysis of microbial metatranscriptomes. p 2.4.5-1-2.4.5-19. *In* Yates M, Nakatsu C, Miller R, Pillai S (ed), *Manual of Environmental Microbiology, 4th Edition*. ASM Press, Washington, DC.

A3. Edited Volumes

1. **Stewart FJ, Ulloa O. 2014. Microbial metagenomics of oxygen minimum zones. Marco D (ed.) *Metagenomics of the Microbial Nitrogen Cycle: Current innovations and future trends*. Horizon Scientific Press.
2. **Cavanaugh CM, McKiness ZP, Newton ILG, Stewart FJ. 2013. Marine chemosynthetic symbioses” in E. Rosenberg et al., Eds., *The Prokaryotes 1*: 579-607. Springer-Verlag, New York.
3. **Stewart FJ. 2013. Preparation of microbial community cDNA for metatranscriptomic analysis in marine plankton. *Methods in Enzymology*. 531: 187-218.
4. **Stewart FJ. 2011. Dissimilatory sulfur cycling in oxygen minimum zones: an emerging metagenomics perspective. *Biochemical Society Transactions*. 39: 1859-63.
5. Stewart FJ, Cavanaugh CM. Pyrosequencing analysis of endosymbiont diversity. 2011. In: de Bruijn FJ (ed.). *Handbook of Molecular Microbial Ecology II: Metagenomics in Different Habitats*. Wiley-Blackwell.
6. Mix LJ, Armstrong JC, Mandell AM, Mosier AC, Raymond J, Raymond SN, Stewart FJ, von Braun K, Zhaxybayeva O (eds.). 2006. The Astrobiology Primer: An outline of general knowledge. *Astrobiology*. 6(5):735-813.
7. Cavanaugh CM, McKiness ZP, Newton ILG, Stewart FJ. 2006. Marine chemosynthetic symbioses. In: Dworkin M, Falkow S, Rosenberg E, Schleifer KH, Stackebrandt E (eds.). *The Prokaryotes. Third Edition. A Handbook on the Biology of Bacteria: Symbiotic Associations, Biotechnology, Applied Microbiology*. Springer, New York.
8. Stewart FJ, Cavanaugh CM. 2005. Symbiosis of thioautotrophic bacteria with *Riftia pachyptila*. In: Overmann, J. (ed.). *Molecular Basis of Symbiosis*. Springer-Verlag, Berlin. p.197-225.

B. REFEREED PUBLICATIONS AND SUBMITTED ARTICLES

B1. Published and Accepted Journal Articles (major papers, as well as middle authorship papers and papers with prior advisors (post 2011), are annotated to describe contributions)

1. **Bray MS, Wu J, Reed BC, Kretz CB, Stewart FJ, DiChristina TJ, Brandes JA, Fowle DA, Crowe SA, Glass JB. Methane dynamics in ferruginous sediments from an Archean ocean analogue. *Geobiology* (Stewart lab was responsible for molecular data generation, help with analysis and writing) *in press*
2. **Padilla CC, Bertagnolli AD, Bristow LA, Sarode N, Glass JB, Thamdrup B, Stewart FJ. 2017. Metagenomic binning identifies a transcriptionally active Gammaproteobacterium linking methanotrophy to partial denitrification in an anoxic oxygen minimum zone. *Frontiers in Marine Science*. 4:23
3. **Parris DJ, Brooker RM, Morgan MA[^], Dixon DL, Stewart FJ. 2016. Whole gut microbiome composition of damselfish and cardinalfish before and after reef settlement. *PeerJ*. 4:e2412. [^]=Georgia Tech undergraduate
4. **Tsementzi D, Wu J, Deutsch S, Nath S, Rodriguez-R LM, Burns AS, Ranjan P, Sarode N, Malmstrom RR, Padilla CC, Stone BK[^], Bristow LA, Glass JB, Thamdrup B, Woyke T, Konstantinidis KT, Stewart FJ. 2016. SAR11 bacteria linked to ocean anoxia and nitrogen loss. *Nature*. 536:179-183. (sole corresponding author; wrote the two grants that enabled sample collection, sequencing, and analysis; Chief Scientist on cruises for sample collection and experiments; oversaw all aspects of data generation, analysis, and synthesis; wrote paper with first author Tsementzi) [^]=Stewart lab ACE REU student
5. **Seston SL, Beinart RA, Sarode N, Shockey AC[^], Ranjan P, Ganesh S, Girguis PR, Stewart FJ. 2016. Metatranscriptional response of chemoautotrophic *Ifremeria nautilei* endosymbionts to differing sulfur regimes. *Frontiers in Microbiology*. 7:1074. [^]=Georgia Tech undergraduate
6. **Larsen M, Lehner P, Borisov SM, Klimant I, Fischer J, Stewart FJ, Canfield DE, Glud RN. In situ quantification of ultra-low O₂ concentrations in oxygen minimum zones: application of novel optodes. *Limnology & Oceanography Methods*. doi:10.1002/lom3.10126 (wrote grant that sponsored/enabled sample collection, helped write manuscript)

7. ****Padilla CC**, Bristow LA, **Sarode N**, Garcia-Robledo E, Gómez Ramírez E, **Benson CR**, Bourbonnais A, Altabet MA, Girguis PR, Thamdrup B, Stewart FJ. 2016. NC10 bacteria in marine oxygen minimum zones. *The ISME Journal*. 10:2067-2071. **^=Stewart lab ACE REU student**
8. ****Beckler JS**, Kiazis N, Rabouille C, Stewart FJ, Taillefert M. 2016. Importance of microbial iron reduction in deep sediments of river-dominated continental margins. *Marine Chemistry*. 178:22-34. **(wrote grant that sponsored/enabled sample collection, helped write manuscript)**
9. ****Ganesh S**, Bristow LA, Larsen M, **Sarode N**, Thamdrup B, Stewart FJ. 2015. Size-fraction partitioning of community gene transcription and nitrogen metabolism in a marine oxygen minimum zone. *The ISME Journal*. 9: 2682-2696.
10. ****Glass JB**, Kretz CB, **Ganesh S**, **Ranjan P**, **Seston SL**, Buck KN, Landing WM, Morton PL, Moffett JW, Giovannoni SJ, Vergin KL, Beszteri B, Stewart FJ. 2015. Meta-omic signatures of microbial metal and nitrogen cycling in marine oxygen minimum zones. *Frontiers in Microbiology*. 6:998.
11. ****Bristow LA^**, **Sarode N^**, **Cartee J^^** Thamdrup B, Stewart FJ. 2015. Metagenomics and biogeochemical analysis of nitrite accumulation in the Gulf of Mexico hypoxic zone. *Limnology and Oceanography*. 60:1733-1750. **^=Co-first authors; ^^= Georgia Tech undergraduate**
12. ****Padilla C**, **Ganesh S**, **Gantt S^**, **Huhman A^**, **Parris DJ**, **Sarode N**, Stewart FJ. 2015. Standard filtration practices may significantly distort planktonic microbial diversity estimates. *Frontiers in Microbiology*. 6:547. **^= Georgia Tech undergraduate**
13. ****Duret MT**, Pachiadaki MG, Stewart FJ, **Sarode N**, Christaki U, Monchy S, Edgcomb VP. 2015. Size-fractionated diversity of eukaryotic microbial communities in the Eastern Tropical North Pacific oxygen minimum zone. *FEMS Microbiology Ecology*. 91: fiv037. **(Stewart lab contributed samples and helped generate and analyze molecular data, worked with all authors on manuscript writing)**
14. ****Dalsgaard T**, Stewart FJ, Thamdrup B, De Brabandere L, Revsbech NP, Ulloa O, Canfield DE, DeLong EF. Oxygen at nanomolar levels reversibly suppresses process rates and gene expression of anammox and denitrification in the oxygen minimum zone off northern Chile. *mBio*. 5(6):e01966-14. **(Responsible for all molecular analyses; worked jointly with first-author Dalsgaard in writing; sequencing data generated during postdoc; analysis while at GT)**
15. ****Dmytrenko O**, Russel SL, Loo WT, Fontanez KM, Liao L, Roeselers G, **Sharma R**, Stewart FJ, Newton ILG, Woyke T, Wu D, Lang JM, Eisen JA, Cavanaugh CM. 2014. The genome of the intracellular bacterium of the coastal bivalve *Solemya velum*: A blueprint for thriving in and out of symbiosis. *BMC Genomics*. 15: 924. **(Collected samples and prepared DNA for sequencing, analyzed data via internal pipelines, worked directly with co-authors on writing)**
16. ****Lee FJ**, Rusch D, Stewart FJ, Mattila HR, Newton ILG. 2014. Saccharide breakdown and fermentation by the honey bee gut microbiome. *Environmental Microbiology*. 17:796-815. **(advised on computational analysis, worked jointly with Lee and Newton writing)**
17. ****Lin Y**, Cradick TJ, Brown MT, Deshmukh H, **Ranjan P**, **Sarode N**, Wile BM, Vertino PM, Stewart FJ, Bao G. 2014. CRISPR/Cas9 systems have off-target activity with insertions or deletions between target DNA and guide RNA sequences. *Nucleic Acids Research*. 42: 7473–7485. **(oversaw Stewart lab grad student Ranjan who contributed novel informatics pipeline for SNP analysis, worked with authors on writing)**
18. ****Ganesh S**, **Parris DJ**, DeLong EF, Stewart FJ. 2014. Metagenomic analysis of size-fractionated picoplankton in a marine oxygen minimum zone. *The ISME Journal*. 8:187-211. **(Ganesh and Parris are Stewart lab grad students; project idea, analysis, synthesis done at GT; DeLong provided samples)**
19. ****Parris DJ**, **Ganesh S**, Edgcomb VP, DeLong EF, Stewart FJ. 2014. Microbial eukaryote diversity in the marine oxygen minimum zone off northern Chile. *Frontiers in Microbiology*. 5:543. **(Ganesh and Parris are Stewart lab grad students; project idea, analysis, synthesis done at GT; DeLong provided samples)**
20. ****Sanders JG**, Beinart RA, Stewart FJ, DeLong EF, Girguis PR. 2013. Metatranscriptomics reveal differences in in situ energy and nitrogen metabolism among hydrothermal vent snail

- symbionts. *The ISME Journal*. 7: 1556-1567. (Trained first-author Sanders on metatranscriptomic methods (2010); facilitated/advised data analysis, worked jointly with all authors on writing in 2012)
21. **Dimond JL, Kerwin AH, Rotjan R, Sharp K, Stewart FJ, Thornhill DJ. 2013. A simple temperature-based model predicts the upper latitudinal limit of the temperate coral *Astrangia poculata*. *Coral Reefs*. 32:401-409. (minor contribution to data synthesis and writing)
 22. **Ulloa O, Canfield DE, DeLong EF, Letelier RM, Stewart FJ. 2012. Microbial oceanography of anoxic oxygen minimum zones. *Proceedings of the National Academy of Sciences of the USA*. 109: 15996-16003. (~equal contributions from all co-authors, done while at GT)
 23. **Stewart FJ, Dalsgaard T, Thamdrup B, Revsbech NP, Ulloa O, Canfield DE, and DeLong EF. 2012. Experimental perturbation and oxygen addition elicit profound changes in community transcription in OMZ bacterioplankton. *PLoS ONE*. 7: e37118 (Samples collected while post-doc; sample processing, analysis, and synthesis done while at GT)
 24. **Bryant JA, Stewart FJ, Eppley JM, and DeLong EF. 2012. Microbial community phylogenetic and trait diversity decline steeply with depth in a marine oxygen minimum zone. *Ecology*. 93: 1659-1673. (Directly advised first-author Bryant; worked jointly on project idea, data acquisition, analysis, and writing; >70% contribution done while at GT)
 25. Stewart FJ, Ulloa O, DeLong EF. 2012. Microbial metatranscriptomics in a permanent marine oxygen minimum zone. *Environmental Microbiology*. 14: 23-40. (data generation, analysis, and writing done while a postdoc)
 26. **Stewart FJ, Dmytrenko O, DeLong EF, Cavanaugh CM. 2011. Metatranscriptomic analysis of sulfur oxidation genes in the endosymbiont of *Solemya velum*. *Frontiers in Microbiology*. 2:134. (sequence data generated during post-doc; analysis, synthesis, and writing done at GT)
 27. Stewart FJ, Sharma AK, Bryant JA, Eppley JM, DeLong EF. 2011. Community transcriptomics reveals universal patterns of protein sequence conservation in microbial communities. *Genome Biology*. 12:R26. (data generation, analysis, and writing done during post- doc)
 28. Canfield DE, Stewart FJ, Thamdrup B, De Brabandere L, Dalsgaard T, DeLong EF, Revsbech NP, Ulloa O. 2010. A cryptic sulfur cycle in oxygen-minimum zone waters off the Chilean Coast. *Science*. 330: 1375-1378.
 29. Stewart FJ, Ottesen EA, DeLong EF. 2010. Development and quantitative analyses of a universal rRNA-subtraction protocol for microbial metatranscriptomics. *The ISME Journal*. 4: 896-907.
 30. Roeselers G, Newton ILG, Woyke T, Auchtung TA, Dilly GF, Dutton RJ, Fisher MC, Fontanez KM, Lau E, Stewart FJ, Richardson P, Barry K, Saunders E, Detter JC, Wu D, Eisen JA, Cavanaugh CM. Complete genome sequence of *Candidatus Ruthia magnifica*. *Standards in Genomic Sciences*. 3:163-173.
 31. Stewart FJ, Baik AHY, Cavanaugh CM. 2009. Genetic subdivision of chemosynthetic endosymbionts of *Solemya velum* along the southern New England coast. *Applied and Environmental Microbiology*. 75:6005-6007.
 32. Stewart FJ, Cavanaugh CM. 2009. Pyrosequencing analysis of endosymbiont population structure: co-occurrence of divergent symbiont lineages in a single vesicomyid host clam. *Environmental Microbiology*. 11:2136-2147.
 33. Stewart FJ, Young CR, Cavanaugh CM. 2009. Evidence for homologous recombination in intracellular chemosynthetic clam symbionts. *Molecular Biology and Evolution*. 26:1391-1404.
 34. Fritsen CH, Memmott JC, Stewart FJ. 2008. Inter-annual sea ice dynamics and micro-algal biomass in winter pack ice: Marguerite Bay, Antarctica. *Deep-Sea Res. Pt II*. 55:2059-2067.
 35. Stewart FJ, Young CR, Cavanaugh CM. 2008. Lateral symbiont acquisition in a maternally transmitted chemosynthetic clam endosymbiosis. *Molecular Biology and Evolution*. 25:673-687.
 36. Newton ILG, Woyke T, Auchtung TA, Dilly GF, Dutton RJ, Fisher MC, Fontanez KM, Lau E, Stewart FJ, Richardson PM, Barry KW, Detter JC, Wu D, Eisen JA, Cavanaugh CM. 2007. The *Calyptogena magnifica* chemoautotrophic symbiont genome. *Science*. 315:998-1000.
 37. Stewart FJ, Cavanaugh CM. 2007. Intragenomic variation and evolution of the internal transcribed spacer of the rRNA operon in Bacteria. *Journal of Molecular Evolution*. 65:44-67.

38. Stewart FJ, Cavanaugh CM. 2006. Bacterial endosymbioses in *Solemya* (Mollusca, Bivalvia): model systems for studies of symbiont-host adaptation. *Antonie van Leeuwenhoek*. 90:343-360.
39. Stewart FJ, Newton ILG, Cavanaugh CM. 2005. Chemosynthetic endosymbioses: adaptations to oxic-anoxic interfaces. *Trends in Microbiology*. 13: 439-448.
40. Stewart FJ, Fritsen CH, Garrison DL. 2005. Bacteria-algae associations in the sea ice and upper water column of the Ross Sea in late austral summer. *Antarctic Journal of the United States*. 33: 38-41.
41. Stewart FJ, Fritsen CH. 2004. Bacteria-algae relationships in Antarctic sea ice. *Antarctic Science*. 16(2): 143-156.

B2. Conference Presentation with Proceedings (Refereed)

No data

B3. Other Refereed Material

No data

B4. Submitted Journal Articles

1. **Garcia-Robledo E, **Padilla CC**, Aldunate M, Paulmier A, Gregori G, Stewart FJ, Ulloa O, Revsbech NP. Cryptic oxygen cycling in anoxic oxygen minimum zones. *In revision (minor revisions)*, *PNAS* (wrote grant that enabled sample collection, contributed molecular data generation and analysis, helped write paper)
2. **Vik DR, Roux S, Brum JR, Bolduc B, Emerson JB, **Padilla CC**, Stewart FJ, Sullivan MB. Putative Archaeal viruses from the mesopelagic ocean. *In revision (minor revisions)*, *PeerJ*
3. **Hay ME, Beatty DS, Stewart FJ. Chemical ecology: the language of microbiomes. *In review*, NAS special publication.
4. **Bertagnolli AD, **Padilla CC**, Stewart FJ. Redox-driven shifts in inorganic nitrogen and sulfur capacities by OMZ-associated Marine Group A. *In review*, *Environmental Microbiology*
5. **Pratte ZA, Longo GO, Burns AS, Hay ME, Stewart FJ. Contact with turf algae alters coral microbiome composition, with residual effects beyond the point of contact. *In review*, *Coral Reefs*
6. **Sharp KH, Pratte ZA, Kerwin AH, Rotjan RD, Stewart FJ. Season, but not symbiont state, drives microbiome structure in the temperate coral *Astrangia poculata*. *In review*, *Microbiome*.

B5. PUBLICATIONS IN PREP

1. **Beatty DS, Clements CS, Stewart FJ, Hay ME. No-take marine protected areas alter benthic communities with cascading positive effects on coral settlement and larval and recruit survivorship.
2. **Vik D, Roux S, Brum JR, Bolduc B, Emerson J, **Padilla CC**, Stewart FJ, Sullivan MB. Marine archaeal virus populations, stratified by oxygen concentrations and temperature in a mesopelagic environment.
3. **Pratte ZA, Hollman RD[^], Stewart FJ. Ecological and phylogenetic determinants of microbiome diversity in diverse coral reef fishes. [^]=*Georgia Tech undergraduate*
4. **Bristow LA, **Padilla CC**, Sarode N, Stewart FJ, Thamdrup B. Slow growth and high substrate affinity of anammox bacteria in a marine oxygen minimum zone.
5. **Fareed S, Malik A, Lewis J, Stewart FJ, Laghaie E, **Sarode N**, Khizer S, Ali F, Churchill V, **Pratte ZA**, Immergluck L. Fecal microbiota transplant (FMT) for recurrent *Clostridium difficile* (rCDI) in children.
6. **Stewart FJ. Do rare species matter in microbial ecology? (to be submitted to a special issue of *Environmental Microbiology*)
7. **Zhang H, Cui NW, **Sarode N**, Kraft B, Stewart FJ, Girguis PR, Weitz DA. Drop-based high-throughput single bacterium RNA-seq.
8. **Pratte ZA, Bertagnolli AD, Hall E, Dove A, Stewart FJ. Microbiome diversity and function in

- sulfur-based denitrification towers from a public aquarium.
9. ****Ganesh S**, Stewart FJ, Thamdrup . High resolution measurements of anammox rates coupled with single cell genomics of *Candidatus Scalindua* sp. from a marine oxygen minimum zone.
 10. ****Batmalle C, Ranjan P**, Stewart FJ, Tsementzi D, Stewart FJ, Glass JB. Evidence for adaptations to extreme environmental stress tolerance in *Atribacteria* assembled genomes from the deep subsurface, Hydrate Ridge (ODP Site 1244)

C. OTHER PUBLICATIONS AND CREATIVE PRODUCTS

1. ****Stewart FJ**. 2013. Where the genes flow. *Nature Geoscience*. 6: 688-690. (invited, refereed by editorial board only, not external review)
2. ****Weitz DA, Huidan Z, Nai Wen C, Yamei C, Girguis PR, Stewart FJ, Sarode N, Beate K**. 2016. US Provisional patent application 62/405,775 (“Sequencing of bacteria or other species”). EFS ID 27160575

D. PRESENTATIONS

D1. Presentations - Invited seminars

Harvard University, Microbial Science Initiative seminar series, March 2016
 U. of Georgia, Microbiology Seminar Series, Sept. 2015
 Harvard University, Radcliffe Symposium, March 2015
 Georgia Tech, Integrative BioSystems Institute (IBSI) chalk talk, Feb. 2015
 LSU, Systematics, Ecology and Evolution Seminar Series, Oct. 2014
 Marine Microbes, Gordon Research Conference, Bentley University, June 2014
 U. of British Columbia, Centre for Microbial Diversity and Evolution, March 2014
 NSF Microbial Community 'Omics Cyberinfrastructure Meeting, Aug. 2013
 ASLO Aquatic Sciences Meeting, New Orleans, Feb. 2013
 U. of Florida, Microbiology and Cell Science Seminar Series, Feb. 2013
 OMZ Symposium, Working group leader, Santa Cruz, Chile, March 2013
 Emory University, PBEE Seminar Series, March 2012
 U. of Georgia, Marine Science Seminar Series, March, 2012
 New Mexico State University, HHMI Speaker, Nov. 2011
 U. of Indiana, Microbiology Seminar Series, Sept. 2011
 European N-Cycle meeting, Plenary address, July 2011
 Georgia Tech, REU Aquatic Chemical Ecology summer program, June 2011-2015
 Symposium: Paleobiology During the Genomics Era, J. Craig Venter Institute, May 2011
 Georgia Tech, Integrative BioSystems Institute (IBSI) chalk talk, May 2011
 MACEPID Symposium, School of Public Health, University of Michigan, April 2011
 US-EC Workshop on Marine Genomics, Oct. 2010
 Georgia Tech, School of Biology Seminar Series, Feb. 2010
 Northwestern University, CEE Dept. Seminar Series, Feb. 2010

D2. Presentations – Contributed Conference Posters or Seminars

1. Bristow LA, **Padilla CC**, **Sarode N**, Kuypers MMM, Stewart FJ, Thamdrup B. 2017. Anammox: how to thrive in an oxygen minimum zone. ICoN5.
2. Bristow LA, **Padilla CC**, Stewart FJ, Thamdrup B. 2017. Non-canonical N2O production pathways under low oxygen. Goldschmidt2017.
3. Glass JB, Cavazos AR, Stanton CL, Tang Y, Taillefert M, Stewart FJ, Ostrom NE. 2017. Tales from the crypt(ic): The phantoms of the nitrogen cycle. Goldschmidt2017.
4. Kitzinger K, **Padilla CC**, Marchant HK, Mooshammer M, Herbold C, Stewart FJ, Wagner M, Kuypers MMM, Bristow LA. 2017. Cyanate and urea as substrates for marine nitrification. ICoN5.
5. Owings S, **Bertagnolli A**, Eitel E, Craig J, Stewart F, Taillefert. 2017. Evidence for

manganese(IV)-coupled anaerobic nitrification in marine sediments. Southeastern Biogeochemistry Symposium

6. Mandric I, Knyazev S, **Padilla C**, Stewart F, Mandoiu II, Zelikovsky A. 2017. Metabolic analysis of metatranscriptomic data from planktonic communities. ISBRA2017.
7. Bray MS, **Wu J**, Reed BC, Kretz CB, Simister RL, Henny C, Stewart FJ, DiChristina DJ, Brandes JA, Fowle DA, Crowe SA, Glass JB. 2017. Shifting microbial communities sustain multi-year iron reduction and methanogenesis in ferruginous sediment incubations. AbSciCon2017.
8. Szeinbaum N, Zhao S, Tang Y, Henny C, Crow S, Nunn B, Stewart F, Glass JB. 2017. Manganese biosignatures: Mn(III) mineral formation during Mn(IV) oxide reduction. AbSciCon2017.
9. Tan G, Holtzen S, **Parris D**, Stewart F, Stockton A. 2017. High-throughput sequencing reveals diverse microbial communities in Icelandic Mars Analog Environments. ICISE conference – “Search for Life: From Early Earth to Exoplanets”
10. Beatty DS, Clements CS, Stewart FJ, Hay ME. 2016. Coral microbiomes and coral survivorship on seaweed versus coral dominated reefs. Western Society of Naturalists Meeting.
11. Beatty DS, Clements CS, Stewart FJ, Hay ME. 2016. No-take marine protected areas alter benthic communities with cascading positive effects on coral settlement and larval and recruit survivorship. International Coral Reef Symposium.
12. Glass JB, Bray MS, Wu J, Reed BC, Kretz CB, Stewart FJ, DiChristina TJ, Brandes JA, Fowle DA, Crowe SA. 2016. How did ferruginous Archean oceans make methane? Goldschmidt2016.
13. Fareed S, Malik A, Lewis J, Stewart F, Laghaie, **Sarode N**, Khizer S, Ali F, Churchill V, **Pratte Z**, Immergluck L. 2016. Applying fecal microbial transplantation (FMT) to treat recurrent *Clostridium difficile* infections (rCDI) in children. Curtis L. Parker Research Symposium.
14. Sharp KH, **Pratte ZA**, Kerwin AH, Rotjan RD, Stewart FJ. 2016. Investigating the influence of *Symbiodinium psygophilum* density of prokaryotic communities in the coral *Astrangia poculata*. ICRS 2016.
15. Dmytrenko O, Stewart FJ, Utter DR, Cavanaugh CM. 2016. Calvin Cycle 2.0. ASM General Meeting.
16. Glass JB, Stanton CL, Ochoa H, Haslun JA, Gandhi H, Taillefert M, DiChristina TJ, Stewart FJ, Klotz MG, Ostrom NE. 2016. An alternative pathway for marine nitrous oxide production at oxic-anoxic interfaces from coupled biotic-abiotic reactions. ASLO Ocean Sciences.
17. **Padilla CC**, Bristow LA, **Sarode N**, Garcia-Robledo E, Girguis PR, Thamdrup B, Stewart FJ. 2016. Activity and diversity of aerobic methanotrophs in a coastal marine oxygen minimum zone. ASLO Ocean Sciences.
18. Rogener MK, Roberts BJ, Rabalais NN, Stewart FJ, Joye SB. 2016. Microbial nitrogen sinks in the water column of a large coastal hypoxic area, the Gulf of Mexico "Dead Zone". ASLO Ocean Sciences.
19. Bray MS, Reed BC, Wu J, Kretz CB, Stewart FJ, DiChristina TJ, Fowle DA, Crowe SA, Glass JB. 2015. Linking Iron reduction to anaerobic methane oxidation in an ancient ocean analog. AbSciCon2015.
20. Garcia-Robledo E, Tiano L, Paulmier A, Ward B, Stewart F, Klimant I, Ulloa O, Borisov S, Revsbech NP. 2015. Oxygen in the OMZ: In situ measurement and biological transformations. Goldschmidt2015.
21. Garcia-Robledo E, Revsbech NP, Tiano L, Paulmier A, Stewart F, Lehner P, Klimant I. 2015. Secondary chlorophyll maximum in oxygen minimum zones: Photosynthesis and aerobic respiration at nanomolar oxygen levels. ASLO Aquatic Sciences.
22. Kretz CB, Reese BK, **Sarode N**, Stewart FJ, Glass JB. 2014. Microbial diversity and distribution in deep subsurface Hydrate Ridge sediments. C-DEBI Annual Meeting.
23. **Padilla CC**, Bristow LA, **Benson CR**, **Sarode N**, Girguis PR, Glass JB, DiChristina TJ,

- Thamdrup B, Stewart FJ. 2014. NC10 bacteria in a marine oxygen minimum zone. AGU Annual Meeting. [^]=**Stewart lab ACE REU student**
24. Glass JB, Reed BC, Bray M, **Sarode N**, Kretz CB, DiChristina TJ, Stewart FJ, Fowle DA, Crowe SA. 2014. Isolation and characterization of microbes mediating thermodynamically favorable coupling of anaerobic oxidation of methane and metal reduction. AGU Annual Meeting.
 25. Glass JB, Kretz CB, **Ganesh S**, **Ranjan P**, **Seston SL**, Stewart FJ. 2014. Abundance and taxonomy of microbial genes encoding iron and copper-binding proteins in oxygen minimum zones: Integrating marine metagenomics and geochemistry. GRC Marine Microbes.
 26. **Seston SL**, **Shockey AC**[^], Beinart RA, **Sarode N**, **Ganesh S**, Girguis PR, Stewart FJ. 2014. Comparative metatranscriptomic analysis of *Ifremeria nautilei* endosymbionts in multiple individuals under different electron donating conditions. Poster. ASM General Meeting. [^]=**Georgia Tech undergraduate**
 27. Bristow LA, **Ganesh S**, Larsen M, **Parris DJ**, Stewart FJ, Thamdrup B. 2014. Size fractionated process rates and omics of key nitrogen cycling processes in a marine oxygen minimum zone. ASLO Ocean Sciences.
 28. **Caro-Quintero A**, **Sarode N**, **Parris DJ**, **Ganesh S**, Stewart FJ. 2014. Metagenomics of microbial communities in the Louisiana Shelf hypoxic zone. ASLO Ocean Sciences.
 29. **Ganesh S**, Bristow LA, Thamdrup B, Stewart FJ. 2014. Metatranscriptomics identifies metabolic partitioning among microbial size fractions in a marine oxygen minimum zone. ASLO Ocean Sciences.
 30. Glass J, Buck K, Bristow L, Thamdrup B, Stewart FJ. 2014. Bioessential trace metal and nitrogen cycling in the Eastern Tropical North Pacific oxygen minimum zone. ASLO Ocean Sciences.
 31. **Parris DJ**, **Ganesh S**, DeLong EF, Edgcomb V, Stewart FJ. 2014. Microbial eukaryote diversity in the marine oxygen minimum zone off northern Chile. ASLO Ocean Sciences.
 32. Schwenck SM, Brum JR, Stewart FJ, Sullivan MB. 2014. When the oxygen minimum zone and euphotic zone collide, viral communities are altered. ASLO Ocean Sciences.
 33. Beckler J, Rabouille C, Stewart F, Taillefert M. 2013. Formation of soluble organic-Fe(III) complexes in sedimentary environments. ACS National Meeting.
 34. Bristow L, Stewart FJ, **Parris DJ**, **Ganesh S**, Thamdrup B. 2013. How do we explain nitrite accumulation in the hypoxic bottom waters of the Gulf of Mexico. ASLO Aquatic Sciences.
 35. Dalsgaard T, Stewart FJ, De Brabandere L, Thamdrup B, Revsbech NP, Canfield DE, Bristow L, Ulloa O, Young CR, DeLong EF. 2013. Effect of oxygen on process rates and gene expression of anammox and denitrification in the Eastern South Pacific oxygen minimum zone. ASLO Aquatic Sciences.
 36. **Ganesh S**, **Parris DJ**, DeLong EF, Stewart FJ. 2013. Metagenomic analysis of size-fractionated picoplankton in a marine oxygen minimum zone. ASLO Aquatic Sciences.
 37. Moisander PH, Valery C, **Parris DJ**, **Stewart FJ**, Montoya JM, Subramaniam A. 2013. Diversity and distribution of diazotrophs on the Mississippi River Plume. ASLO Aquatic Sciences.
 38. Sanders JG, Beinart RA, Stewart FJ, DeLong EF, Girguis PR. 2012. Differences in energy metabolism among symbionts of hydrothermal vent gastropods relates to geochemical niche. ASM Beneficial Microbes.
 39. Stewart FJ, Dalsgaard T, Thamdrup B, Revsbech NP, Ulloa O, Canfield DE, and DeLong EF. 2012. Experimental perturbation and oxygen addition elicit profound changes in community transcription in OMZ bacterioplankton. ASLO Ocean Sciences.
 40. **Ganesh S**, **Parris DJ**, DeLong EF, Stewart FJ. 2012. Metagenomic analysis of size-fractionated picoplankton in a marine oxygen minimum zone. Georgia Tech Research and Innovation Conference.
 41. Biddle J, Guigo R, Peplies J, Stewart F. 2011. Training Marine Microbiologists Today: Culturing Versus Unix. In: US-EU Task Force on Biotechnology Research, EC-US Workshop on Marine Genomics.

42. Kerwin A, Rotjan R, Dimond J, Thornhill D, Stewart F, Distel D, Sharp K. 2011. Variation in bacterial assemblages associated with different symbiotic states of the facultatively symbiotic coral, *Astrangia poculata*. Boston Bacterial Meeting.
43. Mondav R, Tyson G, Stewart F, Schmidt S. 2010. Metatranscriptomic comparison of an agricultural and a forest soil. Soil Metagenomics 2010.
44. Bristow LA, Altabet MA, Stewart FJ, DeLong EF, Ulloa O. 2010. Enriched nitrate and depleted nitrite isotopic signatures in the OMZ off Northern Chile. AGU Fall Meeting.
45. Stewart FJ, Young CR, Cavanaugh CM. 2008. Pyrosequencing analysis of endosymbiont population structure: co-occurrence of divergent bacterial symbiont lineages in a single host clam. ASM General Meeting, and Boston Bacterial Meeting.
46. Newton ILG, Stewart FJ, Woyke T, Richardson PM, Barry KW, Detter JC, Bruce DC, Eisen JA, Cavanaugh CM. 2006. The *Calyptogena magnifica* symbiont draft genome: an obligate, maternally transmitted endosymbiont with extensive metabolic capabilities. ASM General Meeting.
47. Fritsen CH, Stewart FJ, Stammerjohn S, Smith R. 2004. Winter sea ice biota and environmental change along the Western Antarctic Peninsula. 2004 Ocean Sciences.
48. Stewart FJ, Fritsen CH, Murray AE, Carter BJ. 2003. Prokaryotes in Antarctic sea ice: richness and assemblage composition. Presentation. Life in Ice session. ASLO Aquatic Sciences.
49. Fritsen CH, Stewart FJ, Marschall SM, Memmot JC, Hartsough PC, Cunningham LM, Boc J, Brees MK, Adkins P. 2003. Interannual variation in winter sea ice biota: response to interannual variability in sea ice formation along the Western Antarctic Peninsula. ASLO Aquatic Sciences.
50. Stewart FJ, Fritsen CH, Marschall SM, Memmott JM. 2002. Sea ice and water column microbial biomass and activity during the fall-winter transition west of the Antarctic Peninsula. 2002 Ocean Sciences.
51. Stewart FJ, Fritsen CH, Garrison DL, Gibson AH. 2001. Bacteria-algae associations in the sea ice and upper water column of the Ross Sea in the late austral summer. ASLO Aquatic Sciences.

E. GRANTS AND CONTRACTS

E1. As Principal Investigator

1. Fostering immersive training in microbial bioinformatics for undergraduate women (ROA supplement to 1558916). NSF Biological Oceanography. Role: PI. Collaborators: Sherry Seston (Co-PI). Total dollar amount: \$33,975 for the period 06/01/2017-05/31/2018. Share: 100%.
2. *ABI Innovation: Collaborative Research: Computational framework for inference of metabolic pathway activity from RNA-seq data*. NSF DBI – Advances in Bioinformatics. Role: PI. Collaborators: Nicole Lopanik (Co-PI, Georgia Tech), Alex Zelikovsky (PI, Georgia State, \$300,000), Ion Mandiou (PI, U-Conn, \$300,000). Total dollar amount: \$299,828 for the period 05/01/2016 - 04/30/19 (\$899,828 across the 3 institutions). Share: 70% (of \$299,828)
3. *REU Site: Aquatic Chemical Ecology at Georgia Tech*. NSF OCE, Education Human Resources. Role: PI. Collaborators: Linda Green (Co-PI). Total dollar amount: \$375,160 for the period 03/01/2016 - 02/28/19. Share: 5% (of funds, for summer salary; ~33-50% of the work, depending on year).
4. *Microbial processes of pelagic anaerobic methane cycling in oxygen minimum zones*. NSF Biological Oceanography. Role: PI. Collaborators: Jen Glass (Co-PI). Total dollar amount: \$571,548 for the period 04/01/2016-03/31/2019. Share: 90%.
5. *Reef fish microbiomes: models for bacteria-host interaction in the ocean*. Simons Foundation. Role: PI. \$540,000 for the period 07/01/2015 - 06/30/2018. Share: 100%.
6. *The Summer Workshop in Marine Science (SWiMS) at Georgia Tech: A marine initiative for enhancing education standards in life and earth sciences*. Georgia Improving Teacher

- Quality (ITQ) program. Role: PI. Collaborators: Gustavia Evans, Marion Usselman (Co-PI, CEISMC). \$135,305 for the period 05/1/15 - 05/30/18. Share: 80%.
7. *Microbial and viral regulation of community carbon cycling across diverse low-oxygen zones*. DOE JGI Community Science program. Role: PI. Exact budget undisclosed - estimated at \$180,000 based on current pricing (for sequencing) for the period 11/01/13-11/01/16 (or until completion). Share: 100%.
 8. *CAREER: A phylogenetic and functional understanding of microbial sulfur cycling in oxygen minimum zones*. NSF Biological Oceanography. Role: PI. \$1,210,901 for the period 02/01/2012-01/31/2017. Share: 100%.
 9. *Sulfur cycling in marine oxygen minimum zones*. Alfred P. Sloan Foundation. Role: PI. \$50,000 for the period 9/15/12 -9/15/16. Share: 100%.
 10. *Microbiome mediators of coral-algal interactions*. Teasley Foundation (Georgia Tech). Role: PI. \$30,000 (one time allotment; still active). Share: 100%.
 11. *Establishing Georgia Tech as a world leader in environmental microbiome research*. Georgia Tech EVPR Blue Sky Retreat program. Role: PI. Collaborators: Joshua Weitz (Co-PI, Georgia Tech). Total dollar amount: \$3000 for the period Oct 2016. Share: 100%.
 12. *Cullen-Peck Fellowship*. Georgia Tech College of Sciences Cullen-Peck Fellows Program. Role: PI. Total dollar amount: \$10,000 for the period 09/2016-12/2018. Share: 100%

E2. As Co-Principal Investigator

1. *Collaborative Research: Dimensions: Biodiversity of iron-respiring microorganisms fueled by a cryptic organic sulfur cycle*. NSF Dimensions of Biodiversity. Role: Co-PI. Collaborators: Tom DiChristina (PI), Martial Taillefert (Co-PI). \$262,419 (pilot, sub-award) for the period 11/01/2015-10/31/2016. Share: 33%.
2. *Characterization of microbes mediating anaerobic oxidation of methane coupled to iron reduction from an ancient ocean analogue*. NASA-Exobiology. Role: Co-PI. Collaborators: Jen Glass (PI), Tom DiChristina (Co-PI). \$799,858 for the period 01/01/2014-12/31/2016. Share: 33%.

E3. As Senior Personnel or Contributor

1. *NOVel niches for Anaerobic Methane OXidation (NOVAMOX) and their biochemical significance*. Horizon 2020, ERC Advanced Grant. Role: unfunded collaborator. Collaborators: Bo Thamdrup (PI, U. Southern Denmark). Grant period: 10/01/2016-09/30/2021.

E4. Proposals Submitted But Not Funded (2014-2015 only)

1. *Collaborative Research: Symbiont gene expression and activity during environmental fluctuation in an experimentally tractable chemosynthetic symbiosis*. NSF IOS. Role: PI. Collaborators: Colleen Cavanaugh. \$557,110. Candidates share: 50%
2. *Collaborative Research: Land-sea connections in the South China Sea: impact of the Mekong River on sediments, nutrients, and plankton dynamics in coastal and offshore waters*. NSF OCE. Role: Co-PI. Collaborators: Joe Montoya (PI), Annalisa Bracco (Co-PI). \$1,089,791. Share: 33%.
3. *Collaborative Research: Particle and protist-associated biogeochemical cycling in oxygen minimum zones*. NSF OCE. \$470,788. Share: 50%.
4. *IOS Preliminary Proposal: RUI: Collaborative Research: Effects of Symbiodinium density on mucus-associated microbial communities in the coral *Astrangia poculata**. NSF IOS. Role: PI. Collaborators: Koty Sharp (Co-PI). No budget (preliminary proposal).
5. *III: Medium: Collaborative Research: Highly scalable algorithms for inference of community metabolic pathway activity from metatranscriptomic data*. NSF IIS. Role: Co-PI. Collaborators: Alex Zelikovsky (PI), Ion Mandiou (Co-PI). \$631,962. Share: 33%.
6. *Collaborative Research: Influence of nitrogen and trace metal availability on pathways of marine nitrous oxide production*. NSF OCE. Role: Co-PI. Collaborators: Jen Glass.

- \$571,075. Share: 50%.
7. *Collaborative Research: Symbiont gene expression and activity in response to environmental fluctuation in an experimentally tractable chemosynthetic symbiosis.* NSF IOS. Role: PI. Collaborators: Colleen Cavanaugh (Co-PI). \$521,564. Share: 50%.
 8. *RUI: Collaborative Proposal: Effects of Symbiodinium density on mucus-associated microbial communities in a model multipartite coral symbiosis (Astrangia poculata).* NSF IOS. Role: PI. Collaborators: Koty Sharp (Co-PI). \$758,936. Share: 50%.
 9. *Dimensions: Microbial redox transformations linking the global biogeochemical cycles of manganese and nitrogen.* NSF Dimensions. Role: Co-PI. Collaborators: Tom DiChristina (PI), Martial Taillefert (Co-PI). \$1,715,318. Share: 33%.
 10. *Biogeochemical dynamics of the Mekong River Plume on nutrient dynamics and plankton in the South China Sea.* NSF OCE. Role: Co-PI. Collaborators: Joe Montoya (PI), Annalisa Bracco (Co-PI). \$980,460. Share: 33%.
 11. *Ocean Acidification: Effect of reverse diagenesis on the buffering capacity of coastal marine sediments.* NSF OCE. Role: Co-PI. Collaborators: Martial Taillefert (PI), Tom DiChristina (Co-PI), Yuanzhi Tang (Co-PI). \$1,247,320. Share: 25%.
 12. *Collaborative Research: Geomicrobiology of the Eastern South Pacific oxygen minimum zone: testing molecular tools linking modern, past, and future ocean biogeochemistry.* NSF OCE. Role: PI. Collaborators: Julio Sepulveda (Co-PI). \$596,534. Share: 50%.

F. OTHER SCHOLARLY AND CREATIVE ACCOMPLISHMENTS

No data.

G. SOCIETAL AND POLICY IMPACTS

No data.

H. OTHER PROFESSIONAL ACTIVITIES

No data.

V. TEACHING

A. COURSES TAUGHT

Spring, 2017	BIOL 4083/8803	Microbial Symbiosis	14 students
Fall, 2016	BIOL 3380	Intro. Microbiology	64 students
Fall, 2016	BIOL 3381	Microbiology Lab	16 students
Spring, 2016	BIOL 4083/8803	Microbial Symbiosis	15 students
Fall, 2015	BIOL 3380	Intro. Microbiology	62 students
Fall, 2015	BIOL 3381	Microbiology Lab	24 students
Spring, 2015	BIOL 4083/8803	Microbial Symbiosis	17 students
Fall, 2014	BIOL 3380	Intro. Microbiology	69 students
Spring, 2014	BIOL 4083/8803	Microbial Symbiosis	12 students
Fall, 2013	BIOL 3380	Intro. Microbiology	90 students
Spring, 2013	BIOL 4083/8803	Microbial Symbiosis	22 students
Fall, 2012	BIOL 3380	Intro. Microbiology	98 students
Fall, 2012	BIOL 3381	Microbiology Lab	28 students
Spring, 2012	BIOL 4083/8803	Microbial Symbiosis	19 students
Fall, 2011	BIOL 3380	Intro. Microbiology	83 students
Spring, 2007 (TA)	OEB 123 (Harvard)	Biology of Symbiosis	12 students
Fall, 2006 (TA)	OEB 399 (Harvard)	Topics Org. Evol. Biol.	15 students

B. INDIVIDUAL STUDENT GUIDANCE

underline = current lab members or committee advisees

B1. Ph.D. Students

Sangita Ganesh (graduated fall 2016, thesis: “*Environmental niche partitioning of microbial community genomic diversity, gene expression, and metabolism in a marine oxygen minimum zone*”; scientist at Radiant Genomics)

Mary Beth McWhirt (yr 1, thesis: TBD)

Cory Cruz Padilla (yr 4, thesis: “*Microbial methane cycling in oxygen minimum zones*”)

Darren Joshua Parris (yr 4, thesis: “*Structure and function of marine fish microbiomes*”)

Piyush Ranjan (yr 4, thesis: “*Genomics of sulfur cycling bacteria in oxygen minimum zones*”)

B2. M.S. Students

Jack Cartee (M.S. Bioinformatics, project: “*Gut microbiome community structure in response to bacterial antagonism*”)

B3. Undergraduate Students (all Georgia Tech-affiliated, unless noted; * = co-author on Stewart lab publications)

Niko Alexandre (ACE REU student, Vassar College), Max Beecroft, Catherine Benson* (ACE REU student, Middlebury College), Jack Cartee*, Allie Caughman (GT Fast-Track student), Natalie Chilcutt, Simon Chow, Sophie Dumas, Nolan Fenzl, Shelby Gantt*, Michael Gribble (ACE REU student, Pepperdine), Rebecca Hollman, Alex Huhman*, Gwendolyn McManus (Grady high school intern), Michael Morgan, Rachel Morochnik (GT Fast-Track student), James Parker, Alex Price, Abigail Shockey* (current: grad student at Wisconsin), Casey Smith, Ben Stone* (ACE REU student, Bowdoin College), Doug Terry, Arpita Yadav, Sarah York (ACE REU student, U. Miami), Kevin Zhou (Wheeler Magnet high school intern)

B4. Service on Thesis or Dissertation Committees

Deanna Beatty (2015-present), Erin Bernardy (2013-2016), Marcus Bray (2014-present), Rebecca Cooper (2012-2015), Kizee Etienne (2014-present), Justine Garcia (2013-2015), Jordan Gulli (2015-present), Angela Pena-Gonzalez (2015-present), Shengyun Peng (2017-present), Sarah Weber (2014-2015), Samit Watve (2014-2016), Juliana Soto (2015-present), Jillian Walker (2015-present), Charles Wigington (2016-present), Diana Williams (2015-present)

B5. Mentorship of Postdoctoral Fellows or Visiting Scholars

Postdocs: Anthony Bertagnolli, Andrew Burns, Alejandro Caro-Quintero (current: postdoc at U. Texas-Austin), Nastassia Patin, Zoe Pratte, Neha Sarode (current: postdoc at Harvard), Jieying Wu

Visiting scholar/teachers: Kenneth Gregg (retired professor, Winthrop University), Sherry Seston (visiting scholar, biology professor, Alverno College), LaTrice Swain (high school science teacher, Arabia Mountain High School, GT GIFT Internship, summers 2012-2015), Willa Mcgriff (high school science teacher, Miller Grove High School, summer 2016)

C. OTHER TEACHING ACTIVITIES

- Developed a new course, *Microbial Symbiosis* (BIOL 4803/8803), taught annually each spring from 2012-2016 (scheduled again for spring 2017); enrollment: 12-22 students
- For BIOL 3801 (Intro Microbiology lab), developed and initiated a new multi-week lab exercise using next-gen sequencing to characterize the oral microbiome of students

VI. SERVICE

A. PROFESSIONAL CONTRIBUTIONS

- Faculty instructor, Winter Institute in Statistical Genetics (topic: microbiomes), Abu Dhabi 2017
- Chief Scientist for oceanographic research cruises CH-02-12 (July-August 2012), NH1315 (June 2013), NH1410 (May-June 2014), PE1601 (July 2015), PE1702 (July-August 2016), OC1705A (May 2017)
- Editor, *Environmental Microbiology* (February 2016-present)
- Editorial Board member, *Microbiome* (2012-present)
- Editorial Board member, *Frontiers in Microbiology* (2012-present)
- ad hoc manuscript reviewer for *Antarctic Science*, *Applied and Environmental Microbiology*, *BMC Evolutionary Biology*, *Deep Sea Research*, *Environmental Microbiology*, *FEMS Microbiology Letters*, *Frontiers in Microbiology*, *The ISME Journal*, *Marine Drugs*, *Microbial Ecology*, *Molecular Ecology*, *Molecular Systems Biology*, *Nature Communications*, *Nature Geoscience*, *Nature Microbiology*, *PeerJ*, *PLoS Genetics*, *PLoS ONE*, *PNAS*
- ad hoc grant proposal reviewer for NSF, NASA, DOE, the National Sea Grant College Program, the Austrian Science Fund, and the University of Vienna
- Panel reviewer for NSF, NASA
- Faculty instructor, Symbiomics Workshop, HYDRA Institute of Marine Science, May 2012

B. PUBLIC AND COMMUNITY SERVICE

- Director, *Summer Workshop in Marine Science* (SWiMS), 2015-present (SWiMS is a teacher development workshop focused on using marine science to improve high school life and earth science education in high needs districts in the Atlanta area; <https://swimsgatech.wordpress.com/>)
- Siemens Competition, Regional Judge, 2014

C. INSTITUTE CONTRIBUTIONS

- NSF Aquatic Chemical Ecology REU program site director (w/ Brian Hammer), 2014-present
- Leader, Microbiome Discussion Group, School of Biology, Fall 2015-present
- Ecology Faculty search committee, Fall 2015-present
- Coordinating committee, Ph.D. Program in Ocean Sciences & Engineering, 2014-present
- Undergraduate committee, 2013-present
- Steering committee, Southeastern Biogeochemistry Symposium, 2013-present
- Biology Faculty search committee, Fall 2015-present
- Organizing committee, School of Biology graduation celebration, 2012-present
- Organizing committee, School of Biology Holiday Party, 2012
- Coordinator, School of Biology Seminar Series, 2011-2012