

## CURRICULUM VITAE - *Stefan M. Sievert*

### **Stefan M. Sievert**

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### **EDUCATION**

1999 Ph.D. (summa cum laude), Microbial Ecology, Max-Planck-Institute for Marine Microbiology (MPI-MM) and University of Bremen, Germany.

1996 M.S. (Diplom, grade 1.0), Biological Oceanography, Alfred-Wegener Institute for Polar- and Marine Research and University of Bremen, Germany.

1992/93 Visiting graduate student (Fulbright Grantee), University of Washington (Seattle, WA).

1990 B.S. (Vordiplom, grade 1.0), Biology, Johannes Gutenberg-University, Mainz, Germany.

### **PROFESSIONAL EXPERIENCE**

2012 – Associate Scientist w/ Tenure, Woods Hole Oceanographic Institution (WHOI)

2007 – 2012 Associate Scientist, WHOI

2002 – 2006 Assistant Scientist, WHOI

2002 Postdoctoral Investigator, WHOI

2000 – 2002 Postdoctoral Scholar, WHOI

1999 – 2000 Postdoctoral Investigator, MPI-MM, Bremen, Germany

### **RESEARCH INTERESTS**

Composition, diversity, and function of microbial communities, with the goal to understand the relationship between microorganisms and their biogeochemical transformations. Special interests include chemosynthetic processes that are important in a variety of environments, such as hydrothermal systems, oxygen minimum zones, and sulfidic marine sediments. An emphasis is on organisms involved in sulfur cycling, and the evolution and ecological importance of CO<sub>2</sub>-fixation pathways other than the Calvin-Benson-Bassham cycle.

### **HONORS AND AWARDS**

2019 Doherty Chair in Education

2017 Tenured Associate Scientist Award, WHOI

2015 Invited professorship at the Université Pierre et Marie Curie (Paris VI).

2010 Senior Fellowship of the Alfried Krupp Wissenschaftskolleg Greifswald (Institute for Advanced Studies), Greifswald, Germany.

## CURRICULUM VITAE - *Stefan M. Sievert*

- 2004 Fellowship of the Hanse Wissenschaftskolleg (Institute for Advanced Studies), Delmenhorst, Germany
- 2000 Postdoctoral Scholar Award in Ocean Science and Engineering, WHOI
- 1992 Fulbright Scholarship, visiting graduate student at the School of Oceanography, University of Washington, Seattle, WA, sponsor: Prof. John A. Baross

### PROFESSIONAL ACTIVITIES

- Cruise Experience: Total of 12 research cruises. Chief scientist on five research cruises to the deep-sea vents at 9°N EPR on R/V *Atlantis* with either *Alvin* (4) or *Jason-II*. 21 dives in *Alvin* and 1 dive in *Nautile*.
- Organizer of International Symposium on Chemosynthetic-Based Ecosystems ([CBE6](#)) and associated [Morss Colloquium](#) on 40<sup>th</sup> Anniversary of Discovery of Deep-Sea Vents and Implications for Life on Earth and Elsewhere (Woods Hole, August 2017).
- Lead PI of NSF Dimensions of Biodiversity Grant (2011 – 2015). Involved 5 Co-PIs from 4 US institutions and collaborators from 3 countries. Chief scientist of research cruises and organizer of several project meetings. Organizer or Co-organizer of sessions at several international meetings (ASLO Aquatic Sciences 2001, 2003, 2009, 2013, 2016; Goldschmidt 2009, 2010; ASM General Meeting 2006)
- Associate member of SCOR working group ‘Hydrothermal energy transfer and its impact on the ocean carbon cycles’ and corresponding mirror group at InterRidge.
- Mentoring: Mentor of 9 postdocs, 3 graduate students (MSc, PhD), and 14 undergraduate summer/guest students. PhD thesis committee member of 8 students.
- Outreach Activities:
  - The research cruises AT26-10, AT26-23, AT37-12 on R/V *Atlantis* with either ROV *Jason-II* or HOV *Alvin*, respectively, involved various outreach efforts targeting K-12. This included a highly successful [Dive & Discover Expedition 15](#) website during AT26-10 with science writer David Levin, the [Dark Life cruise blog](#) during AT26-23 and AT37-12, online blogs and print articles in various Scholastic magazines by Scholastic science writer Jennifer Barone during AT26-10 and AT26-23, and a live feed from the ship to the New Bedford Ocean Explorium Family Night during AT26-10.
  - Visits to the New Bedford Ocean Explorium Family Night after AT26-10 and to various school classes in Massachusetts (Falmouth, Foxboro, Lexington) before and after the cruises (Grades 2 – 6).
  - Participation in the Massachusetts Marine Educators conference in 2014.
  - Collaboration with teacher Lisa Troy on an Engineering Design Challenge related to an instrument developed with NSF funds (Vent-SID) for a 6<sup>th</sup> grade class at The Sage School in Foxboro, MA. This project was described in a manuscript entitled *Engineering Partnerships: How collaborating with a scientist created an authentic engineering problem* that was published at Science Scope, a journal by the National Science

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Teachers Association for middle and high school science teachers (<http://www.nsta.org/middleschool/>).

- Adapting published PNAS paper for the [Science Journal for Kids](#)
- NSF panel member, ad hoc reviewer for NSF, foreign funding agencies (Austria, Chile, France, Germany), and private research foundations.
- Ad hoc reviewer for various journals, including Applied Environmental Microbiology, Archives of Microbiology, Astrobiology, BMC Microbiology, Environmental Microbiology, FEBS Journal, FEMS Microbiology Ecology, Frontiers, Geobiology, Geomicrobiology, ISME Journal, Microbial Ecology, Nature, Nature Microbiology, Peer Journal, PLoS, PNAS, Royal Society, Science, International Journal of Systematic and Evolutionary Microbiology, Systematic and Applied Microbiology. Editorial board of Applied and Environmental Microbiology (2010-2013), Editor for Frontiers in Microbiology and FEMS Microbiology Letters.

### PUBLICATIONS (Web of Science h-index: 34)

\*indicates student or postdoctoral scientist in my lab, #indicates student or postdoctoral scientist performing parts of their research in my lab, ^indicates corresponding author(s)

76. Bentley, J. N., G. T. Ventura, C. J. Dalzell, C. C. Walters, C. A. Peters, A. S. Mennito, R. K. Nelson, C. M. Reddy, J. S. Seewald, **S. M. Sievert**. 2022. Archaeal lipid diversity, alteration, and preservation at the Cathedral Hill deep sea hydrothermal vent, Guaymas Basin, Gulf of California, and its implications regarding the deep time preservation paradox. *Organic Geochemistry*, 163:104302.
75. Nichol J., S. Dyksma, M. Mußmann, J. S. Seewald, S. P. Sylva, and **S. M. Sievert**. 2021. Genus-Specific Carbon Fixation Activity Measurements Reveal Distinct Responses to Oxygen Among Hydrothermal Vent *Campylobacteria*. *Applied and Environmental Microbiology*. doi:10.1128/AEM.02083-21
74. Caramanna, G., **S. M. Sievert**, S. I. Bühring. 2021. Submarine shallow-water fluid emissions and their geomicrobiological imprint: a global overview. *Frontiers in Marine Sciences*, 8:727199.
73. Dalzell, C. J., G. T. Ventura. C. C. Walters, R. K. Nelson, C. M. Reddy, J. S. Seewald, **S. M. Sievert**. 2021. Hydrocarbon transformations in sediments from the Cathedral Hill hydrothermal vent complex at Guaymas Basin, Gulf of California – a chemometric study of shallow seep architecture. *Organic Geochemistry* 152:104173.
72. Hinzke, T., M. Kleiner, M. Meister, R. Schlüter, C. Hentschker, J. Pané-Farré, P. Hildebrandt, H. Felbeck, **S. M. Sievert**, F. Bonn, U. Völker, D. Becher, T. Schweder, S. Markert. 2021. Bacterial symbiont subpopulations have different roles in a deep-sea symbiosis. *eLife* 10:e58371
71. Mullineaux, L. S., S. W. Mills, N. Le Bris, S. E. Beaulieu, **S. M. Sievert**, L. N. Dykman. 2020. Prolonged recovery time after eruptive disturbance of a deep-sea hydrothermal vent community. *Proceedings of the Royal Society B* 287:20202070

## CURRICULUM VITAE - *Stefan M. Sievert*

70. Shiotani, T., S. Mino\*, W. Sato, **S. M. Sievert**, T. Sawabe. 2020. *Nitrosophilus alvini* gen. nov., sp. nov., a hydrogen-oxidizing chemolithoautotroph isolated from a deep-sea hydrothermal vent in the East Pacific Rise, inferred by a genome-based taxonomy of the phylum "*Campylobacterota*", PLoS One 15(12):e0241366.
69. Wang\*, C. H., L. K. Gulmann, T. Zhang, G. A. Farfan, C. M. Hansel, **S. M. Sievert**. 2020. Microbial colonization of metal sulfide minerals at a diffuse-flow deep-sea hydrothermal vent at 9°50'N on the East Pacific Rise. *Geobiology* 18:594-605
68. Hou, J., **S. M. Sievert**, Y. Wang, J. S. Seewald, V. Perumal Natarajan, F. Wang, X. Xiao. 2020. Microbial succession during the transition from active to inactive stages of deep-sea hydrothermal vent sulfide chimneys. *Microbiome* 8:102
67. Beam J. P., E. D. Becraft, J. M. Brown, F. Schulz, J. K. Jarett, O. Bezuidt, N. Poulton, K. Clark, P. Dunfield, N. V. Ravin, J. R. Spear, B. Hedlund, M. Stott, Kostas Kormas, **S. M. Sievert**, M. S. Elshahed, H. Barton, J. A. Eisen, D. Moser, T. C. Onstott, T. Woyke, R. Stepanauskas. 2020. Ancestral Absence of Electron Transport Chains in Patescibacteria and DPANN *Front. Microbiol.*, 17 August 2020
66. Hinzke T., M. Kleiner, C. Breusing, H. Felbeck, R. Häsler, **S. M. Sievert**, R. Schlüter, P. Rosenstiel, T. B. H. Reusch, T. Schweder, S. Markert. 2019. Host-Microbe Interactions in the Chemosynthetic *Riftia pachyptila* Symbiosis. *mBIO*, Volume 10 Issue 6 e02243-19, <https://mbio.asm.org/content/10/6/e02243-19>.
65. Ponnudurai, R., S. E. Heiden, L. Sayavedra, T. Hinzke, M. Kleiner, C. Hentschker, H. Felbeck, **S. M. Sievert**, R. Schlüter, D. Becher, T. Schweder, and S. Markert. 2019. Comparative proteomics of related symbiotic mussel species reveals high variability of host-symbiont interactions. *IMSE Journal*, <https://doi.org/10.1038/s41396-019-0517-6>.
64. Labonté, J. M., M. Pachiadaki, E. Ferguson, J. McNichol\*, A. Grosche, L. K. Gulmann, C. Vetriani, **S. M. Sievert**, R. Stepanauskas. 2019. Single cell genomics-based analysis of gene content and expression of prophages in a diffuse-flow deep-sea hydrothermal system. *Frontiers in Microbiology*, June 2109, 10, 1262, <https://doi.org/10.3389/fmicb.2019.01262>
63. Thomas\*, F., J. M. Morris, C. Wigand, **S. M. Sievert**. 2019. Short-term effect of simulated salt marsh restoration by sand-amendment on sediment bacterial communities. *PLoS One*. 14(4):e0215767, <https://doi.org/10.1371/journal.pone.0215767>
62. Youssef N., C. R. Hahn, I. Farag, J. Jarett, E. Becraft, E. Eloë-Fadrosch, J. Lightfoot, A. Bourgeois, T. Cole, S. Ferrante, M. Truelock, W. Marsh, M. Jamaledine, S. Ricketts, R. Simpson, A. McFadden, W. Hoff, N. Ravin, **S. Sievert**, R. Stepanauskas, T. Woyke, M. Elshahed. 2019. Genomic characterization of candidate division LCP-89 reveals an atypical cell wall structure, microcompartment production, and dual respiratory and fermentative capacities. *Applied and Environmental Microbiology*, doi:10.1128/AEM.00110-19
61. Dang, H., M. G. Klotz, C. R. Lovell, **S. M. Sievert**. 2019. Editorial: The response of marine microorganisms, communities and ecofunctions to environmental gradients. *Front. Microbiol.* <https://doi.org/10.3389/fmicb.2019.00115>

## CURRICULUM VITAE - *Stefan M. Sievert*

60. Le Bris, N., M. Yücel, A. Das, **S. M. Sievert**, L. PonnaPakkam, P. R Girgius. Hydrothermal energy transfer and organic carbon production at the deep seafloor. *Front. Marine Science*. In press.
59. **Sievert, S. M.**, J. McNichol\*, F. Thomas\*. 2018. How do deep-sea hot spring ecosystems work? *Environmental Science Journal for Kids*
58. Götz\* F., P. Pjevac, S. Markert, J. McNichol, D. Becher, T. Schweder, M. Mussmann, **S. M. Sievert**^. 2018. Transcriptomic and proteomic insight into the mechanism of cyclooctasulfur- versus thiosulfate-oxidation by the chemolithoautotroph *Sulfurimonas denitrificans*. *Environmental Microbiology*. <https://doi.org/10.1111/1462-2920.14452>
- 57 Longnecker K., **S. M. Sievert**, S. P. Sylva, J. S. Seewald, E. B. Kujawinski. 2018. Dissolved organic carbon compounds in deep-sea hydrothermal vent fluids from the East Pacific Rise at 9°50'N. *Organic Geochemistry* 125:41-49.
56. McNichol\*^, J., H. Stryhanyuk, S. P. Sylva, F. Thomas\*, N. Musat, J. S. Seewald, **S. M. Sievert**^. 2018. Primary productivity below the seafloor at deep-sea hot-springs. *Proceedings of the National Academy of Sciences of the USA* 115:6756-6761 <https://doi.org/10.1073/pnas.1804351115>
55. Troy L., N. Resnick, **S. M. Sievert**. 2018. Engineering Partnerships: How collaborating with a scientist created an authentic engineering problem. *ScienceScope* 41(8).
54. Götz# F., K. Longnecker, M. C. Kido-Soule, K. W. Becker, J. McNichol, E. B. Kujawinski, **S. M. Sievert**^. 2018. Targeted metabolomics reveals proline as a major osmolyte in the chemolithoautotroph *Sulfurimonas denitrificans*. *MicrobiologyOpen*. e586. <https://onlinelibrary.wiley.com/doi/full/10.1002/mbo3.586>
53. Signori#^, C. N., V. H. Pellizari, A. Enrich-Prast, **S. M. Sievert**^. 2018. Spatiotemporal dynamics of marine bacterial and archaeal communities in surface waters off the northern Antarctic Peninsula. *Deep-Sea Research Part II* 149:150-160.
52. Bühring^, S. I., **S. M. Sievert**^. 2017. The shallow submarine hot vent system off Milos (Greece) – a natural laboratory for the study of hydrothermal geomicrobiology. *In Life at Vents and Seeps*, Jens Kallmeyer (ed.), De Gruyter, Berlin, Germany.
51. Punudurai, R., L. Sayavedra, M. Kleiner, S. E. Heiden, A. Thürmer, H. Felbeck, R. Schlüter, **S. M. Sievert**, R. Daniel, T. Schweder, S. Markert. 2017. Genome sequence of the sulfur-oxidizing *Bathymodiolus thermophilus* gill endosymbiont. *Standards in Genomic Sciences* 12:50. doi: 10.1186/s40793-017-0266-y
50. Pérez-Rodríguez# I., **S. M. Sievert**, M. L. Fogel, D. I. Foustoukos. 2017. Biogeochemical N signatures from rate-yield trade-offs during in vitro chemosynthetic NO<sub>3</sub><sup>-</sup> reduction by deep-sea vent ε-Proteobacteria and Aquificae growing at different temperatures. *Geochimica et Cosmochimica Acta* 211:214–227.
49. Giovannelli D., **S. M. Sievert**, M. Hügler, S. Markert, D. Becher, T. Schweder, C. Vetriani. 2017. Insight into the evolution of microbial metabolism from the deep-branching bacterium, *Thermovibrio ammonificans*. *eLIFE* 6:e18990. <https://elifesciences.org/articles/18990>

## CURRICULUM VITAE - *Stefan M. Sievert*

48. Waite D. W., I. Vanwonterghem, C. Rinke, D. H. Parks, Y. Zhang, K. Takai, **S. M. Sievert**, J. Simon, B. J. Campbell, T. E. Hanson, T. Woyke, M. G. Klotz, P. Hugenholtz. 2017. Comparative Genomic Analysis of the Class *Epsilonproteobacteria* and Proposed Reclassification to *Epsilonbacteraeota* (phyl. nov.). *Frontiers in Microbiology* 8:682. <https://doi.org/10.3389/fmicb.2017.00682> and erratum 2018, 9:772. <https://doi.org/10.3389/fmicb.2018.00772>
47. Gomez-Saez G. V., P. Pop Ristova, **S. M. Sievert**, M. Elvert, K.-U. Hinrichs, S. I. Bühring. 2017. Relative importance of chemoautotrophy for primary production in a light exposed marine shallow hydrothermal system. *Frontiers in Microbiology* 8:702. <https://doi.org/10.3389/fmicb.2017.00702>
46. Mino, S., S. Nakagawa, H. Makita, T. Toki, J. Miyazaki, **S. M. Sievert**, M. Polz, F. Inagaki, A. Godfroy, S. Kato, H. Watanabe, T. Nunoura, K. Nakamura, H. Imachi, T. Watsuji, S. Kojima, K. Takai, T. Sawabe. 2017. Endemicity of the cosmopolitan mesophilic chemolithoautotroph *Sulfurimonas* at deep-sea hydrothermal vents. *ISME Journal* 11(4):909-919.
45. McNichol\*, J., S. P. Sylva, Fr. Thomas, C. D. Taylor, **S. M. Sievert**^, J. S. Seewald^. 2016. Assessing microbial processes in deep-sea hydrothermal systems by incubation at in situ temperature and pressure. *Deep-Sea Research Part I* 155:221-232.
44. He, Y., M. Li, V. Perumal, X. Feng, J. Fang, J. Xie, **S. M. Sievert**, F. Wang. 2016. Genomic and enzymatic evidence for acetogenesis among multiple lineages of the archaeal phylum Bathyarchaeota widespread in marine sediments. *Nature Microbiology* 1, article number 16035.
43. Gulmann, L. K., S. E. Beaulieu, T. M. Shank, K. Ding, W. E. Seyfried, **S. M. Sievert**^. 2015. Bacterial diversity and successional patterns during biofilm formation on freshly exposed basalt surfaces at diffuse-flow deep-sea vents. *Frontiers in Microbiology*, 6:901. <https://doi.org/10.3389/fmicb.2015.00901>
42. Signori<sup>#</sup>, C. N., F. Thomas, A. Enrich-Prast, R. C. G. Pollery, **S. M. Sievert**^. 2014. Microbial diversity and community structure across environmental gradients in Bransfield Strait, Western Antarctic Peninsula. *Frontiers in Microbiology*, 5:647. <https://doi.org/10.3389/fmicb.2015.00901>
41. Honjo, S., T. I. Eglinton, C. D. Taylor, K. M. Ulmer, **S. M. Sievert**, A. Bracher, C. R. German, V. Edgcomb, R. Francois, M. D. Iglesias-Rodriguez, B. van Mooy, D. J. Repeta. 2014. Understanding the role of the biological pump in the global carbon cycle: An imperative for ocean science. *Oceanography Magazine* 27(3):10–16.
40. Thomas\*^, F., A. E. Giblin, Z. G. Cardon, **S. M. Sievert**^. 2014. Rhizosphere heterogeneity shapes abundance and activity of sulfur-oxidizing bacteria in vegetated salt marsh sediments. *Frontiers in Microbiology* 5:309. <https://doi.org/10.3389/fmicb.2014.00309>
39. Zhang\* Y., **S. M. Sievert**. 2014. Pan-genome analyses identify lineage- and niche-specific markers of evolution and adaptation in *Epsilonproteobacteria*. *Frontiers in Microbiology*,

- 5:110. <https://doi.org/10.3389/fmicb.2014.00110>
38. Rinke C., P. Schwientek, A. Sczyrba, N. N. Ivanova<sup>1</sup>, I. J. Anderson, J.-F. Cheng, A. Darling, S. Malfatti, B. K. Swan, E. A. Gies, J. A. Dodsworth, B. P. Hedlund, G. Tsiamis, **S. M. Sievert**, W.-T. Liu, J. A. Eisen, S. J. Hallam, N. C. Kyrpides, R. Stepanauskas, E. M. Rubin, P. Hugenholtz, T. Woyke. 2013. Insights into the phylogeny and coding potential of microbial dark matter. *Nature* 499:431-437.
  37. Yücel, M., **S. M. Sievert**, C. Vetriani, D. I. Foustoukos, D. Giovannelli, N. Le Bris. 2013. Eco-geochemical dynamics of a shallow-water hydrothermal vent system at Milos Island, Aegean Sea (Eastern Mediterranean). *Chemical Geology* 356:11-20.
  36. **Sievert**<sup>^</sup>, **S. M.**, C. Vetriani. 2012. Chemoautotrophic at deep-sea vents: Past, present, and future. *Oceanography Magazine* 25(1): 218-233.
  35. Gardebrecht A., S. Markert, **S. M. Sievert**, H. Felbeck, A. Thürmer, D. Albrecht, A. Wollherr, J. Kabisch, N. Le Bris, R. Lehmann, R. Daniel, H. Liesegang, M. Hecker, T. Schweder. 2011. Comparative proteogenomics reveals physiological homogeneity among endosymbionts of the deep-sea vent tubeworms *Riftia pachyptila* and *Tevnia jerichonana*. *ISME Journal* 6: 766-776.
  34. Smith A., M. Fisk, M. Nielsen, C. G. Wheat, H. W. Jannasch, A. T. Fisher, K. Becker, **S. M. Sievert**, G. Flores, R. Popa. 2011. *In situ* enrichment of ocean crust microbes on igneous minerals and glasses using an osmotic flow-through device. *Geochemistry, Geophysics, Geosystems* 12 (6). doi: 10.1029/2010GC003424
  33. Markert S., A. Gardebrecht, H. Felbeck, **S. M. Sievert**, A. Thürmer, D. Becher, J. Klose, D. Albrecht, A. Wollherr, R. Daniel, M. Kleiner, M. Hecker, T. Schweder. 2011. Status quo in physiological proteomics of *Endoriftia persephone*, the uncultured endosymbiont of the giant tubeworm *Riftia pachyptila*. *Proteomics* 11:3106-3117.
  32. Hügler<sup>^</sup> M, **S. M. Sievert**<sup>^</sup>. 2011. Beyond the Calvin Cycle: Autotrophic Carbon Fixation in the Ocean. *Annual Review of Marine Science* Vol. 3:261-289.
  31. Foustoukos D. I., J. L. Houghton, W. E. Seyfried Jr., **S. M. Sievert**, G. D. Cody. 2011. Kinetics of H<sub>2</sub>-H<sub>2</sub>O redox equilibria and formation of metastable H<sub>2</sub>O<sub>2</sub> under low temperature hydrothermal conditions. *Geochimica et Cosmochimica Acta* 75:1594-1607.
  30. Hügler<sup>#</sup> M., J. M. Petersen, N. Dubilier, J. F. Imhoff, **S. M. Sievert**<sup>^</sup>. 2011. Pathways of carbon and energy metabolism of the epibiotic community associated with the deep-sea hydrothermal vent shrimp *Rimicaris exoculata*. *PLoS One* 6(1): e16018. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0016018>
  29. Bühring<sup>^</sup> S. I., **S. M. Sievert**<sup>^</sup>, H. M. Jonkers, T. Ertefai, M. S. Elshahed, L. R. Krumholz, K.-U. Hinrichs. 2011. Insights into chemotaxonomic composition and carbon cycling of phototrophic communities in an artesian sulfur-rich spring (Zodletone, Oklahoma, USA), a possible analogue for ancient microbial mat systems. *Geobiology* 9:166-179.
  28. Xie W., F. Wang, L. Guo, Z. Chen, **S. M. Sievert**, J. Meng, G. Huang, Y. Li, Q. Yan, S. Wu, X. Wang, S. Chen, G. He, X. Xiao, A. Xu. 2011. Comparative metagenomics of

## CURRICULUM VITAE - *Stefan M. Sievert*

- microbial communities inhabiting deep-sea hydrothermal vent chimneys with contrasting chemistries. *ISME Journal* 5:414-426.
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  26. Ehrhardt<sup>#</sup>, C. J., R. M. Haymon, **S. M. Sievert**, P. A. Holden. 2009. An improved method for nanogold *in situ* hybridization visualized with environmental scanning electron microscopy. *Journal of Microscopy* 236:5-10.
  25. Voordeckers J. W., M. Do, M. Hügler, V. Ko, **S. M. Sievert**, C. Vetriani. 2008. Culture dependent and independent analyses of 16S rRNA and ATP citrate lyase genes: a comparison of microbial communities from different black smoker chimneys on the Mid-Atlantic Ridge. *Extremophiles* 12:627-640.
  24. **Sievert**<sup>^</sup> **S. M.**, K. M. Scott<sup>^</sup>, M. Klotz, et al. 2008. The genome of epsilonproteobacterial chemolithoautotroph *Sulfurimonas denitrificans*. *Applied and Environmental Microbiology* 74:1145-1156.
  23. **Sievert**<sup>^</sup>, **S.M.**, M. Hügler<sup>\*</sup>, C. O. Wirsen, C. D. Taylor. 2008. Sulfur oxidation at deep-sea hydrothermal vents. Pp 238-258 In “Microbial Sulfur Metabolism”, C. Dahl & C. G. Friedrich (eds), Springer, Berlin, Germany. ISBN-13 978-3-540-72679-1.
  22. Kniemeyer O., F. Musat, **S. M. Sievert**, K. Knittel, H. Wilkes, M. Blumenberg, W. Michaelis, C. Bolm, S. B. Joye, F. Widdel. 2007. Anaerobic oxidation of propane and butane by novel marine sulphate-reducing bacteria. *Nature* 449:898-901.
  21. **Sievert**<sup>^</sup>, **S. M.**, R. Kiene, H. Schulz. 2007. The sulfur cycle. The Oceanography Society June '07 special issue “A Sea of Microbes” edited by Lita Procter and David Karl.
  20. Tait<sup>\*</sup>, E., M. Carman, **S. M. Sievert**<sup>^</sup>. 2007. Phylogenetic diversity of bacteria associated with ascidians in Eel Pond (Woods Hole, Massachusetts, USA). *Journal of Experimental Marine Biology and Ecology* 342:138-146.
  19. Markert S., C. Arndt, H. Felbeck, R. A. Feldman, D. Becher, **S. M. Sievert**, M. Hügler, D. Albrecht, J. Robidart, S. Bench, M. Hecker, T. Schweder. 2007. Approaching the uncultivable endosymbiont of *Riftia pachyptila* by physiological proteomics. *Science* 315:247-250.
  18. Hügler<sup>\*</sup> M., H. Huber, S. J. Molyneaux, C. Vetriani, **S. M. Sievert**<sup>^</sup>. 2007. Autotrophic CO<sub>2</sub> fixation via the reductive tricarboxylic acid cycle in different lineages within the phylum *Aquificae*. Evidence for two ways of citrate cleavage. *Environmental Microbiology* 9:271-276.



## CURRICULUM VITAE - *Stefan M. Sievert*

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## CURRICULUM VITAE - *Stefan M. Sievert*

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### GRADUATE AND POST DOCTORAL ADVISORS

Advisor during Fulbright: Dr. J. A. Baross (School of Oceanography, UW); Master thesis advisor: Dr. Karin Lochte (AWI Bremerhaven, Germany); Ph.D. adviser: Dr. F. Widdel (MPI Bremen, Germany); Postdoctoral advisors: Dr. C. Taylor, Mr. C. Wirsen (both WHOI), Dr. A. Teske (WHOI, now UNC Chapel Hill)

### STUDENTS AND POSTDOCS ADVISED

Postdocs: Robert Scharping (postdoc scholar, co-sponsored w/ Matt Charette [MC&G] and John Pohlman, [USGS], now at Florida Southern College), Kevin Becker (postdoc scholar, co-sponsored w/ Ben van Mooy [MC&G] and John Pohlman, [USGS], now research scientist at Geomar, Kiel, Germany), Camila Signori (guest investigator from University of Sao Paulo, Brazil, 2015, now Professor at Instituto Oceanográfico at University of Sao Paulo, Brazil), François Thomas (postdoc investigator, now a CNRS Researcher at Station Biologique de Roscoff, France), Ying Zhang (postdoc scholar, now Associate Professor at University of Rhode Island), Karyn Rogers (postdoc scholar, co-sponsored w/ J. Seewald, now Associate Professor at Rensselaer Polytechnic Institute), Lara Gulmann (postdoc investigator), Cornelia Wuchter (postdoc investigator), Michael Hügler (postdoc scholar, now Staff Scientist at Water Technology Center, Karlsruhe, Germany)

Graduate Students: Florian Götz, (guest student from University of Greifswald, Germany, PhD 2021), Diego Franco (guest student from University of Sao Paulo, Brazil), Jesse McNichol (WHOI/MIT JP graduate student, PhD 2016, now postdoc at University of Southern California),

## CURRICULUM VITAE - *Stefan M. Sievert*

Clarissa Karthäuser, (guest student from University of Kiel, 2015), Sayaka Mino (guest student from Hokkaido University, Japan, 2014), Camila Signori (guest student from Federal University of Rio de Janeiro, Brazil, 2013), Kevin Richberg (WHOI/MIT JP graduate student, MSc 2010)

Undergraduate Students: Natalia Rodriguez (PEP student, 2019), Chloe Wang (WHOI summer student fellow (SSF), 2016), Aubrey Kinefick (guest student, 2013), Carolyn Toney (guest student, 2011), Erica Hildebrand (SSF, 2009), Toby Hammer (WHOI SSF, 2008), Dorothea Paulssen (WHOI SSF, 2007), Melissa Duhaime (guest student, 2005), Elia Tait (WHOI SSF, 2004, won poster award at ASLO AqSciMtg, 2005), Whitney Krey (WHOI SSF, 2003, REU, 2004), Caroline Graeber (guest student, 2003), Geoffrey Morris (WHOI SSF, 2002)

### CONTRIBUTIONS TO WHOI'S ACADEMIC PROGRAM

I have a keen interest in taking part in WHOI's academic program, and I find the interaction with students and postdocs to be a very stimulating and rewarding experience. I have participated in a number of teaching activities: I have co-taught *Biological Oceanography* ('07 - '09), have developed and taught *Marine Microbiology and Biogeochemistry* together with Amy Apprill ('13, '15, '17, '19), and have co-taught 4 topics seminar courses ('06, '09, '18, Fall '20). Together with Amy Apprill I have also received a *Doherty Chair in Education* grant to develop a Field Course component of our Class (*WHOI-MIT Field Course in Microbial Oceanography*) which took place from January 19 to 29, 2020 at the Bermuda Institute of Ocean Science. I have advised JP students Kevin Richberg (MSc in 2010) and Jesse McNichol (PhD in 2016), and have served or am serving on the thesis committee of JP students (7 total, 1 current). Over the years, I have also mentored a total of 7 summer student fellows and 6 undergraduate guest students, including a *Partnership in Education Student* (<https://www.woodsholediversity.org/pep/>) this year and in addition to a number of international guest students. I have been the primary sponsor and co-sponsor of 2 and 3 postdoctoral scholars, respectively, and have mentored 4 postdoctoral investigators. I have also served on the postdoc mentoring committee of the Biology Department.

### PROFESSIONAL AFFILIATIONS

American Society for Microbiology (ASM), Association for the Sciences of Limnology and Oceanography (ASLO), American Geophysical Union (AGU), International Society for Microbial Ecology (ISME), Vereinigung für Allgemeine und Angewandte Mikrobiologie e.V. (VAAM)

### CRUISE PARTICIPATION

RR21-02, 9-10°N East Pacific Rise (EPR); R/V Roger Revelle, ROV Jason, AUV Sentry; March 24, 2017 – April 25, 2021; Chief Scientist: Dan Fornari

Dark Life II - Expedition to Study Subseafloor Life at Deep-Sea Vents (AT37-12). 9-10°N East Pacific Rise (EPR) R/V Atlantis and HOV Alvin, April 24, 2017 – May 14, 2017, Alvin Dives 4893 – 4905. Chief Scientist: Stefan Sievert, WHOI. <http://web.who.edu/darklife/>

## CURRICULUM VITAE - *Stefan M. Sievert*

- Brazilian Antarctic Program Interbiota Operantar XXXIV, Southern Ocean, Western Antarctic Peninsula, Brazilian research vessel *Npo. Almirante Maximiano* (H41), February - March 2016. Chief Scientist: Eduardo Secchi
- Dark Life - Expedition to Study Subseafloor Life at Deep-Sea Vents (AT26-23). 9-10°N East Pacific Rise (EPR) R/V *Atlantis* and HOV *Alvin*, Nov 2, 2014 – Nov 26, 2014, *Alvin* Dives 4761 – 4776. Chief Scientist: Stefan Sievert, WHOI. <http://web.whoi.edu/darklife/category/dark-life-2014/>
- Dark Life at Deep-sea Vents (AT26-10), 9-10°N East Pacific Rise (EPR)R/V *Atlantis* and ROV *Jason*, Dec 29, 2013 – Jan 26, 2014, *Jason II* Dives 758 – 762. Chief Scientist: Stefan Sievert, WHOI. <http://www.divediscover.whoi.edu/expedition15/index.html>
- DOBS cruise, R/V *Endeavor*, July 23 – Aug 9, 2012. Chief Scientist: Stefan Sievert, WHOI
- MESCAL leg 1, 9-10°N East Pacific Rise (EPR), N/O *L'Atalante* & DSV *Nautile*, April 27-May 2010, DSV *Nautile* dives 1726-1730. Chief Scientist: Nadine Le Bris, Observatoire Océanologique de Banyuls sur mer, France.
- FIX08-II (AT15-38), Guaymas Basin and 9-10°N EPR, R/V *Atlantis* & DSV *Alvin*, Oct 13-Nov 5 2008, DSV *Alvin* dives 4457-4469. Chief scientist: Stefan Sievert, WHOI.
- FIX08-I (AT15-28), 9-10°N and 13°N EPR, R/V *Atlantis* & DSV *Alvin*, Dec 28 2007-Jan 19 2008, DSV *Alvin* dives 4457-4469. Chief scientist: Stefan Sievert, WHOI. <http://www.interridge.org/node/5363>
- AT15-25, Guaymas Basin, R/V *Atlantis* & DSV *Alvin*, Oct 18-28 2007. DSV *Alvin* dives 4355-4359. Chief Scientist: Costantino Vetriani, Rutgers University.
- AT15-15, 9-10°N EPR, R/V *Atlantis* & DSV *Alvin*, Jan-Feb 7 2007, DSV *Alvin* dives 4297-4318. Chief Scientist: Timothy Shank, WHOI.
- RESET06 (AT15-06), 9-10°N EPR, R/V *Atlantis* & DSV *Alvin*, June 18-July 7 2006, DSV *Alvin* dives 4201-4207. Chief Scientist: Karen von Damm, University of New Hampshire. Our project contributed two *Alvin* dives to this community driven rapid response cruise to study the aftermath of the '05/'06 eruption.
- EXTREME 2002, 9-10°N EPR, R/V *Atlantis* & DSV *Alvin*, Oct 20-Nov 12 2002. Chief Scientist: Craig Cary, University of Delaware.
- Hydrothermal Fluxes and Biological Production in the Aegean and Fluxes in the Anoxic Basins of the Mediterranean Ridge (M40/2), Dec 2 – Dec 23, 1998, R/V *Meteor*, Chief Scientist: Peter Linke, IfM-Geomar Kiel, Germany.