

## In press

Studer, A.S., **Wörmer, L.**, Vogel, H., Dubois, N., Bartosiewicz, M., **Hinrichs, K.-U.**, Lepori, F., and Lehmann, M.F. (2024) First lacustrine application of the diatom-bound nitrogen isotope paleo-proxy reveals coupling of denitrification and N<sub>2</sub> fixation in a hyper-eutrophic lake. *Limnology and Oceanography*, <https://doi.org/10.1002/lno.12627> (early view online 08 July 2024)

Benito Merino, D., **Lipp, J.S.**, Borrel, G., Boetius, A., and **Wegener, G.** (2024) Anaerobic hexadecane degradation by a thermophilic Hadarchaeon from Guaymas Basin. *The ISME Journal*, 18(1), wrad004. [doi:10.1093/ismejo/wrad004](https://doi.org/10.1093/ismejo/wrad004) (Vol in progress)

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## 2024

Seewald, J.S., Wheat, C.G., Reeves, E.P., Tivey, M.K., Sievert, S.M., Stakes, D. Sylva, S.P., Lilley, M.D., and **Heuer, V.B.** (2024) Spatial evolution and temporal stability of hydrothermal processes at sediment-covered spreading centers: Constraints from Guaymas Basin, Gulf of California. *Geochimica et Cosmochimica Acta*, 367, 87-106. [doi:10.1016/j.gca.2023.12.006](https://doi.org/10.1016/j.gca.2023.12.006)

**Wang, J.**, Zhao, B., Yao, P., Bianchi, T.S., **Lipp, J.S.**, **Elvert, M.**, Yu, Z., Yu, Z., and **Hinrichs, K.-U.** (2024) Size-fractionated distribution of glycerol dialkyl glycerol tetraether core lipids in surface sediments of a large-river delta-front estuary. *Science of the Total Environment*, 912, 169626. [doi:10.1016/j.scitotenv.2023.169626](https://doi.org/10.1016/j.scitotenv.2023.169626)

Xiao, H., Li, M., and **Nettersheim, B.J.** (2024) Short chain tricyclic terpanes as organic proxies for paleo-depositional conditions. *Chemical Geology*, 652, 122023. <https://doi.org/10.1016/j.chemgeo.2024.122023>

Yin, X., Zhou, G., Cai, M., Richter-Heitmann, T., **Zhu, Q.-Z.**, Maeke, M., Kulkarni, A.C., Nimzyk, R., **Elvert, M.**, and Friedrich, M.W. (2024) Physiological versatility of ANME-1 and Bathyarchaeoeta-8 archaea evidenced by inverse stable isotope labeling. *Microbiome*, 12, 68. [doi:10.1186/s40168-024-01779-z](https://doi.org/10.1186/s40168-024-01779-z)

Yin, X., Zhou, G., Wang, H., Han, D., Maeke, M., Richter-Heitmann, T., Wunder, L.C., Aromokeye, D.A., **Zhu, Q.-Z.**, Nimzyk, R., **Elvert, M.**, and Friedrich, M.W. (2024) Unexpected carbon utilization activity of sulfate-reducing microorganisms in temperate and permanently cold marine sediments. *The ISME Journal*, 18 (1), wrad014. [doi:10.1093/ismejo/wrad014](https://doi.org/10.1093/ismejo/wrad014)

**Zhu, Q.Z.**, **Elvert, M.**, **Meador, T.B.**, **Doeana, K.**, **Becker, K.**, **Elling, F.**, **Lipp, J.**, **Heuer, V.**, Zabel, M., and **Hinrichs, K.-U.** (2024) Comprehensive molecular-isotopic characterization of archaeal lipids in the Black Sea water column and underlying sediments. *Geobiology*, 22, e12589. [doi:10.1111/gbi.12589](https://doi.org/10.1111/gbi.12589)

**Zhu, Q.-Z.**, Yin, X., **Taubner, H.**, **Wendt, J.**, Friedrich, M.W., **Elvert, M.**, **Hinrichs, K.-U.**, and Middelburg, J.J. (2024) Secondary production and priming reshape the organic matter composition in marine sediments. *Science Advances*, 10, eadm8096. <https://doi.org/10.1126/sciadv.adm8096>

## 2023

Brocks, J.J., **Nettersheim, B.J.**, Adam, P., Schaeffer, P., Jarrett, A.J., Güneli, N., Liyanage, T., Van Maldegem, L.M., Hallmann, C., and Hope, J.M. (2023) Lost world of complex life and the late rise of the eukaryotic crown. *Nature*, 618, 767–773. [doi:10.1038/s41586-023-06170-w](https://doi.org/10.1038/s41586-023-06170-w)

Castillejos Sepúlveda, A., Metzger, E., Littmann, S., **Taubner, H.**, Chennu, A., Gatti, L., de Beer, D., and Klatt, J.M. (2023) Two-dimensional mapping of arsenic concentration and speciation with diffusive equilibrium in thin-film gels. *Environmental Science and Technology*, 57 (21), 8107–8117. [doi:10.1021/acs.est.3c00887](https://doi.org/10.1021/acs.est.3c00887)

da Silva Resende, J.S., Pereira, R., Bernardino, A.F., Longhini, C.M., Lehrback, B.D.C., da Silva, C.A., Costa, E.S., **Elvert, M.**, and Neto, R.R. (2023) Organic matter changes at the Doce River Mouth caused by the Fundão dam mine tailing collapse. *Water, Air and Soil Pollution*, 234:486. [doi:10.1007/s11270-023-06487-2](https://doi.org/10.1007/s11270-023-06487-2)

**Gan, S.**, **Heuer, V.B.**, **Schmidt, F.**, **Wörmer, L.**, and **Hinrichs, K.-U.** (2023) A simple guideline to apply Excitation-Emission Matrix Spectroscopy (EEMs) for the characterization of dissolved organic matter (DOM) in anoxic marine sediments. *Acta Oceanologica Sinica*, 42, 109-119. [doi:10.1007/s13131-022-2050-0](https://doi.org/10.1007/s13131-022-2050-0)

- Goudriaan, M., Morales, V.H., van der Meer, M.T.J., Mets, A., Ndhlovu, R.T., van Heerwarden, J, **Simon, S., Heuer, V.B., Hinrichs, K.-U.**, and Niemann, H. (2023) A stable isotope assay with <sup>13</sup>C-labeled polyethylene to investigate plastic mineralization mediated by *Rhodococcus ruber*. *Marine Pollution Bulletin*, 186, 114369. [doi:10.1016/j.marpolbul.2022.114369](https://doi.org/10.1016/j.marpolbul.2022.114369)
- Han, D., Richter-Heitmann, T., Kim, J.-H., Friedrich, M.W., Yin, X., **Elvert, M.**, Ryu, J.-S., Jang, K., and Nam, S.-I. (2023) Influence of sedimentary deposition on the microbial assembly process in Arctic Holocene marine sediments. *Frontiers in Microbiology*, 14:1231839. [doi:10.3389/fmicb.2023.1231839](https://doi.org/10.3389/fmicb.2023.1231839)
- Hoshino, Y., **Nettersheim, B.J.**, Gold, D.A., Hallmann, C., Vinnichenko, G., Van Maldegem, L.M., Bishop, C., Brocks, J.J., and Gaucher, E.A. (2023) Genetics re-establish the utility of 2-methylhopanes as cyanobacterial biomarkers before 750 million years ago. *Nature Ecology & Evolution*. [doi:10.1038/s41559-023-02223-5](https://doi.org/10.1038/s41559-023-02223-5)
- Lever, M.A., Alperin, M.J., **Hinrichs, K.-U.**, and Teske, A. (2023) Zonation of the active methane-cycling community in deep subsurface sediments of the Peru Trench. *Frontiers in Microbiology*, 14:1192029. [doi:10.3389/fmicb.2023.1192029](https://doi.org/10.3389/fmicb.2023.1192029)
- Neubauer, C., Kantnerová, K., Lamothe, A., Savarino, J., Hilkert, A., Juchelka, D., **Hinrichs, K.-U., Elvert, M., Heuer, V., Elsner, M., Bakkour, R., Julien, M., Öztoprak, M., Schouten, S., Hattori, S., and Dittmar, T.** (2023) Discovering nature's fingerprints: Isotope ratio analysis on bioanalytical mass spectrometers. *Journal of the American Society for Mass Spectrometry*, 34, 525-537. [doi:10.1021/jasms.2c00363](https://doi.org/10.1021/jasms.2c00363)
- Saito, R., **Wörmer, L., Taubner, H.**, Kaiho, K., Takahashi, S., Tian, L., Ikeda, M., Summons, R.E., and **Hinrichs, K.-U.** (2023) Centennial scale sequences of environmental deterioration preceded the end-Permian mass extinction. *Nature Communications*, 14, 2113. [doi:10.1038/s41467-023-37717-0](https://doi.org/10.1038/s41467-023-37717-0)
- Stief, P., Schaubberger, C., Becker, K.W., **Elvert, M.**, Balmonte, J.P., Franco-Cisterna, B., Middelboe, M., and Glud, B.M. (2023) Hydrostatic pressure induces transformations in the organic matter and microbial community composition of marine snow particles. *Communications Earth & Environment*, 4, 377. <https://doi.org/10.1038/s43247-023-01045-4>
- Vigderovich, H., Eckert, W., **Elvert, M.**, Gafni, A., Rubin-Blum, M., Bergman, O., and Sivan, O. (2023) Aerobic methanotrophy increases the net iron reduction in methanogenic lake sediments. *Frontiers in Microbiology*, 14:1206414. [doi:10.3389/fmicb.2023.1206414](https://doi.org/10.3389/fmicb.2023.1206414)
- Yu, T., **Wu, W.**, Liang, W., Wang, Y., Hou, J., Chen, Y., **Elvert, M., Hinrichs, K.-U.**, and Wang, F. (2023) Anaerobic degradation of organic carbon supports uncultured microbial populations in estuarine sediments. *Microbiome*, 11, 81. [doi:10.1186/s40168-023-01531-z](https://doi.org/10.1186/s40168-023-01531-z)

## 2022

- Beulig, F., Schubert, F., **Adhikari, R.R.**, Glombitza, C., **Heuer, V.B., Hinrichs, K.-U.**, Homola, K.L., Inagaki, F., Jørgensen, B.B., Kallmeyer, J., Krause, S.J.E., Morono, Y., Sauvage, J., Spivack, A.J., and Treude, T. (2022) Rapid metabolism fosters microbial survival in the deep, hot seafloor biosphere. *Nature Communications*, 13:312. [doi:10.1038/s41467-021-27802-7](https://doi.org/10.1038/s41467-021-27802-7)
- Brünjes, J.**, Seidel, M., Dittmar, T., Niggemann, J., and **Schubotz, F.** (2022) Natural asphalt seeps are potential sources for recalcitrant oceanic dissolved organic sulfur and dissolved black carbon. *Environmental Science & Technology*, 56, 9092-9102. [doi:10.1021/acs.est.2c01123](https://doi.org/10.1021/acs.est.2c01123)
- Coffinet, S., Mühlhena, L., Lipp, J.S.**, Weil, M., Neubauer, C., Urich, T., and **Hinrichs, K.-U.** (2022) Evidence for enzymatic backbone methylation of the main membrane lipids in the archaeon *Methanomassiliicoccus luminyensis*. *Applied and Environmental Microbiology*, 88, e02154-21. [doi:10.1128/aem.02154-21](https://doi.org/10.1128/aem.02154-21)
- Helten, O.**, Ostertag-Henning, C., Bach, W., and **Hinrichs, K.-U.** (2022) Generation and decomposition of low-molecular-weight organic acids in hydrous pyrolysis experiments with Opalinus Clay rock. *Organic Geochemistry*, 172, 104481. [doi:10.1016/j.orggeochem.2022.104481](https://doi.org/10.1016/j.orggeochem.2022.104481)
- Huang, X., Liu, X., Xue, Y., Pan, B., Xiao, L., Wang, S., Lever, M.A., **Hinrichs, K.-U.**, Inagaki, F., and Liu, C. (2022) Methane production by facultative anaerobic wood-rot fungi via a new halomethane-dependent pathway. *Microbiology Spectrum*, 10, e01700-22. [doi:10.1128/spectrum.01700-22](https://doi.org/10.1128/spectrum.01700-22)
- Kropp, C., **Lipp, J.**, Schmidt, A.-L., Seisenberger, C., Linde, M., **Hinrichs, K.-U.**, and Babinger, P. (2022) Identification of acetylated diether lipids in halophilic Archaea. *Microbiology Open*, 11, e1299. [doi:10.1002/mbo3.1299](https://doi.org/10.1002/mbo3.1299)

- Lazar, C.S., Schmidt, F., Elvert, M., Heuer, V.B., Hinrichs, K.-U., and Teske, A. (2022) Microbial diversity gradients in the geothermal mud volcano underlying the hypersaline Urania Basin. *Frontiers in Microbiology*, 13:1043414. [doi:10.3389/fmicb.2022.1043414](https://doi.org/10.3389/fmicb.2022.1043414)
- Liu, W., Alfken, S., Wörmer, L., Lipp, J.S., and Hinrichs, K.-U. (2022) Hidden molecular clues in marine sediments revealed by untargeted mass spectrometry imaging. *Frontiers in Earth Science*, 10:931157. [doi:10.3389/feart.2022.931157](https://doi.org/10.3389/feart.2022.931157)
- Napier, T., Wörmer, L., Wendt, J., Lückge, A., Rohlfs, N., and Hinrichs, K.-U. (2022) Sub-annual to interannual Arabian Sea upwelling, sea surface temperature, and Indian monsoon rainfall reconstructed using congruent micrometer-scale climate proxies. *Paleoceanography and Paleoclimatology*, 37, e2021PA004355. [doi:10.1029/2021PA004355](https://doi.org/10.1029/2021PA004355)
- Obrecht, I., De Vleeschouwer, D., Wörmer, L., Kucera, M., Varma, D., Prange, M., Laepple, T., Wendt, J., Nandini-Weiss, S. D., Schulz, H., and Hinrichs, K.-U. (2022) Last Interglacial decadal sea surface temperature variability in the eastern Mediterranean. *Nature Geoscience*, 15, 812-818. [doi:10.1038/s41561-022-01016-y](https://doi.org/10.1038/s41561-022-01016-y)
- Sievert, S.M., Bühring, S.I., Gulmann, L.K., Hinrichs, K.-U., Pop Ristova, P., and Gomez-Saez, G.V. (2022) Fluid flow stimulates chemoautotrophy in hydrothermally influenced coastal sediments. *Communications Earth & Environment*, 3, 96. [doi:10.1038/s43247-022-00426-5](https://doi.org/10.1038/s43247-022-00426-5).
- Tourte, M., Coffinet, S., Wörmer, L., Lipp, J.S., Hinrichs, K.-U., and Oger, P.M. (2022) The exploration of the *Thermococcus barophilus* lipidome reveals the widest variety of phosphoglycolipids in Thermococcales. *Frontiers in Microbiology*, 13:869479. [doi:10.3389/fmicb.2022.869479](https://doi.org/10.3389/fmicb.2022.869479)
- Vigderovich, H., Eckert, W., Elul, M., Rubin-Blum, M., Elvert, M., and Sivan, O. (2022) Long-term incubations provide insights into the mechanisms of anaerobic oxidation of methane in methanogenic Lake Kinneret sediments. *Biogeosciences*, 19, 2313–2331. [doi:10.5194/bg-19-2313-2022](https://doi.org/10.5194/bg-19-2313-2022)
- Wörmer, L., Wendt, J., Boehman, B., Haug, G., and Hinrichs, K.-U. (2022) Deglacial increase of temperature variability in the tropical ocean. *Nature*, 612, 88-91. [doi:10.1038/s41586-022-05350-4](https://doi.org/10.1038/s41586-022-05350-4)
- Yin, X., Zhou, G., Cai, M., Zhu, Q.-Z., Richter-Heitmann, T., Aromokeye, D.A., Liu, Y., Nimzyk, R., Zheng, Q., Tang, X., Elvert, M., Li, M., and Friedrich, M.W. (2022). Catabolic protein degradation in marine sediments confined to distinct archaea. *The ISME Journal*, 16, 1617–1626. [doi:10.1038/s41396-022-01210-1](https://doi.org/10.1038/s41396-022-01210-1)
- Zabel, M., Glud, R.N., Sanei, H., Elvert, M., Pape, T., Chuang, P.-C., Okuma, E., Geprägs, P., and Kölling, M. (2022) High carbon mineralization rates in seafloor hadal sediments - Result of frequent mass wasting. *Geochemistry, Geophysics, Geosystems*, 23, e2022GC010502. <https://doi.org/10.1029/2022GC010502>
- Zhu, Q.-Z., Wegener, G., Hinrichs, K.-U., and Elvert, M. (2022) Activity of ancillary heterotrophic community members in anaerobic methane-oxidizing cultures. *Frontiers in Microbiology*, 13:912299. [doi:10.3389/fmicb.2022.912299](https://doi.org/10.3389/fmicb.2022.912299)

## 2021

- Alfken, S., Wörmer, L., Lipp, J.S., Napier, T., Elvert, M., Wendt, J., Schimmelmann, A., and Hinrichs, K.-U. (2021) Disrupted coherence between upwelling strength and redox conditions reflects source water change in Santa Barbara Basin during the 20th century. *Paleoceanography and Paleoclimatology*, 36, e2021PA004354. [doi:10.1029/2021PA004354](https://doi.org/10.1029/2021PA004354)
- Aromokeye, D., Oni, O., Tebben, J., Yin, X., Richter-Heitmann, T., Wendt, J., Nimzyk, R., Littmann, S., Tienken, D., Kulkarni, A., Henkel, S., Hinrichs, K.-U., Elvert, M., Harder, T., Kasten, S., and Friedrich, M. (2021) Crystalline iron oxides stimulate methanogenic benzoate degradation in marine sediment-derived enrichment cultures. *The ISME Journal*, 15, 965-980. [doi:10.1038/s41396-020-00824-7](https://doi.org/10.1038/s41396-020-00824-7)
- Aromokeye, D.A., Willis-Poratti, G., Wunder, L.C., Yin, X., Wendt, J., Richter-Heitmann, T., Henkel, S., Vázquez, S., Elvert, M., Mac Cormack, W., and Friedrich, M. (2021) Macroalgae degradation promotes microbial iron reduction via electron shuttling in coastal Antarctic sediments. *Environment International*, 156, 106602. [doi:10.1016/j.envint.2021.106602](https://doi.org/10.1016/j.envint.2021.106602)
- Chuang, P.-C., Dale, A.W., Heuer, V.B., Hinrichs, K.-U., and Zabel, M. (2021) Coupling of dissolved organic carbon, sulfur and iron cycling in Black Sea sediments over the Holocene and the late Pleistocene: insights from an empirical dynamic model. *Geochimica et Cosmochimica Acta*, 307, 302-318. [doi:10.1016/j.gca.2021.04.032](https://doi.org/10.1016/j.gca.2021.04.032)
- Kiel Reese, B., Sobol, M.S., Bowles, M.W., and Hinrichs, K.-U. (2021) Redefining the subsurface biosphere: Characterization of fungi isolated from energy-limited marine deep subsurface sediment. *Frontiers in Fungal Biology*, 2:727543. [doi:10.3389/ffunb.2021.727543](https://doi.org/10.3389/ffunb.2021.727543)

- Leistenschneider, C., Burkhardt-Holm, P., Mani, T., Primpke, S., **Taubner, H.**, and Gerds, G. (2021) Microplastics in the Weddell Sea (Antarctica): a forensic approach for discrimination between environmental and vessel-induced microplastics. *Environmental Science and Technology*, 55, 15900-15911. [doi:10.1021/acs.est.1c05207](https://doi.org/10.1021/acs.est.1c05207)
- Ono, S., Rhim, J.H., Gruen, D.S., **Taubner, H.**, Kölling, M., and Wegener, G. (2021) Clumped isotopologue fractionation by microbial cultures performing the anaerobic oxidation of methane. *Geochimica et Cosmochimica Acta*, 293, 70-85. [doi:10.1016/j.gca.2020.10.015](https://doi.org/10.1016/j.gca.2020.10.015)
- Rissanen, A.J., Saarela, T., Jäntti, H., Buck, M., Peura, S., Aalto, S.L., Ojala, A., Pumpanen, J., Tirola, M., **Elvert, M.**, and Nykänen, H. (2021) Vertical stratification patterns of methanotrophs and their genetic controllers in water columns of oxygen-stratified boreal lakes. *FEMS Microbiology Ecology*, 97, fiae252. [doi:10.1093/femsec/fiae252](https://doi.org/10.1093/femsec/fiae252)
- Saona, L.A., Soria, M., Durán-Toro, V.D., **Wörmer, L.**, Milucka, J., Castro-Nallar, E., Meneses, C., Contreras, M., and Fariás, M.E. (2021) Phosphate-arsenic interactions in halophilic microorganisms of the microbial mat from Laguna Taenices: from the microenvironment to the genomes. *Microbial Ecology*, 81, 941-953. [doi:10.1007/s00248-020-01673-9](https://doi.org/10.1007/s00248-020-01673-9)
- Sherwood Lollar, B., **Heuer, V.B.**, McDermott, J., Tille, S., Warr, O., Moran, J.J., Telling, J., and **Hinrichs, K.-U.** (2021) A window into the abiotic carbon cycle—acetate and formate in fracture waters in 2.7 billion year-old host rocks of the Canadian Shield. *Geochimica et Cosmochimica Acta*, 294, 295-314. [doi:10.1016/j.gca.2020.11.026](https://doi.org/10.1016/j.gca.2020.11.026)
- Song, M.**, **Schubotz, F.**, **Kellermann, M.Y.**, Hansen, C.T., Bach, W., Teske, A.P., and **Hinrichs, K.-U.** (2021) Formation of ethane and propane via abiotic reductive conversion of acetic acid in hydrothermal sediments. *Proceedings of the National Academy of Sciences*, 118 (47), e2005219118. [doi:10.1073/pnas.2005219118](https://doi.org/10.1073/pnas.2005219118)
- Stief, P., **Elvert, M.**, and Glud, R.N. (2021) Respiration by ‘marine snow’ at high hydrostatic pressure: Insights from continuous oxygen measurements in a rotating pressure tank. *Limnology and Oceanography*, 66, 2797-2809. [doi:10.1002/lno.11791](https://doi.org/10.1002/lno.11791)
- Wegener, G., Gropp, J., **Taubner, H.**, Halevy, I., and **Elvert, M.** (2021) Sulfate-dependent reversibility of intracellular reactions explains the opposing isotopic effects in the anaerobic oxidation of methane. *Science Advances*, 7, eabe4939. [doi:10.1126/sciadv.abe4939](https://doi.org/10.1126/sciadv.abe4939)
- Yin, X., Cai, M., Liu, Y., Zhou, G., Richter-Heitmann, T., Aromokeye, D.A., Kulkarni, A., Nimzyk, R., Culhed, H., Zhou, Z., Pan, J., Yang, Y., Gu, J.-D., **Elvert, M.**, Li, M., and Friedrich, M.W. (2021) Subgroup level differences of physiological activities in marine Lokiarchaeota. *The ISME Journal*, 15, 848-861. [doi:10.1038/s41396-020-00818-5](https://doi.org/10.1038/s41396-020-00818-5)
- Zhu, Q.-Z.**, **Elvert, M.**, Meador, T.B., Becker, K.W., **Heuer, V.B.**, and **Hinrichs, K.-U.** (2021) Stable carbon isotopic compositions of archaeal lipids as a gauge to constrain terrestrial, planktonic, and benthic sources in marine sediments. *Geochimica et Cosmochimica Acta*, 307, 319-337. [doi:10.1016/j.gca.2021.04.037](https://doi.org/10.1016/j.gca.2021.04.037)

## 2020

- Aiello, I.W., Beaufort, I., Goldhammer, T., **Heuer, V.B.**, **Hinrichs, K.-U.**, and Zabel, M. (2020) Anatomy of a ‘suspended’ seafloor in the dense brine waters of the deep hypersaline Urania Basin. *Deep Sea Research Part II: Topical Studies in Oceanography*, 171, 104626. [doi:10.1016/j.dsr2.2019.07.014](https://doi.org/10.1016/j.dsr2.2019.07.014)
- Alfken, S.**, **Wörmer, L.**, **Lipp, J.S.**, **Wendt, J.**, Schimmelmann, A., and **Hinrichs, K.-U.** (2020) Mechanistic insights into molecular proxies through comparison of subannually resolved sedimentary records with instrumental water column data in the Santa Barbara Basin, Southern California. *Paleoceanography and Paleoclimatology*, 35, e2020PA004076. [doi: 10.1029/2020PA004076](https://doi.org/10.1029/2020PA004076)
- Aromokeye, D., Kulkarni, A.C., **Elvert, M.**, Wegener, G., Henkel, S., **Coffinet, S.**, Eickhorst, T., Oni, O.E., Richter-Heitmann, T., Schnakenberg, A., **Taubner, H.**, Wunder, L., Yin, X., **Zhu, Q.**, **Hinrichs, K.-U.**, Kasten, S., and Friedrich, M.W. (2020) Rates and microbial players of iron-driven anaerobic oxidation of methane in methanic marine sediments. *Frontiers in Microbiology*, 10:3041. [doi:10.3389/fmicb.2019.03041](https://doi.org/10.3389/fmicb.2019.03041)
- Becker, S., Tebben, J., **Coffinet, S.**, Wiltshire, K., Iversen, M.H., Harder, T., **Hinrichs, K.-U.**, and Hehemann, J.-H. (2020) Laminarin is a major molecule in the marine carbon cycle. *Proceedings of the National Academy of Sciences*, 117, 6599-6607. [doi:10.1073/pnas.1917001117](https://doi.org/10.1073/pnas.1917001117)
- Bowden, S.A., Mohamed, A.Y., Edilbi, A.N.F., Lin, Y.S., Morono, Y., **Hinrichs, K.-U.**, and Inagaki, F. (2020) Modelling the Shimokita deep coalbed biosphere over deep geological time: Starvation, stimulation, material balance and population models. *Basin Research*, 32, 804-829. [doi:10.1111/br.12399](https://doi.org/10.1111/br.12399)

- Coffinet, S., Meador, T.B., Mühlena, L., Becker, K.W., Schröder, J., Zhu, Q.-Z., Lipp, J.S., Heuer, V.B.,** Crump, M.P., and **Hinrichs, K.U.** (2020) Structural elucidation and environmental distributions of butanetriol and pentanetriol dialkyl glycerol tetraethers (BDGTs and PDGTs). *Biogeosciences*, 17, 317-330. [doi:10.5194/bg-17-317-2020](https://doi.org/10.5194/bg-17-317-2020)
- Ding, S., Lange, M., **Lipp, J.S.**, Schwab, V.F., Chowdhury, S., Pollierer, M.M., Krause, K., Li, D., Kothe, E., Scheu, S., Welti, R., **Hinrichs, K.-U.**, and Gleixner, G. (2020) Characteristics and origin of intact polar lipids in soil organic matter. *Soil Biology and Biochemistry*, 151, 108045. [doi:10.1016/j.soilbio.2020.108045](https://doi.org/10.1016/j.soilbio.2020.108045)
- Gan, S., Schmidt, F., Heuer, V.B.,** Goldhammer, T., Witt, M., and **Hinrichs, K.-U.** (2020) Impacts of redox conditions on dissolved organic matter (DOM) quality in marine sediments off the River Rhône, Western Mediterranean Sea. *Geochimica et Cosmochimica Acta*, 276, 151-169. [doi:10.1016/j.gca.2020.02.001](https://doi.org/10.1016/j.gca.2020.02.001)
- Gutiérrez, M.H., Vera, K., Strain, B., Quiñones, R.A., **Wörmer, L., Hinrichs, K.-U.,** Pantoja-Gutiérrez, S. (2020) Biochemical fingerprints of marine fungi: Implications for trophic and biogeochemical studies. *Aquatic Microbial Ecology*, 84, 75-90. [doi:10.3354/ame01927](https://doi.org/10.3354/ame01927)
- Heuer, V.B.,** Inagaki, F., Morono, Y., Kubo, Y., Spivack, A.J., **Viehweger, B.,** Treude, T., Beulig, F., **Schubotz, F.,** Tonai, S., Bowden, S.A., Cramm, M., Henkel, S., Hirose, T., Homola, K., Hoshino, T., Ijiri, A., Imachi, H., Kamiya, N., Kaneko, M., Lagostina, L., Manners, H., McClelland, H.-L., Metcalfe, K., Okutsu, N., Pan, D., Raudsepp, M.J., Sauvage, J., Tsang, M.-Y., Wang, D.T., Whitaker, E., Yamamoto, Y., Yang, K., Maeda, L., **Adhikari, R.R.,** Glombitza, C., Hamada, Y., Kallmeyer, J., **Wendt, J., Wörmer, L.,** Yamada, Y., Kinoshita, M., and **Hinrichs, K.-U.** (2020) Temperature limits to deep seafloor life in the Nankai Trough subduction zone. *Science*, 370, 1230-1234. [doi:10.1126/science.abd7934](https://doi.org/10.1126/science.abd7934)
- Hoshino, T., Doi, H., Uramoto, G.-I., **Wörmer, L., Adhikari, R.R.,** Xiao, N., Morono, Y., D'Hondt, S., **Hinrichs, K.-U.,** and Inagaki, F. (2020) Global diversity of microbial communities in marine sediment. *Proceedings of the National Academy of Sciences*, 117 (44), 27587-27597. [doi:10.1073/pnas.1919139117](https://doi.org/10.1073/pnas.1919139117)
- Ma, C., **Coffinet, S., Lipp, J.S., Hinrichs, K.-U.,** and Zhang, C. (2020) Marine Group II Euryarchaeota contribute to the archaeal lipid pool in Northwestern Pacific Ocean surface waters. *Frontiers in Microbiology*, 11.1034. [doi:10.3389/fmicb.2020.01034](https://doi.org/10.3389/fmicb.2020.01034)
- Meador, T.B.,** Schoffelen, N., Ferdelman, T.G., Rebello, O., Khachikyan, A., and **Könneke, M.** (2020) Carbon recycling efficiency and phosphate turnover by marine nitrifying archaea. *Science Advances*, 6(19), eaba1799. [doi:10.1126/sciadv.aba1799](https://doi.org/10.1126/sciadv.aba1799)
- Nigro, L.M., **Elling, F.J., Hinrichs, K.-U.,** Joye, S.B., and Teske, A. (2020) Microbial ecology and biogeochemistry of hypersaline sediments in Orca Basin. *PLoS ONE*, 15(4): e0231676. [doi:10.1371/journal.pone.0231676](https://doi.org/10.1371/journal.pone.0231676)
- Obrecht, I., Wörmer, L.,** Brauer, A., **Wendt, J., Alfken, S.,** De Vleeschouwer, D., **Elvert, M.,** and **Hinrichs, K.-U.** (2020) An annually resolved record of Western European vegetation response to Younger Dryas cooling. *Quaternary Science Reviews*, 231, 106198. [doi:10.1016/j.quascirev.2020.106198](https://doi.org/10.1016/j.quascirev.2020.106198)
- Probst, A.J., Elling, F.J., Castelle, C.J., **Zhu, Q., Elvert, M.,** Birarda, G., Holman, H.-Y., Lane, K.R., Ladd, B., Ryan, M.C., Woyke, T., **Hinrichs, K.-U.,** and Banfield, J.F. (2020) Lipid analysis of CO<sub>2</sub>-rich subsurface aquifers suggests an autotrophy-based deep biosphere with lysolipids enriched in CPR bacteria. *The ISME Journal*, 14, 1547-1560. [doi:10.1038/s41396-020-0624-4](https://doi.org/10.1038/s41396-020-0624-4)
- Reuter, H., Gensel, J., **Elvert, M.,** and Zak, D. (2020) Evidence for preferential protein depolymerization in wetland soils in response to external nitrogen availability provided by a novel FTIR routine. *Biogeosciences*, 17, 499-514. [doi:10.5194/bg-17-499-2020](https://doi.org/10.5194/bg-17-499-2020)
- Steen, A.D., Kusch, S., Abdulla, H.A., Cakić, N., **Coffinet, S.,** Dittmar, T., Fulton, J.M., Galy, V., **Hinrichs, K.-U.,** Ingalls, A.E., Koch, B.P., Kujawinski, E., Liu, Z., Osterholz, H., Rush, D., Seidel, M., Sepúlveda, J., and Wakeham, S.G. (2020) Analytical and computational advances, opportunities, and challenges in marine organic biogeochemistry in an era of "Omics". *Frontiers in Marine Science*, 7:718. [doi:10.3389/fmars.2020.00718](https://doi.org/10.3389/fmars.2020.00718)
- Tsang, M.-Y., Bowden, S.A., Wang, Z., Mohammed, A., Tonai, S., Muirhead, D., Yang, K., Yamamoto, Y., Kamiya, N., Okutsu, N., Hirose, T., Kars, M., **Schubotz, F.,** Ijiri, A., Yamada, Y., Kubo, Y., Morono, Y., Inagaki, F., **Heuer, V.,** and **Hinrichs, K.-U.** (2020) Hot fluids, burial metamorphism and thermal histories in the underthrust sediments at IODP 370 site C0023, Nankai Accretionary Complex. *Marine and Petroleum Geology*, 112, 104080. [doi:10.1016/j.marpetgeo.2019.104080](https://doi.org/10.1016/j.marpetgeo.2019.104080)
- Wagner, S., **Schubotz, F.,** Kaiser, K., Hallmann, C., Waska, H., Rossel, P. E., Hansman, R., **Elvert, M.,** Middelburg, J.J., Engel, A., Blattmann, T.M., Catalá, T.S., Lennartz, S.T., Gomez-Saez, G.V., Pantoja-Gutiérrez, S., Bao, R., and Galy, V. (2020) Soothsaying DOM: a current perspective on the future of oceanic dissolved organic carbon. *Frontiers in Marine Science*, 7:341. [doi:10.3389/fmars.2020.00341](https://doi.org/10.3389/fmars.2020.00341)



**Wörmer, L., Gajendra, N., Schubotz, F.,** Matys, E.D., Evans, T.W., Summons, R.E., and **Hinrichs, K.-U.** (2020) A micrometer-scale snapshot on phototroph spatial distributions: mass spectrometry imaging of microbial mats in Octopus Spring, Yellowstone National Park. *Geobiology*, 18, 742-759. [doi: 10.1111/gbi.12411](https://doi.org/10.1111/gbi.12411)

**Wu, W., Meador, T.B., Könneke, M., Elvert, M.,** Wegener, G., and **Hinrichs, K.U.** (2020) Substrate- dependent incorporation of carbon and hydrogen for lipid biosynthesis by *Methanosarcina barkeri*. *Environmental Microbiology Reports*, 12, 555-567. [doi:10.1111/1758-2229.12876](https://doi.org/10.1111/1758-2229.12876)

Xu, Y., **Wu, W.**, Xiao, W., Ge, H., Wei, Y., Yin, X., Yao, H., **Lipp, J.S.**, Pan, B., and **Hinrichs, K.-U.** (2020) Intact ether lipids in trench sediments related to archaeal community and environmental conditions in the deepest ocean. *Journal of Geophysical Research: Biogeosciences*, 125, e2019JG005431. [doi:10.1029/2019JG005431](https://doi.org/10.1029/2019JG005431)

## 2019

**Aepfler, R.F.,** Bühring, S.I., and **Elvert, M.** (2019) Substrate characteristic bacterial fatty acid production based on amino acid assimilation and transformation in marine sediments. *FEMS Microbiology Ecology*, 95 (10), fiz131. [doi:10.1093/femsec/fiz131](https://doi.org/10.1093/femsec/fiz131)

**Alfken, S., Wörmer, L. Lipp, J.S., Wendt, J., Taubner, H.,** Schimmelmann, A., and **Hinrichs, K.-U.** (2019) Micrometer scale imaging of sedimentary climate archives – sample preparation for combined elemental and lipid biomarker analysis. *Organic Geochemistry*, 127, 81-91. [doi:10.1016/j.orggeochem.2018.11.002](https://doi.org/10.1016/j.orggeochem.2018.11.002)

Arnosti, C., **Hinrichs, K.-U., Coffinet, S.,** Wilkes, H., and Pantoja, S. (2019) The enduring questions: What's for dinner? Where's my knife? ...and can I use my fingers? (Unanswered) questions related to organic matter and microbes in marine sediments. *Frontiers in Marine Science*, 6:629. [doi:10.3389/fmars.2019.00629](https://doi.org/10.3389/fmars.2019.00629)

Braeckman, U., Pasotti, F., Vazquez, S., Zacher, K., Hoffmann, R., **Elvert, M.,** Marchant, H., Buckner, C., Quartino, M.L., MacCormack, W., Soetaert, K., Wenzhöfer, F., and Vanreusel, A. (2019) Degradation of macroalgal detritus in shallow coastal Antarctic sediments. *Limnology and Oceanography*, 64, 1423-1441. [doi:10.1002/lno.11125](https://doi.org/10.1002/lno.11125)

**Evans, T., Coffinet, S., Könneke, M., Lipp, J.S., Becker, K.W., Elvert, M., Heuer, V.B.,** and **Hinrichs, K.-U.** (2019) Assessing the carbon assimilation and production of benthic archaeal lipid biomarkers using lipid-RIP. *Geochimica et Cosmochimica Acta*, 265, 431-442. [doi:10.1016/j.gca.2019.08.030](https://doi.org/10.1016/j.gca.2019.08.030)

Hensen, C., Duarte, J.C., Vannucchi, P., Mazzini, A., Lever, M.A., Terrinha, P., Géli, L., Henry, P., Villinger, H., Morgan, J.P., Schmidt, M., Gutscher, M.-A., Bartolome, R., Tomonaga, Y., Polonia, A., Gracia, E., Tinivella, U., Lupi, M., Cagatay, N., **Elvert, M.,** Sakellariou, D., Matias, L., Kipfer, R., Karageorgis, A., Ruffine, L., Liebetrau, V., Pierre, C., Schmidt, C., Batista, L., Gasperini, L., Burwicz, E., Neres, M., and Nuzzo, M. (2019) Marine transform faults and fracture zones: a joint perspective integrating seismicity, fluid flow and life. *Frontiers in Earth Science*, 7: 39. [doi:10.3389/feart.2019.00039](https://doi.org/10.3389/feart.2019.00039)

Imachi, H., Tasumi, E., Takaki, Y., Hoshino, T., **Schubotz, F., Gan, S.,** Tu, T.-H., Saito, Y., Yamanaka, Y., Ijiri, A., Matsui, Y., Miyazaki, M., Morono, Y., Takai, K., **Hinrichs, K.-U.,** and Inagaki, F. (2019) Cultivable microbial community in 2-km-deep, 20-million-year-old seafloor coalbeds through ~1000 days anaerobic bioreactor cultivation. *Scientific Reports*, 9:2305. [doi:10.1038/s41598-019-38754-w](https://doi.org/10.1038/s41598-019-38754-w)

Khachikyan, A., Milucka, J., Littmann, S., Ahmerkamp, S., **Meador, T., Könneke, M.,** Burg, T., and Kuypers, M.M.M. (2019) Direct cell mass measurements expand the role of small microorganisms in nature. *Applied and Environmental Microbiology*, 85: e0493-19. [doi:10.1128/AEM.00493-19](https://doi.org/10.1128/AEM.00493-19)

Kitzinger, K., Padilla, C.C., Marchant, H.K., Hach, P.F., Herbold, C.W., Kidane, A.T., **Könneke, M.,** Littmann, S., Mooshammer, M., Niggemann, J., **Petrov, S.,** Richter, A., Stewart, F.J., Wagner, M., Kuypers, M.M.M., and Bristow, L.A. (2019) Cyanate and urea are substrates for nitrification by Thaumarchaeota in the marine environment. *Nature Microbiology*, 4, 234-243. [doi:10.1038/s41564-018-0316-2](https://doi.org/10.1038/s41564-018-0316-2)

Kölling, M., Bouimetarhan, I., Bowles, M.W., Felis, T., Goldhammer, T., **Hinrichs, K.-U.,** Schulz, M., and Zabel, M. (2019) Consistent CO<sub>2</sub> release by pyrite oxidation on continental shelves prior to glacial terminations. *Nature Geoscience*, 12, 929-934. [doi:10.1038/s41561-019-0465-9](https://doi.org/10.1038/s41561-019-0465-9)

**Lü, X.,** Chen, J., Han, T., Yang, H., **Wu, W., Ding, W.,** and **Hinrichs, K.-U.** (2019) Origin of hydroxyl GDGTs and regular iso-prenoid GDGTs in suspended particulate matter of Yangtze River Estuary. *Organic Geochemistry*, 128, 78-85. [doi:10.1016/j.orggeochem.2018.12.010](https://doi.org/10.1016/j.orggeochem.2018.12.010)

Tamborrino, L., Himmler, T., **Elvert, M.**, Conti, S., Gualtieri, A.F., Fontana, D., and Bohrmann, G. (2019) Formation of tubular carbonate conduits at Athina mud volcano, eastern Mediterranean Sea. *Marine and Petroleum Geology*, 107, 20-31. [doi:10.1016/j.marpetgeo.2019.05.003](https://doi.org/10.1016/j.marpetgeo.2019.05.003)

van Maldegem, L.M., Sansjofre, P., Weijers, J.W.H., Wolkenstein, K., Strother, P.K., **Wörmer, L.**, Hefter, J., Hoshino, Y., Schouten, S., Sinninghe Damsté, J.S., Nath, N., Griesinger, C., Kuznetsov, N.B., Elie, M., **Elvert, M.**, Tegelaar, E., Gleixner, G., and Hallmann, C. (2019) Bisnorgammacerane traces predatory pressure and the persistent rise of algal ecosystems after Snowball Earth. *Nature Communications*, 10: 476. [doi:10.1038/s41467-019-08306-x](https://doi.org/10.1038/s41467-019-08306-x)

**Wörmer, L.**, Hoshino, T., Bowles, M.W., **Viehweger, B.**, **Adhikari, R.R.**, Xiao, N., Uramoto, G., **Könneke, M.**, Lazar, C.S., Morono, Y., Inagaki, F., and **Hinrichs, K.-U.** (2019) Microbial dormancy in the marine subsurface: Global endospore abundance and response to burial. *Science Advances*, 2019:5 (2), eaav1024. [doi:10.1126/sciadv.aav1024](https://doi.org/10.1126/sciadv.aav1024)

**Wörmer, L.**, **Wendt, J.**, **Alfken, S.**, **Wang, J.-X.**, **Elvert, M.**, **Heuer, V.B.**, and **Hinrichs, K.-U.** (2019) Towards multiproxy, ultra-high resolution molecular stratigraphy: Enabling laser-induced mass spectrometry imaging of diverse molecular biomarkers in sediments. *Organic Geochemistry*, 127, 136-145. [doi:10.1016/j.orggeochem.2018.11.009](https://doi.org/10.1016/j.orggeochem.2018.11.009)

Yin, X., **Wu, W.**, Maeke, M., Richter-Heitmann, T., Kulkarni, A.J., Oni, O.E., **Wendt, J.**, **Elvert, M.**, and Friedrich, M.W. (2019) CO<sub>2</sub> conversion to methane and biomass in obligate methylotrophic methanogens in marine sediments. *The ISME Journal*, 13, 2107-2119. [doi:10.1038/s41396-019-0425-9](https://doi.org/10.1038/s41396-019-0425-9)

Zhuang, G.-C., Montgomery, A., Samarkin, V.A., **Song, M.**, Liu, J., **Schubotz, F.**, Teske, A., **Hinrichs, K.-U.**, and Joye, S.B. (2019) Generation and utilization of volatile fatty acids and alcohols in hydrothermally altered sediments in the Guaymas Basin, Gulf of California. *Geophysical Research Letters*, 46, 2637-2646. [doi:10.1029/2018GL081284](https://doi.org/10.1029/2018GL081284)

## 2018

**Becker, K.W.**, **Elling, F.J.**, **Schröder, J.M.**, **Lipp, J.S.**, Goldhammer, T., Zabel, M., **Elvert, M.**, Overmann, J., and **Hinrichs, K.-U.** (2018) Isoprenoid quinones resolve the stratification of microbial redox processes in a biogeochemical continuum from the photic zone to deep anoxic sediments of the Black Sea. *Applied and Environmental Microbiology*, 84: e02736-17. [doi:10.1128/AEM.02736-17](https://doi.org/10.1128/AEM.02736-17)

Braeckman, U., Janssen, F., Lavik, G., **Elvert, M.**, Marchant, H., Buckner, C., Bienhold, C., and Wenzhöfer, F. (2018) Carbon and nitrogen turnover in the Arctic deep sea: in situ benthic community response to diatom and coccolithophorid phytodetritus. *Biogeosciences*, 15, 6537-6557. [doi:10.5194/bg-15-6537-2018](https://doi.org/10.5194/bg-15-6537-2018)

Ermel, M., Behrendt, T., Oswald, R., Derstroff, B., Wu, D., Hohlmann, S., Stöner, C., Pommerening-Röser, A., **Könneke, M.**, Williams, J., Meixner, F.X., Andreae, M.O., Trebs, I., and Sörgel, M. (2018) Hydroxylamine released by nitrifying microorganisms is a precursor for HONO emission from drying soils. *Scientific Reports*, 8:1877. [doi:10.1038/s41598-018-20170-1](https://doi.org/10.1038/s41598-018-20170-1)

**Evans, T.W.**, **Könneke, M.**, **Lipp, J.S.**, **Adhikari, R.R.**, **Taubner, H.**, **Elvert, M.**, and **Hinrichs, K.-U.** (2018) Lipid biosynthesis of *Nitrosopumilus maritimus* dissected by lipid specific radioisotope probing (lipid-RIP) under contrasting ammonium supply. *Geochimica et Cosmochimica Acta*, 242, 51-63. [doi:10.1016/j.gca.2018.09.001](https://doi.org/10.1016/j.gca.2018.09.001)

Gruen, D.S., Wang, D.T., **Könneke, M.**, Topçuoğlu, B.D., Stewart, L.C., Goldhammer, T., Holden, J.F., **Hinrichs, K.-U.**, and Ono, S. (2018) Experimental investigation on the controls of clumped isotopologue and hydrogen isotope ratios in microbial methane. *Geochimica et Cosmochimica Acta*, 237, 339-356. [doi:10.1016/j.gca.2018.06.029](https://doi.org/10.1016/j.gca.2018.06.029)

Hamada, Y., Hirose, T., Ijiri, A., et int. (i.a. **Schubotz, F.**, **Viehweger, B.**), and **Heuer, V.B.** (2018) In-situ mechanical weakness of subducting sediments beneath a plate boundary décollement in the Nankai Trough. *Progress in Earth and Planetary Science*, 5:70. [doi:10.1186/s40645-018-0228-z](https://doi.org/10.1186/s40645-018-0228-z)

Hurley, S.I., **Lipp, J.S.**, Close, H.G., **Hinrichs, K.-U.**, and Pearson, A. (2018) Distribution and export of isoprenoid tetraether lipids in suspended particulate matter from the water column of the Western Atlantic Ocean. *Organic Geochemistry*, 116, 90-102. [doi:10.1016/j.orggeochem.2017.11.010](https://doi.org/10.1016/j.orggeochem.2017.11.010)

Ijiri, A., Inagaki, F., Kubo, Y., et int. (i.a. **Adhikari, R.R.**, **Yoshinaga, M.Y.**, **Hinrichs, K.-U.**, **Schmidt, F.**), and **Yoshida, N.** (2018) Deep-biosphere methane production stimulated by geofluids in the Nankai accretionary complex. *Science Advances*, 4 (6), eaao4631. [doi:10.1126/sciadv.aao4631](https://doi.org/10.1126/sciadv.aao4631)

**Liu, X.L.**, **Lipp, J.S.**, Birgel, D., Summons, R.E., and **Hinrichs, K.-U.** (2018) Predominance of parallel glycerol arrangement in archaeal tetraethers from marine sediments: Structural features revealed from degradation products. *Organic Geochemistry*, 115, 12-23. [doi:10.1016/j.orggeochem.2017.09.009](https://doi.org/10.1016/j.orggeochem.2017.09.009)

Pittauer, D., Roos, P., Qiao, J., Geibert, W., **Elvert, M.**, and Fischer, H.W. (2018) Pacific Proving Grounds radioisotope imprint in the Philippine Sea sediments. *Journal of Environmental Radioactivity*, 186, 131-141. [doi:10.1016/j.jenvrad.2017.06.021](https://doi.org/10.1016/j.jenvrad.2017.06.021)

**Schubotz, F., Xie, S., Lipp, J.S., Hinrichs, K.-U.**, and Wakeham, S.G. (2018) Intact polar lipids in the water column of the eastern tropical North Pacific: abundance and structural variety of non-phosphorus lipids. *Biogeosciences*, 15, 6481-6501. [doi:10.5194/bg-15-6481-2018](https://doi.org/10.5194/bg-15-6481-2018)

Tanikawa, W., Tadai, O., Morono, Y., **Hinrichs, K.-U.**, and Inagaki, F. (2018) Geophysical constraints on microbial biomass in seafloor sediments and coal seams down to 2.5 km off Shimokita Peninsula, Japan. *Progress in Earth and Planetary Science*, 5:58. [doi:10.1186/s40645-018-0217-2](https://doi.org/10.1186/s40645-018-0217-2)

**Wu, W., Meador, T.**, and **Hinrichs, K.-U.** (2018) Production and turnover of microbial organic matter in surface intertidal sediments. *Organic Geochemistry*, 121, 104-113. [doi:10.1016/j.orggeochem.2018.04.006](https://doi.org/10.1016/j.orggeochem.2018.04.006)

Yu, T., **Wu, W.**, Liang, W., Lever, M.A., **Hinrichs, K.-U.**, and Wang, F. (2018) Growth of sedimentary *Bathyarchaeota* on lignin as an energy source. *Proceedings of the National Academy of Sciences*, 115, 6022-6027. [doi:10.1073/pnas.1718854115](https://doi.org/10.1073/pnas.1718854115)

**Zhuang, G.-C., Heuer, V.B., Lazar, C.S.**, Goldhammer, T., **Wendt, J.**, Samarkin, V.A., **Elvert, M.**, Teske, A.P., Joye, S.B., and **Hinrichs, K.-U.** (2018) Relative importance of methylotrophic methanogenesis in sediments of the Western Mediterranean Sea. *Geochimica et Cosmochimica Acta*, 224, 171-186. [doi:10.1016/j.gca.2017.12.024](https://doi.org/10.1016/j.gca.2017.12.024)

## 2017

Bar-Or, I., **Elvert, M.**, Eckert, W., Kushmaro, A., Vigderovich, H., **Zhu, Q.**, Ben-Dov, E., and Sivan, O. (2017) Iron-coupled anaerobic oxidation of methane performed by a mixed bacterial-archaeal community based on poorly-reactive minerals. *Environmental Science & Technology*, 51, 12293-12301. [doi:10.1021/acs.est.7b03126](https://doi.org/10.1021/acs.est.7b03126)

**Elling, F., Könneke, M.**, Nicol, G.W., Stieglmeier, M., Bayer, B., Spieck, E., de la Torre, J.R., **Becker, K.W.**, Thomm, M., Prosser, J.I., Herndl, G.J., Schleper, C., and **Hinrichs, K.-U.** (2017) Chemotaxonomic characterization of the thaumarchaeal lipidome. *Environmental Microbiology*, 19, 2681-2700. [doi:10.1111/1462-2920.13759](https://doi.org/10.1111/1462-2920.13759)

**Evans, T.W., Wörmer, L.**, Lever, M.A., **Lipp, J.S.**, Lagostina, L., Lin, Y.-S., Jørgensen, B.B., and **Hinrichs, K.-U.** (2017) Size and composition of seafloor microbial community in the Benguela upwelling area examined from intact membrane lipid and DNA analysis. *Organic Geochemistry*, 111, 86-100. [doi:10.1016/j.orggeochem.2017.06.008](https://doi.org/10.1016/j.orggeochem.2017.06.008)

Gomez-Saez, G.V., Pop Ristova, P., Sievert, S.M., **Elvert, M.**, **Hinrichs, K.-U.**, and Bühring, S.I. (2017) Relative importance of chemoautotrophy for primary production in a light exposed marine shallow hydrothermal system. *Frontiers in Microbiology*, 8:702. [doi:10.3389/fmicb.2017.00702](https://doi.org/10.3389/fmicb.2017.00702)

Huguet, A., **Meador, T.B.**, Laggoun-Défarge, F., **Könneke, M.**, **Wu, W.**, Derenne, S., and **Hinrichs, K.-U.** (2017) Production rates of bacterial tetraether lipids and fatty acids in peatland under varying oxygen concentrations. *Geochimica et Cosmochimica Acta*, 203, 103-116. [doi:10.1016/j.gca.2017.01.012](https://doi.org/10.1016/j.gca.2017.01.012)

**Lin, Y.-S.**, Koch, B.P., Feseker, T., Ziervogel, K., Goldhammer, T., **Schmidt, F.**, Witt, M., **Kellermann, M.Y.**, Zabel, M., Teske, A., and **Hinrichs, K.-U.** (2017) Near-surface heating of young rift sediment causes mass production and discharge of reactive Dissolved Organic Matter. *Scientific Reports*, 7: 44864. [doi:10.1038/srep44864](https://doi.org/10.1038/srep44864)

Liu, C.-H., Huang, X., Xie, T.-N., Duan, N., Xue, Y.-R., Zhao, T.-X., Lever, M.A., **Hinrichs, K.-U.**, and Inagaki, F. (2017) Exploration of cultivable fungal communities in deep coal-bearing sediments from ~1.3 to 2.5 km below the ocean floor. *Environmental Microbiology*, 19, 803-818. [doi:10.1111/1462-2920.13653](https://doi.org/10.1111/1462-2920.13653)

**Meador, T.B., Goldenstein, N.I.**, Gogou, A., Herut, B., Psarra, S., Tsagaraki, T.M., and **Hinrichs, K.-U.** (2017) Planktonic lipidome responses to aeolian dust input in low-biomass oligotrophic marine mesocosms. *Frontiers in Marine Science*, 4, 113. [doi:10.3389/fmars.2017.00113](https://doi.org/10.3389/fmars.2017.00113)

Natalicchio, M., Birgel, D., Peckmann, J., Lozar, F., Carnevale, G., **Liu, X.L.**, **Hinrichs, K.-U.**, Dela Pierre, F. (2017) An archaeal biomarker record of paleoenvironmental change across the onset of the Messinian salinity crisis in the absence of evaporites (Piedmont Basin, Italy). *Organic Geochemistry*, 113, 242-253. [doi:10.1016/j.orggeochem.2017.08.014](https://doi.org/10.1016/j.orggeochem.2017.08.014)

Qin, W., Heal, K.R., Ramdasi, R., Kobelt, J.N., Martens-Habbena, W., Bertagnolli, A.D., Amin, S.A., Walker, C.B., Urakawa, H., **Könneke, M.**, Devol, A.H., Moffett, J.W., Armbrust, E.V., Jensen, G.J., Ingalls, A.E., and Stahl, D.A. (2017) *Nitrosopumilus maritimus* gen. nov., sp. nov., *Nitrosopumilus cobalaminigenes* sp. nov., *Nitrosopumilus oxycliniae* sp.



nov., and *Nitrosopumilus ureiphilus* sp. nov., four marine ammonia-oxidizing archaea of the phylum Thaumarchaeota. *International Journal of Systematic and Evolutionary Microbiology*, 67, 5067-5079. [doi:10.1099/ijsem.0.002416](https://doi.org/10.1099/ijsem.0.002416)

Reuter, H., Gensel, J., **Elvert, M.**, and Zak, D. (2017) Direct analysis of lignin phenols in freshwater dissolved organic matter. *Analytical Chemistry*, 89, 13449-13457. [doi:10.1021/acs.analchem.7b03729](https://doi.org/10.1021/acs.analchem.7b03729)

**Schmidt, F.**, Koch, B.P., Goldhammer, T., **Elvert, M.**, Witt, M., **Lin, Y.-S.**, **Wendt, J.**, Zabel, M., **Heuer, V.B.**, and **Hinrichs, K.-U.** (2017) Unraveling signatures of biogeochemical processes and the depositional setting in the molecular composition of pore water DOM across different marine environments. *Geochimica et Cosmochimica Acta*, 207, 57-80. [doi:10.1016/j.gca.2017.03.005](https://doi.org/10.1016/j.gca.2017.03.005)

Sollich, M., **Yoshinaga, M.Y.**, Häusler, S., Price, R.E., **Hinrichs, K.-U.**, and Bühring, S.I. (2017) Heat stress dictates microbial lipid composition along a thermal gradient in marine sediments. *Frontiers in Microbiology*, 8, 1550. [doi:10.3389/fmicb.2017.01550](https://doi.org/10.3389/fmicb.2017.01550)

Tavormina, P. L., Kellermann, M. Y., Antony, C. P., Tocheva, E. I., Dalleska, N. F., Jensen, A. J., Valentine, D. L., **Hinrichs, K.-U.**, Jensen, G. J., Dubilier, N., and Orphan, V. J. (2017) Starvation and recovery in the deep-sea methanotroph *Methyloprofundus sedimenti*. *Molecular Microbiology*, 103, 242-252. [doi:10.1111/mmi.13553](https://doi.org/10.1111/mmi.13553)

**Zhuang, G.-C.**, **Lin, Y.-S.**, Bowles, M.W., **Heuer, V.B.**, Lever, M.A., **Elvert, M.**, and **Hinrichs, K.-U.** (2017) Distribution and isotopic composition of trimethylamine, dimethylsulfide and dimethylsulfoniopropionate in marine sediments. *Marine Chemistry*, 196, 36-45. [doi:10.1016/j.marchem.2017.07.007](https://doi.org/10.1016/j.marchem.2017.07.007) (available online 29 July 2017)

## 2016

Baker, B.J., Saw, J.H., Lind, A.E., **Lazar, C.S.**, **Hinrichs, K.-U.**, Teske, A.P., and Ettema, T.J. (2016) Genomic inference of the metabolism of cosmopolitan subsurface Archaea, Hadesarchaea. *Nature Microbiology*, 1, 16002. [doi:10.1038/nmicrobiol.2016.2](https://doi.org/10.1038/nmicrobiol.2016.2)

Baker, B.J., Saw, J.H., Lind, A.E., **Lazar, C.S.**, **Hinrichs, K.-U.**, Teske, A.P., and Ettema, T.J. (2016) Corrigendum: Genomic inference of the metabolism of cosmopolitan subsurface Archaea, Hadesarchaea. *Nature Microbiology*, article number 16032. [doi:10.1038/nmicrobiol.2016.32](https://doi.org/10.1038/nmicrobiol.2016.32)

**Becker, K.W.**, **Elling, F.J.**, **Yoshinaga, M.Y.**, Söllinger, A., Urich, T., and **Hinrichs, K.-U.** (2016) Unusual butane- and pentanetriol-based tetraether lipids in *Methanomassiliicoccus luminyensis*, a representative of the seventh order of methanogens. *Applied and Environmental Microbiology*, 82, 4505-4516. [doi:10.1128/AEM.00772-16](https://doi.org/10.1128/AEM.00772-16)

Braun, S., Morono, Y., **Becker, K.W.**, **Hinrichs, K.-U.**, Kjeldsen, K.U., Jørgensen, B.B., and Lomstein, B.A. (2016) Cellular content of biomolecules in sub-seafloor microbial communities. *Geochimica et Cosmochimica Acta*, 188, 330-351. [doi:10.1016/j.gca.2016.06.019](https://doi.org/10.1016/j.gca.2016.06.019)

Dowell, F., Cardman, Z., Dasarathy, S., **Kellermann, M.Y.**, **Lipp, J.S.**, Ruff, S.E., Biddle, J.F., McKay, L.J., MacGregor, B.J., Lloyd, K.G., Albert, D.B., Mendlovitz, H., **Hinrichs, K.-U.**, and Teske, A. (2016) Microbial communities in methane- and short chain alkane-rich hydrothermal sediments of Guaymas Basin. *Frontiers in Microbiology*, 7, 17. [doi:10.3389/fmicb.2016.00017](https://doi.org/10.3389/fmicb.2016.00017)

**Elling, F.J.**, **Becker, K.W.**, **Könneke, M.**, **Schröder, J.M.**, Kellermann, M.Y., Thomm, M., and **Hinrichs, K.-U.** (2016) Respiratory quinones in *Archaea*: phylogenetic distribution and application as biomarkers in the marine environment. *Environmental Microbiology*, 18, 692-707. [doi:10.1111/1462-2920.13086](https://doi.org/10.1111/1462-2920.13086)

**Elvert, M.**, Pohlman, J.W., **Becker, K.W.**, Gaglioti, B., **Hinrichs, K.-U.**, and Wooller, M.J. (2016) Methane turnover and environmental change from Holocene lipid biomarker records in a thermokarst lake in Arctic Alaska. *The Holocene*, 26, 1766-1777. [doi:10.1177/0959683616645942](https://doi.org/10.1177/0959683616645942)

Gagen, E.J., **Yoshinaga, M.Y.**, Prado, F.G., **Hinrichs, K.-U.**, and Thomm, J. (2016) The proteome and lipidome of *Thermococcus kodakarensis* across the stationary phase. *Archaea*, article ID 5938289. [doi:10.1155/2016/5938289](https://doi.org/10.1155/2016/5938289)

Glombitza, C., **Adhikari, R.R.**, Riedinger, N., Gilhooly, W.P. III, **Hinrichs, K.-U.**, and Inagaki, F. (2016) Microbial sulfate reduction potential in coal-bearing sediments down to ~2.5 km below the seafloor off Shimokita peninsula, Japan. *Frontiers in Microbiology*, 7:1576. [doi:10.3389/fmicb.2016.01576](https://doi.org/10.3389/fmicb.2016.01576)

Golyshina, O.V., Lünsdorf, H., Kublanov, I.V., **Goldenstein, N.I.**, **Hinrichs, K.-U.**, and Golyshin, P.N. (2016) The novel, extremely acidophilic, cell wall-deficient archaeon *Cuniculiplasma divulgatum* gen. nov., sp. nov. represent a new family of Cuniculiplasmataceae fam. nov., order Thermoplasmatales. *International Journal of Systematic and Evolutionary Microbiology*, 66, 332-340. [doi:10.1099/ijsem.0.000725](https://doi.org/10.1099/ijsem.0.000725)

- Hamann, E., Gruber-Vodicka, H., Kleiner, M., Tegetmeyer, H.E., Riedel, D., Littmann, S., Chen, J., Milucka, J., **Viehweger, B., Becker, K.W.**, Dong, X., Stairs, C.W., **Hinrichs, K.-U.**, Brown, M.W., Roger, A.J., and Strous, M. (2016) Environmental Breviatea harbour mutualistic *Arcobacter* epibionts. *Nature*, 534, 254-258. [doi:10.1038/nature18297](https://doi.org/10.1038/nature18297)
- Hopstock, L., Trusch, F., Lederer, C., van West, P., **Koenneke, M.**, and Bayer, P. (2016) NmPin from the marine thaumarchaeote *Nitrosopumilus maritimus* is an active membrane associated prolyl isomerase. *BMC Biology*, 14:53. [doi:10.1186/s12915-016-0274-1](https://doi.org/10.1186/s12915-016-0274-1)
- Hurley, S.J., **Elling, F.J., Koenneke, M.**, Buchwald, C., Wankel, S.D., Santoro, A.E., **Lipp, J.S., Hinrichs, K.-U.**, and Pearson, A. (2016) Influence of ammonia oxidation rate on thaumarchaeal lipid composition and the TEX<sub>86</sub> temperature proxy. *Proceedings of the National Academy of Sciences*, 113 (28), 7762-7767. [doi:10.1073/pnas.1518534113](https://doi.org/10.1073/pnas.1518534113)
- Kellermann, M.Y., Yoshinaga, M.Y.**, Wegener, G., Krukenberg, V., and **Hinrichs, K.U.** (2016) Tracing the production and fate of individual archaeal intact polar lipids using stable isotope probing. *Organic Geochemistry*, 95, 13-20. [doi:10.1016/j.orggeochem.2016.02.004](https://doi.org/10.1016/j.orggeochem.2016.02.004)
- Kellermann, M.Y., **Yoshinaga, M.Y.**, Valentine, R.C., **Wörmer, L.**, Valentine, D.L. (2016) Important roles for membrane lipids in haloarchaeal bioenergetics. *Biochimica et Biophysica Acta*, 1858, 2940-2956. <https://doi.org/10.1016/j.bbamem.2016.08.010>
- Lazar, C.S.**, Baker, B.J., Seitz, K., Hyde, A.S., Dick, G.J., **Hinrichs, K.-U.**, and Teske, A.P. (2016) Genomic evidence for distinct carbon substrate preferences and ecological niches of Bathyarchaeota in estuarine sediments. *Environmental Microbiology*, 18, 1200-1211. [doi:10.1111/1462-2920.13142](https://doi.org/10.1111/1462-2920.13142)
- Liu, X.-L.**, Birgel, D., **Elling, F.J.**, Sutton, P.A., **Lipp, J.S., Zhu, R.**, Zhang, C., **Koenneke, M.**, Peckmann, J., Rowland, S.J., Summons, R.E., and **Hinrichs, K.-U.** (2016) From ether to acid: a plausible degradation pathway of glycerol dialkyl glycerol tetraethers. *Geochimica et Cosmochimica Acta*, 183, 138-152. [doi:10.1016/j.gca.2016.04.016](https://doi.org/10.1016/j.gca.2016.04.016)
- Seitz, K.W., **Lazar, C.S., Hinrichs, K.-U.**, Teske, A.P., and Baker, B.J. (2016) Genomic reconstruction of a novel, deeply branched sediment archaeal phylum with pathways for acetogenesis and sulfur reduction. *The ISME Journal*, 10, 1696-1705. [doi:10.1038/ismej.2015.233](https://doi.org/10.1038/ismej.2015.233)
- Wegener, G., Kellermann, M.Y., and **Elvert, M.** (2016) Tracking activity and function of microorganisms by stable isotope probing of membrane lipids. *Current Opinion in Biotechnology*, 41, 43-52. [doi:10.1016/j.copbio.2016.04.022](https://doi.org/10.1016/j.copbio.2016.04.022)
- Widderich, N., Czech, L., **Elling, F.J., Koenneke, M.**, Stöveken, N., Pittelkow, M., Riclea, R., Dickschat, J.S., Heider, J., and Bremer, E. (2016) Strangers in the archaeal world: osmostress-responsive biosynthesis of ectoine and hydroxyectoine by the marine thaumarchaeon *Nitrosopumilus maritimus*. *Environmental Microbiology*, 18, 1227-1248. [doi:10.1111/1462-2920.13156](https://doi.org/10.1111/1462-2920.13156)
- Yao, M., **Elling, F.J.**, Jones, C.A., Nomosatryo, S., Long, C.P., Crowe, S.A., Antoniewicz, M.R., **Hinrichs, K.-U.**, and Maresca, J.A. (2016) Heterotrophic bacteria from an extremely phosphate-poor lake have conditionally reduced phosphorus demand and utilize diverse sources of phosphorus. *Environmental Microbiology*, 18, 656-667. [doi:10.1111/1462-2920.13063](https://doi.org/10.1111/1462-2920.13063)
- Zhu, R.**, Versteegh, G.J., and **Hinrichs, K.-U.** (2016) Detection of microbial biomass in seafloor sediment by pyrolysis-GC/MS. *Journal of Analytical and Applied Pyrolysis*, 118, 175-180. [doi:10.1016/j.jaap.2016.02.002](https://doi.org/10.1016/j.jaap.2016.02.002)
- Zhu, C.**, Wakeham, S.G., **Elling, F.J.**, Basse, A., Mollenhauer, G., **Versteegh, G.J.M., Koenneke, M., and Hinrichs, K.-U.** (2016) Stratification of archaeal membrane lipids in the ocean and implication for adaptation and chemotaxonomy of planktonic archaea. *Environmental Microbiology*, 18, 4324-4336. [doi:10.1111/1462-2920.13289](https://doi.org/10.1111/1462-2920.13289)
- Zhuang, G.C., Elling, F.J.**, Nigro, L.M., Samarkin, V., Joye, S.B., Teske, A., and **Hinrichs, K.-U.** (2016) Multiple evidence for methylotrophic methanogenesis as the dominant methanogenic pathway in hypersaline sediments from the Orca Basin, Gulf of Mexico. *Geochimica et Cosmochimica Acta*, 187, 1-20. [doi:10.1016/j.gca.2016.05.005](https://doi.org/10.1016/j.gca.2016.05.005)

## 2015

- Becker, K.W., Lipp, J.S., Versteegh, G.J.M., Wörmer, L., and Hinrichs, K.-U.** (2015) Rapid and simultaneous analysis of three molecular sea surface temperature proxies and application to sediments from the Sea of Marmara. *Organic Geochemistry*, 85, 42-53. [doi:10.1016/j.orggeochem.2015.04.008](https://doi.org/10.1016/j.orggeochem.2015.04.008)
- Beulig, F., **Heuer, V.B.**, Akob, D.M., **Viehweger, B., Elvert, M.**, Herrmann, M., **Hinrichs, K.-U.**, and Küsel, K. (2015) Carbon flow from volcanic CO<sub>2</sub> into soil microbial communities of a wetland mofette. *The ISME Journal*, 9, 746-759. [doi:10.1038/ismej.2014.148](https://doi.org/10.1038/ismej.2014.148)

- Coban, H., Miltner, A., **Elling, F.J.**, **Hinrichs, K.-U.**, and Kästner, M. (2015) The contribution of biogas residues to soil organic matter formation and CO<sub>2</sub> emissions in an arable soil. *Soil Biology and Biochemistry*, 86, 108-115. [doi:10.1016/j.soilbio.2015.03.023](https://doi.org/10.1016/j.soilbio.2015.03.023)
- Elling, F.J.**, **Könneke, M.**, Mußmann, M., **Greve, A.**, and **Hinrichs, K.-U.** (2015) Influence of temperature, pH, and salinity on membrane lipid composition and TEX<sub>86</sub> of marine planktonic thaumarchaeal isolates. *Geochimica et Cosmochimica Acta*, 171, 238-255. [doi:10.1016/j.gca.2015.09.004](https://doi.org/10.1016/j.gca.2015.09.004)
- Inagaki, F., **Hinrichs, K.-U.**, Kubo, Y., **Bowles, M.W.**, **Heuer, V.B.**, Hong, W.-L., Hoshino, T., Ijiri, A., Imachi, H., Ito, M., Kaneko, M., Lever, M.A., **Lin, Y.-S.**, Methé, B.A., Morita, S., Morono, Y., Tanikawa, W., Bihan, M., Bowden, S.A., **Elvert, M.**, Glombitza, C., Gross, D., Harrington, G.J., Hori, T., Li, K., Limmer, D., Liu, C.-H., Murayama, M., Ohkouchi, N., Ono, S., Park, Y.-S., Phillips, S.C., **Prieto-Mollar, X.**, Purkey, M., Riedinger, N., Sanada, Y., Sauvage, J., Snyder, G., Susilawati, R., Takano, Y., Tasumi, E., Terada, T., Tomaru, H., Trembath-Reichert, E., Wang, D.T., and Yamada, Y. (2015) Exploring deep microbial life in coal-bearing sediment down to ~2.5 km below the ocean floor. *Science*, 349, 420-424. [doi:10.1126/science.aaa6882](https://doi.org/10.1126/science.aaa6882)
- Lazar, C.S.**, Biddle, J.F., **Meador, T.B.**, Blair, N., **Hinrichs, K.-U.**, and Teske, A.P. (2015) Environmental controls on intragroup diversity of the uncultured benthic archaea of the Miscellaneous Crenarchaeotal Group lineage naturally enriched in anoxic sediments of the White Oak River Estuary (North Carolina, USA). *Environmental Microbiology*, 17, 2228-2238. [doi:10.1111/1462-2920.12659](https://doi.org/10.1111/1462-2920.12659)
- Lagostina, L., Goldhammer, T., Røy, H., **Evans, T.W.**, Lever, M.A., Jørgensen, B.B., Petersen, D.G., Schramm, A., and Schreiber, L. (2015) Ammonia-oxidizing bacteria of the *Nitrosospira* cluster 1 dominate over ammonia-oxidizing archaea in oligotrophic surface sediments near the South Atlantic Gyre. *Environmental Microbiology Reports*, 7, 404-413. [doi:10.1111/1758-2229.12264](https://doi.org/10.1111/1758-2229.12264)
- Lü, X.**, **Liu, X.-L.**, **Elling, F.J.**, Yang, H., Xie, S., Song, J., Li, X., Yuan, H., Li, N., and **Hinrichs, K.-U.** (2015) Hydroxylated isoprenoid GDGTs in Chinese coastal seas and their potential as a paleotemperature proxy for mid-to-low latitude marginal seas. *Organic Geochemistry*, 89-90, 31-43. [doi:10.1016/j.orggeochem.2015.10.004](https://doi.org/10.1016/j.orggeochem.2015.10.004)
- Meador, T.B.**, Bowles, M., **Lazar, C.**, **Zhu, C.**, Teske, A., and **Hinrichs, K.-U.** (2015) The archaeal lipidome in estuarine sediment dominated by members of the Miscellaneous Crenarchaeotal Group. *Environmental Microbiology*, 17, 2441-2458. [doi:10.1111/1462-2920.12716](https://doi.org/10.1111/1462-2920.12716)
- Niemann, H., Steinle, L., Brees, J., Bussmann, I., Treude, T., Krause, S., **Elvert, M.**, and Lehmann, M.F. (2015) Toxic effects of lab-grade butyl rubber stoppers on aerobic methane oxidation. *Limnology and Oceanography: Methods*, 13, 40-52. [doi: 10.1002/lom3.10005](https://doi.org/10.1002/lom3.10005)
- Oni, O.E., **Schmidt, F.**, Miyatake, T., Kasten, S., Witt, M., **Hinrichs, K.-U.**, and Friedrich, M.W. (2015) Microbial communities and organic matter composition in surface and subsurface sediments of the Helgoland mud area, North Sea. *Frontiers in Microbiology*, 6:1290. [doi:10.3389/fmicb.2015.01290](https://doi.org/10.3389/fmicb.2015.01290)
- Otte, J., Mall, A., Schubert, D.M., **Könneke, M.**, and Berg, I.A. (2015) Malonic semialdehyde reductase from the archaeon *Nitrosopumilus maritimus*, an enzyme involved in the autotrophic 3-hydroxypropionate/4-hydroxybutyrate cycle. *Applied and Environmental Microbiology*, 81, 1700-1707. [doi:10.1128/AEM.03390-14](https://doi.org/10.1128/AEM.03390-14)
- Segarra, K.E.A., **Schubotz, F.**, Samarkin, V., **Yoshinaga, M.Y.**, **Hinrichs, K.-U.**, and Joye, S.B. (2015) High rates of anaerobic methane oxidation in freshwater wetlands reduce potential atmospheric methane emissions. *Nature Communications*, 6: 7477. [doi:10.1038/ncomms8477](https://doi.org/10.1038/ncomms8477)
- Wang, D.T., Gruen, D.S., Sherwood Lollar, B., **Hinrichs, K.-U.**, Stewart, L.C., Holden, J.F., Hristov, A.N., Pohlman, J.W., Morrill, P.L., **Könneke, M.**, Delwiche, K.B., Reeves, E.P., Sutcliffe, C.N., Ritter, D.J., Seewald, J.S., McIntosh, J.C., Hemond, H.F., Kubo, M.D., Cardace, D., Hoehler, T.M., and Ono, S. (2015) Nonequilibrium clumped isotope signals in microbial methane. *Science*, 348, 428-431. [doi:10.1126/science.aaa4326](https://doi.org/10.1126/science.aaa4326)
- Yoshinaga, M.Y.**, Gagen, E.J., **Wörmer, L.**, **Broda, N.K.**, **Meador, T.B.**, **Wendt, J.**, Thomm, M., and **Hinrichs, K.-U.** (2015) *Methanothermobacter thermautotrophicus* modulates its membrane lipids in response to hydrogen and nutrient availability. *Frontiers in Microbiology*, 6, 5. [doi:10.3389/fmicb.2015.00005](https://doi.org/10.3389/fmicb.2015.00005)
- Yoshinaga, M.Y.**, **Lazar, C.S.**, **Elvert, M.**, **Lin, Y.-S.**, **Zhu, C.**, **Heuer, V.B.**, Teske, A., and **Hinrichs, K.-U.** (2015) Possible roles of uncultured archaea in carbon cycling in methane-seep sediments. *Geochimica et Cosmochimica Acta*, 164, 35-52. [doi:10.1016/j.gca.2015.05.003](https://doi.org/10.1016/j.gca.2015.05.003)

2014

- Basse, A., **Zhu, C.**, **Versteegh, G.J.M.**, Fischer, G., **Hinrichs, K.-U.**, and Mollenhauer, G. (2014) Distribution of intact and core tetraether lipids in water column profiles of suspended particulate matter off Cape Blanc, NW Africa. *Organic Geochemistry*, 72, 1-13. [doi:10.1016/j.orggeochem.2014.04.007](https://doi.org/10.1016/j.orggeochem.2014.04.007)
- Birgel, D., Guido, A., **Liu, X.**, **Hinrichs, K.-U.**, Gier, S., and Peckmann, J. (2014) Hypersaline conditions during deposition of the Calcare di Base revealed from archaeal di- and tetraether inventories. *Organic Geochemistry*, 77, 11-21. [doi:10.1016/j.orggeochem.2014.09.002](https://doi.org/10.1016/j.orggeochem.2014.09.002)
- Bowles, M.W.**, Mogollón, J.M., Kasten, S., Zabel, M., and **Hinrichs, K.-H.** (2014) Global rates of marine sulfate reduction and implications for sub-sea-floor metabolic activities. *Science*, 344, 889-891. [doi:10.1126/science.1249213](https://doi.org/10.1126/science.1249213)
- Bühning, S. I.**, Kamp, A., **Wörmer, L.**, Ho, S., and **Hinrichs, K.-U.** (2014) Functional structure of laminated microbial sediments from a supratidal sandy beach of the German Wadden Sea (St. Peter-Ording). *Journal of Sea Research*, 85, 463-473. [doi: 10.1016/j.seares.2013.08.001](https://doi.org/10.1016/j.seares.2013.08.001)
- Ciobanu, M.C., Burgaud, G., Dufresne, A., Breuker, A., Rédou, V., Maamar, S.B., Gaboyer, F., Vandenaabeele-Trambouze, O., **Lipp, J.S.**, Schippers, A., Vandenkoornhuysse, P., Barbier, G., Jebbar, M., Godfroy, A., and Alain, K. (2014) Microorganisms persist at record depths in the subseafloor of the Canterbury Basin. *The ISME Journal*, 8, 1370-1380. [doi: 10.1038/ismej.2013.250](https://doi.org/10.1038/ismej.2013.250)
- Elling, F.J.**, **Könneke, M.**, **Lipp, J.S.**, **Becker, K.W.**, Gagen, E.J., and **Hinrichs, K.-U.** (2014) Effects of growth phase on the membrane lipid composition of the thaumarchaeon *Nitrosopumilus maritimus* and their implications for archaeal lipid distributions in the marine environment. *Geochimica et Cosmochimica Acta*, 141, 579-597. [doi:10.1016/j.gca.2014.07.005](https://doi.org/10.1016/j.gca.2014.07.005)
- Felden, J., Ruff, S.E., Ertefai, T., Inagaki, F., **Hinrichs, K.-U.**, and Wenzhöfer, F. (2014) Anaerobic methanotrophic community of a 5346-m-deep vesicomyid clam colony in the Japan Trench. *Geobiology*, 12, 183-199. [doi:10.1111/gbi.12078](https://doi.org/10.1111/gbi.12078)
- Feng, D., Birgel, D., Peckmann, J., Roberts, H.H., Joye, S.B., Sassen, R., **Liu, X.-L.**, **Hinrichs, K.-U.**, and Chen, D. (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. [doi:10.1016/j.chemgeo.2014.07.020](https://doi.org/10.1016/j.chemgeo.2014.07.020)
- Hahnke, S., Striesow, J., **Elvert, M.**, **Prieto Mollar, X.**, and Klocke, M. (2014) *Clostridium bornimense*, sp. nov., isolated from a mesophilic two-phase lab-scale biogas reactor. *International Journal of Systematic and Evolutionary Microbiology*, 64, 2792-2797. [doi: 10.1099/ijs.0.059691-0](https://doi.org/10.1099/ijs.0.059691-0)
- Imachi, H., Sakai S., **Lipp, J.S.**, Miyazaki, M., Saito, Y., Yamanaka, Y., **Hinrichs, K.-U.**, Inagaki, F., and Takai, K. (2014) *Pelolinea submarina* gen. nov., sp. nov., an anaerobic, filamentous bacterium of the phylum *Chloroflexi* isolated from subseafloor sediment offshore Shimokita, Japan. *International Journal of Systematic and Evolutionary Microbiology*, 64, 812-818. [doi:10.1099/ijs.0.057547-0](https://doi.org/10.1099/ijs.0.057547-0)
- Könneke, M.**, Schubert, D.M., Brown, P.C., Hügler, M., Standfest, S., Schwander, T., Schada von Borzyskowski, L., Erb, T.J., Stahl, D.A., and Berg, I.A. (2014) Ammonia-oxidizing archaea use the most energy-efficient aerobic pathway for CO<sub>2</sub> fixation. *Proceedings of the National Academy of Sciences*, 111, 8239-8244. [doi: 10.1073/pnas.1402028111](https://doi.org/10.1073/pnas.1402028111)
- Liu, X.-L.**, **Zhu, C.**, Wakeham, S.G., and **Hinrichs, K.-U.** (2014) In situ production of branched glycerol dialkyl glycerol tetraethers in anoxic marine water columns. *Marine Chemistry*, 166, 1-8. [doi:10.1016/j.marchem.2014.08.008](https://doi.org/10.1016/j.marchem.2014.08.008)
- Meador, T.B.**, Gagen, E.J., Loscar, M.E., Goldhammer, T., **Yoshinaga, M.Y.**, **Wendt, J.**, Thomm, M., and **Hinrichs, K.-U.** (2014) *Thermococcus kodakarensis* modulates its polar membrane lipids and elemental composition according to growth stage and phosphate availability. *Frontiers in Microbiology*, 5, 10. [doi: 10.3389/fmicb.2014.00010](https://doi.org/10.3389/fmicb.2014.00010)
- Meador, T.B.**, **Zhu, C.**, **Elling, F.J.**, **Könneke, M.**, and **Hinrichs, K.-U.** (2014) Identification of isoprenoidglycosidic glycerol dibiphytanoldiethers and indications for their biosynthetic origin. *Organic Geochemistry*, 69, 70-75. [doi:10.1016/j.orggeochem.2014.02.005](https://doi.org/10.1016/j.orggeochem.2014.02.005)
- Probst, A.J., Weinmaier, T., Raymann, K., Perras, A., Emerson, J.B., Rattei, T., Wanner, G., Klingl, A., Berg, I.A., **Yoshinaga, M.**, **Viehweger, B.**, **Hinrichs, K.-U.**, Thomas, B.C., Meck, S., Auerbach, A.K., Heise, M., Schintlmeister, A., Schmid, M., Wagner, M., Gribaldo, S., Banfield, J.F., and Moissl-Eichinger, C. (2014) Biology of a widespread uncultivated archaeon that contributes to carbon fixation in the subsurface. *Nature Communications*, 5:5497. [doi:10.1038/ncomms6497](https://doi.org/10.1038/ncomms6497)
- Reeves, E.P.**, McDermott, J.M., and Seewald, J.S. (2014) The origin of methanethiol in midocean ridge hydrothermal fluids. *Proceedings of the National Academy of Sciences*, 111, 5474-5479. [doi:10.1073/pnas.1400643111](https://doi.org/10.1073/pnas.1400643111)



- Reeves, E.P., Yoshinaga, M.Y., Pjevac, P., Goldenstein, N., Peplies, J., Meyerdierks, A., Amann, R., Bach, W., and Hinrichs, K.-U. (2014) Microbial lipids reveal carbon assimilation patterns on hydrothermal sulfide chimneys. *Environmental Microbiology*, 16, 3515-3532, doi: [10.1111/1462-2920.12525](https://doi.org/10.1111/1462-2920.12525)
- Schmidt, F., Koch, B. P., Witt, M., and Hinrichs, K.-U. (2014) Extending the analytical window for water-soluble organic matter in sediments by aqueous Soxhlet extraction. *Geochimica et Cosmochimica Acta*, 141, 83-96. doi: [10.1016/j.gca.2014.06.009](https://doi.org/10.1016/j.gca.2014.06.009)
- Wang, F.-P., Zhang, Y., Chen, Y., He, Y., Qi, J., Hinrichs, K.-H., Zhang, X.-X., Xiao, X., and Boon, N. (2014) Methanotrophic archaea possessing diverging methane-oxidizing and electron-transporting pathways. *The ISME Journal*, 8, 1069-1078. doi: [10.1038/ismej.2013.212](https://doi.org/10.1038/ismej.2013.212)
- Wörmer, L., Elvert, M., Fuchser, J., Lipp, J.S., Buttigieg, P.L., Zabel, M., and Hinrichs, K.-U. (2014) Ultra-high-resolution paleoenvironmental records via direct laser-based analysis of lipid biomarkers in sediment core samples. *Proceedings of the National Academy of Sciences, U.S.A.*, 111 (44), 15669-15674. doi: [10.1073/pnas.1405237111](https://doi.org/10.1073/pnas.1405237111)
- Xie, S., Liu, X.-L., Schubotz, F., Wakeham, S.G., and Hinrichs, K.-U. (2014) Distribution of glycerol ether lipids in the oxygen minimum zone of the Eastern Tropical North Pacific Ocean. *Organic Geochemistry*, 71, 60-71. doi: [10.1016/j.orggeochem.2014.04.006](https://doi.org/10.1016/j.orggeochem.2014.04.006)
- Yoshinaga, M.Y., Holler, T., Goldhammer, T., Wegener, G., Pohlman, J.W., Brunner, B., Kuypers, M.M.M., Hinrichs, K.-U., and Elvert, M. (2014) Carbon isotope equilibration during sulphate-limited anaerobic oxidation of methane. *Nature Geoscience*, 7, 190-194. doi: [10.1038/ngeo2069](https://doi.org/10.1038/ngeo2069)
- Zhu, R., Lin, Y.-S., Lipp, J.S., Meador, T.B., and Hinrichs, K.-U. (2014) Optimizing sample pretreatment for compound-specific stable carbon isotopic analysis of amino sugars in marine sediment. *Biogeosciences*, 11, 4869-4880. doi: [10.5194/bg-11-4869-2014](https://doi.org/10.5194/bg-11-4869-2014)
- Zhu, C., Meador, T.B., Dummann, W., and Hinrichs, K.-U. (2014) Identification of unusual butanetriol dialkyl glycerol tetraether and pentanetriol dialkyl glycerol tetraether lipids in marine sediments. *Rapid Communications in Mass Spectrometry*, 28, 332-338. doi: [10.1002/rcm.6792](https://doi.org/10.1002/rcm.6792)
- Zhu, C., Yoshinaga, M.Y., Peters, C.A., Liu, X.-L., Elvert, M., and Hinrichs, K.-U. (2014) Identification and significance of unsaturated archaeal tetraether lipids in marine sediments. *Rapid Communications in Mass Spectrometry*, 28, 1144-1152. doi: [10.1002/rcm.6887](https://doi.org/10.1002/rcm.6887)
- Zhuang, G., Lin, Y.-S., Elvert, M., Heuer, V.B., and Hinrichs, K.-U. (2014) Gas chromatographic analysis of methanol and ethanol in marine sediment pore waters: validation and implementation of three pretreatment techniques. *Marine Chemistry*, 160, 82-90. doi: [10.1016/j.marchem.2014.01.011](https://doi.org/10.1016/j.marchem.2014.01.011)

## 2013

- Becker, K.W., Lipp, J.S., Zhu, C., Liu, X.-L., and Hinrichs, K.-U. (2013) An improved method for the analysis of archaeal and bacterial ether core lipids. *Organic Geochemistry*, 61, 34-44. doi: [10.1016/j.orggeochem.2013.05.007](https://doi.org/10.1016/j.orggeochem.2013.05.007)
- Contreras, S., Meister, P., Liu, B., Prieto-Mollar, X., Hinrichs, K.-U., Khalili, A., Ferdelman, T.G., Kuypers, M.M.M., and Jørgensen, B.B. (2013) Cyclic 100-ka (glacial-interglacial) migration of subseafloor redox zonation on the Peruvian shelf. *Proceedings of the National Academy of Sciences*, 110, 18098-18103. doi: [10.1073/pnas.1305981110](https://doi.org/10.1073/pnas.1305981110)
- Gagen, E.J., Huber, H., Meador, T., Hinrichs, K.-U., and Thomm, M. (2013) Novel Cultivation-Based Approach To Understanding the Miscellaneous Crenarchaeotic Group (MCG) Archaea from Sedimentary Ecosystems. *Applied and Environmental Microbiology*, 79, 6400-6406. doi: [10.1128/aem.02153-13](https://doi.org/10.1128/aem.02153-13)
- Grauel, A.L., Leider, A., Goudeau, M.L.S., Muller, I.A., Bernasconi, S.M., Hinrichs, K.-U., de Lange, G.J., Zonneveld, K.A.F., and Versteegh, G.J.M. (2013) What do SST proxies really tell us? A high-resolution multiproxy (UK<sup>37</sup>, TEX(H)<sub>86</sub> and foraminifera δ<sup>18</sup>O) study in the Gulf of Taranto, central Mediterranean Sea. *Quaternary Science Reviews*, 73, 115-131. doi: [10.1016/j.quascirev.2013.05.007](https://doi.org/10.1016/j.quascirev.2013.05.007)
- Kraft, B., Engelen, B., Goldhammer, T., Lin, Y.-S., Cypionka, H., and Könneke, M. (2013) *Desulfofrigus* sp. prevails in sulfate-reducing dilution cultures from sediments of the Benguela upwelling area. *FEMS Microbiology Ecology*, 84 (1), 86-97. doi: [10.1111/1574-6941.12039](https://doi.org/10.1111/1574-6941.12039)
- Könneke, M., Kuever, J., Galushko, A., and Jørgensen, B.B. (2013) *Desulfoconvexum algidum* gen. nov., sp. nov. a psychrophilic sulfate-reducing bacterium isolated from permanently cold, marine sediment (Svalbard). *International Journal of Systematic and Evolutionary Microbiology*, 63, 959-964. doi: [10.1099/ijs.0.043703-0](https://doi.org/10.1099/ijs.0.043703-0)



- Leider, A., Hinrichs, K.-U., Schefuss, E., and Versteegh, G.J.M.,** (2013) Distribution and stable isotopes of plant waxes in marine surface sediments along a SE Italian transect and their potential to reconstruct the water balance. *Geochimica et Cosmochimica Acta*, 117, 16-32. [doi: 10.1016/j.gca.2013.04.018](https://doi.org/10.1016/j.gca.2013.04.018).
- Lever, M.A., Rouxel, O., Alt, J.C., Shimizu, N., Ono, S., Coggon, R.M., Shanks, W.C., Lapham, L., **Elvert, M., Prieto-Mollar, X., Hinrichs, K.-U.,** Inagaki, F., and Teske, A. (2013) Evidence for microbial carbon and sulfur cycling in deeply buried ridge flank basalt. *Science*, 339, 1305-1308. [doi: 10.1126/science.1229240](https://doi.org/10.1126/science.1229240)
- Lin, Y.-S., Lipp, J.S., Elvert, M.,** Holler, T., and **Hinrichs, K.-U.** (2013) Assessing production of the ubiquitous archaeal diglycosyl tetraether lipids in marine subsurface sediment using intramolecular stable isotope probing. *Environmental Microbiology*, 15 (5), 1634–1646. [doi:10.1111/j.1462-2920.2012.02888.x](https://doi.org/10.1111/j.1462-2920.2012.02888.x)
- Raggi, L., **Schubotz, F., Hinrichs, K.-U.,** Dubilier, N., and Petersen, J. (2013) Bacterial symbionts of *Bathymodiolus* mussels and *Escarpia* tubeworms from Chapopote, an asphalt seep in the southern Gulf of Mexico. *Environmental Microbiology*, 15, 1969-87. [doi: 10.1111/1462-2920.12051](https://doi.org/10.1111/1462-2920.12051)
- Schubotz, F., Meyer-Dombard, D.R., Bradley, A.S., Fredricks, H.F., **Hinrichs, K.-U.,** Shock, E.L., and Summons, R.E. (2013) Spatial and temporal variability of biomarkers and microbial diversity reveal metabolic and community flexibility in Streamer Biofilm Communities in the Lower Geyser Basin, Yellowstone National Park. *Geobiology*, 11, 549–569. [doi: 10.1111/gbi.12051](https://doi.org/10.1111/gbi.12051)
- Wörmer, L., Lipp, J.S., Schröder, J.M.,** and **Hinrichs K.-U.** (2013) Application of two new LC-ESI-MS methods for improved detection of intact polar lipids (IPLs) in environmental samples. *Organic Geochemistry*, 59, 10-21. [doi:10.1016/j.orggeochem.2013.03.004](https://doi.org/10.1016/j.orggeochem.2013.03.004)
- Xie, S., Lazar, C.S., Lin, Y.S.,** Teske, A., and **Hinrichs, K.-U.** (2013) Ethane- and propane-producing potential and molecular characterization of an ethanogenic enrichment in an anoxic estuarine sediment. *Organic Geochemistry*, 59, 37-48. [doi: 10.1016/j.orggeochem.2013.03.001](https://doi.org/10.1016/j.orggeochem.2013.03.001)
- Xie, S., Lipp, J.S.,** Wegener, G., Ferdelman, T.G., and **Hinrichs, K.-U.** (2013) Turnover of microbial lipids in the deep biosphere and growth of benthic archaeal populations. *Proceedings of the National Academy of Sciences, U.S.A.*, 110, 6010-6014. [doi: 10.1073/pnas.1218569110](https://doi.org/10.1073/pnas.1218569110)
- Zhang, C.L., Wang, J., Dodsworth, J.A., Williams, A.J., **Zhu, C., Hinrichs, Kai-Uwe,** Zheng, F., and Hedlund, B.P. (2013) *In situ* production of branched glycerol dialkyl glycerol tetraethers in a great basin hot spring (USA). *Frontiers in Microbiology*, 4, 181. [doi:10.3389/fmicb.2013.00181](https://doi.org/10.3389/fmicb.2013.00181)
- Zhu, C., Lipp, J. S., Wörmer, L., Becker, K. W., Schröder, J.,** and **Hinrichs, K.-U.** (2013) Comprehensive glycerol ether lipid fingerprints through a novel reversed phase liquid chromatography-mass spectrometry protocol. *Organic Geochemistry*, 65, 53–62. [doi: 10.1016/j.orggeochem.2013.09.012](https://doi.org/10.1016/j.orggeochem.2013.09.012)
- Zhu, R., Evans, T.W., Wörmer, L., Lin, Y.-S., Zhu, C.,** and **Hinrichs, K.-U.** (2013) Improved sensitivity of sedimentary phospholipid analysis resulting from a novel extract cleanup strategy. *Organic Geochemistry*, 65, 46–52. [doi:10.1016/j.orggeochem.2013.10.002](https://doi.org/10.1016/j.orggeochem.2013.10.002)

## 2012

- Bogus, A., Zonneveld, K.A.F., Fischer, D., Kasten, S., Bohrmann, G., and **Versteegh, G.J.M.** (2012) The effect of meter-scale lateral oxygen gradients at the sediment-water interface on selected organic matter based alteration, productivity and temperature proxies. *Biogeosciences*, 9, 1553-1570. [doi: 10.5194/bg-9-1553-2012](https://doi.org/10.5194/bg-9-1553-2012)
- Bühning, S.I., Schubotz, F., Harms, C., Lipp, J.S.,** Amils, R., and **Hinrichs, K.-U.** (2012) Lipid signatures of acidophilic microbial communities in an extreme acidic environment - Río Tinto, Spain. *Organic Geochemistry*, 47, 66–77. [doi:10.1016/j.orggeochem.2012.03.010](https://doi.org/10.1016/j.orggeochem.2012.03.010)
- Hädrich, A., **Heuer, V.B.,** Herrmann, M., **Hinrichs, K.-U.,** and Küsel, K. (2012) Origin and fate of acetate in an acidic fen. *FEMS Microbiology Ecology*, 81, 339-354. [doi:10.1111/j.1574-6941.2012.01352.x](https://doi.org/10.1111/j.1574-6941.2012.01352.x)
- Hinrichs, K.-U.,** and Inagaki, F. (2012) Downsizing the deep biosphere. *Science*, 338, 204-205. [doi:10.1126/science.1229296](https://doi.org/10.1126/science.1229296)
- Kellermann, M.Y., Schubotz, F., Elvert, M., Lipp, J.S.,** Birgel, D., **Prieto Mollar, X.,** Dubilier, N., and **Hinrichs, K.-U.** (2012) Symbiont-host relationships in chemosynthetic mussels: A comprehensive lipid biomarker study. *Organic Geochemistry*, 43, 112-124. [doi:10.1016/j.orggeochem.2011.10.005](https://doi.org/10.1016/j.orggeochem.2011.10.005)

- Kellermann, M.Y., Wegener, G., Elvert, M., Yoshinaga, M.Y., Lin, Y.S., Holler, T., Prieto-Mollar, X., Knittel, K., and Hinrichs, K.-U.** (2012) Autotrophy as predominant mode of carbon fixation in thermophilic anaerobic methane-oxidizing microbial communities. *Proceedings of the National Academy of Sciences, U.S.A.*, 109 (47), 19321-19326. [doi:10.1073/pnas.1208795109](https://doi.org/10.1073/pnas.1208795109)
- Könneke, M., Lipp, J.S., and Hinrichs, K.-U.** (2012) Carbon isotope fractionation by the marine ammonia-oxidizing archaeon *Nitrosopumilus maritimus*. *Organic Geochemistry*, 48, 21-24. [doi:10.1016/j.orggeochem.2012.04.007](https://doi.org/10.1016/j.orggeochem.2012.04.007)
- Lang, S.Q., Früh-Green, G.L., Kelley, D.S., Lilley, M.D., Proskurowski, G., and **Reeves, E.P.** (2012) H<sub>2</sub>/CH<sub>4</sub> ratios cannot reliably distinguish abiotic vs. biotic methane in natural hydrothermal systems. *Proceedings of the National Academy of Sciences*, 109, E3210. [doi:10.1073/pnas.1213138109](https://doi.org/10.1073/pnas.1213138109)
- Lin, Y.-S., Heuer, V.B., Goldhammer, T., Kellermann, M.Y., Zabel, M., and Hinrichs, K.-U.** (2012) Towards constraining H<sub>2</sub> concentration in seafloor sediment: a proposal for combined analysis by two distinct approaches. *Geochimica et Cosmochimica Acta*, 77, 186-201. [doi:10.1016/j.gca.2011.11.008](https://doi.org/10.1016/j.gca.2011.11.008)
- Liu, X.L., Lipp, J.S., Schröder, J.M., Summons, R.E., and Hinrichs, K.-U.** (2012) Isoprenoidal glycerol dialkanol diethers: a series of novel archaeal lipids in marine sediments. *Organic Geochemistry*, 43, 50-55. [doi:10.1016/j.orggeochem.2011.11.002](https://doi.org/10.1016/j.orggeochem.2011.11.002)
- Liu, X.L., Lipp, J.S., Simpson, J.H., Lin, Y.-S., Summons, R.E., and Hinrichs, K.-U.** (2012) Mono- and dihydroxyl Glycerol Dibiphytanyl Glycerol Tetraethers in marine sediments: identification of both core and intact polar lipid forms. *Geochimica et Cosmochimica Acta*, 89, 102-115. [doi:10.1016/j.gca.2012.04.053](https://doi.org/10.1016/j.gca.2012.04.053)
- Liu, X.L., Summons, R.E., and Hinrichs, K.-U.** (2012) Extending the known range of glycerol ether lipids in the environment: structural assignments based on MS/MS fragmentation patterns. *Rapid Communications in Mass Spectrometry*, 26, 2295-2302. [doi:10.1002/rcm.6355](https://doi.org/10.1002/rcm.6355)
- Löscher, C.R., Kock, A., **Könneke, M.**, LaRoche, J., Bange, H.W., and Schmitz, R.A. (2012) Production of oceanic nitrous oxide by ammonia-oxidizing archaea. *Biogeosciences*, 9, 2419-2429. [doi:10.5194/bg-9-2419-2012](https://doi.org/10.5194/bg-9-2419-2012)
- McKay, L.J., MacGregor, B.J., Biddle, J.F., Albert, D.B., Mendlovitz, H.P., Hoer, D.R., **Lipp, J.S.**, Lloyd, K.G., and Teske, A.P. (2012) Spatial heterogeneity and underlying geochemistry of phylogenetically diverse orange and white *Beggiatoa* mats in Guaymas Basin hydrothermal sediments. *Deep Sea Research Part I: Oceanographic Research Papers*, 67, 21-31. [doi: 10.1016/j.dsr.2012.04.011](https://doi.org/10.1016/j.dsr.2012.04.011)
- Nuzzo, M., **Elvert, M.**, Schmidt, M., Scholz, F., Reitz, A., **Hinrichs, K.-U.**, and Hensen, C. (2012) Impact of hot fluid advection on hydrocarbon gas production and seepage in mud volcano sediments of thick Cenozoic Deltas. *Earth and Planetary Science Letters*, 341-344, 139-157. [doi: 10.1016/j.epsl.2012.05.009](https://doi.org/10.1016/j.epsl.2012.05.009)
- Wakeham, S.G., Turich, C., **Schubotz, F.**, Podlaska, A., Li, X.N., Varela, R., Astor, Y., Sáenz, J.P., Rush, D., Sinninghe Damsté, J.S., Summons, R.E., Scranton, M.I., Taylor, G.T., and **Hinrichs, K.-U.** (2012) Biomarkers, chemistry and microbiology show chemoautotrophy in a multilayer chemocline in the Cariaco Basin. *Deep Sea Research*, 63, 133-156. [doi: 10.1016/j.dsr.2012.01.005](https://doi.org/10.1016/j.dsr.2012.01.005)
- Wegener, G., **Bausch, M.**, Holler, T., Thang, N.M., **Prieto Mollar, X., Kellermann, M.Y., Hinrichs, K.-U.**, and Boetius, A. (2012) Assessing sub-seafloor microbial activity by combined stable isotope probing with deuterated water and <sup>13</sup>C-bicarbonate. *Environmental Microbiology*, 14, 1517-1527. [doi: 10.1111/j.1462-2920.2012.02739.x](https://doi.org/10.1111/j.1462-2920.2012.02739.x)
- Wooller, M., Pohlman, J., Gaglioti, B., Langdon, P., Jones, M., Walter Anthony, K., **Becker, K., Hinrichs, K.-U.**, and **Elvert, M.** (2012) Reconstruction of past methane availability in an Arctic Alaska wetland indicates climate influenced methane release during the past ~12,000 years. *Journal of Paleolimnology*, 48, 27-42. [doi: 10.1007/s10933-012-9591-8](https://doi.org/10.1007/s10933-012-9591-8)
- Wörmer, L.-P.**, Cirés, S., Velázquez, D., Quesada, A., and **Hinrichs, K.-U.** (2012) Cyanobacterial heterocyst glycolipids in cultures and environmental samples: Diversity and biomarker potential. *Limnology and Oceanography*, 57, 1775-1788. [doi: 10.4319/lo.2012.57.6.1775](https://doi.org/10.4319/lo.2012.57.6.1775)
- Yan, J., Haaijer, S.C.M., Op den Camp, H.J.M., van Niftrik, L., Stahl, D.A., **Könneke, M.**, Rush, D., Sinninghe Damsté, J.S., Hu, Y.Y., and Jetten, M.S.M. (2012) Mimicking the oxygen minimum zones: stimulating interaction of aerobic archaeal and anaerobic bacterial ammonia oxidizers in a laboratory-scale model system. *Environmental Microbiology*, 14, 3146-3158. [doi: 10.1111/j.1462-2920.2012.02894.x](https://doi.org/10.1111/j.1462-2920.2012.02894.x)
- Yoshinaga, M.Y., Wörmer, L., Elvert, M., and Hinrichs, K.-U.** (2012) Novel cardiolipins from uncultured methane-metabolizing archaea. *Archaea*. Article ID 832097. [doi:10.1155/2012/832097](https://doi.org/10.1155/2012/832097)

## 2011

- Bühning, S.I.**, Sievert, S.M., Jonkers, H.M., **Ertefai, T.**, Elshahed, M.S., Krumholz, L.R., and **Hinrichs, K.-U.** (2011) Insights into chemotaxonomic composition and carbon cycling of phototrophic communities in an artesian sulfur-rich spring of moderate temperature (Zodletone, Oklahoma, USA), a possible analogue for ancient microbial mat systems. *Geobiology*, 9 (2), 116-179. [doi: 10.1111/j.1472-4669.2010.00268.x](https://doi.org/10.1111/j.1472-4669.2010.00268.x).
- Cook, M.S., Keigwin, L.D., Birgel, D., and **Hinrichs, K.-U.** (2011) Repeated pulses of vertical methane flux recorded in glacial sediments from the southeast Bering Sea. *Paleoceanography*, 26, PA2210, [doi:10.1029/2010PA001993](https://doi.org/10.1029/2010PA001993)
- Jessen, G.L., Pantoja, S., Gutiérrez, M.A., Quiñones, R.A., González, R.R., Sellanes, J., **Kellermann, M.**, and **Hinrichs, K.-U.** (2011) Methane in shallow cold seeps at Mocha Island off central Chile. *Continental Shelf Research*, 31(6), 574-581. [doi:10.1016/j.csr.2010.12.012](https://doi.org/10.1016/j.csr.2010.12.012)
- Holler, T., Widdel, F., Knittel, K., Amann, R., **Kellermann, M.Y.**, **Hinrichs, K.-U.**, Teske, A., Boetius, A., and Wegener, G. (2011) Thermophilic anaerobic oxidation of methane by marine microbial consortia. *The ISME Journal*, 5, 1946–1956. [doi:10.1038/ismej.2011.77](https://doi.org/10.1038/ismej.2011.77)
- Liu, X.L.**, **Lipp, J.S.**, and **Hinrichs, K.-U.** (2011) Distribution of intact and core GDGTs in marine sediments. *Organic Geochemistry*, 42(4), 368-375. [doi:10.1016/j.orggeochem.2011.02.003](https://doi.org/10.1016/j.orggeochem.2011.02.003)
- Rossel, P.E.**, **Elvert, M.**, Ramette, A., Boetius, A., and **Hinrichs, K.-U.** (2011) Factors controlling the distribution of anaerobic methanotrophic communities in marine environments: evidence from intact polar membrane lipids. *Geochimica et Cosmochimica Acta*, 75, 164-184. [doi: 10.1016/j.gca.2010.09.031](https://doi.org/10.1016/j.gca.2010.09.031)
- Schmidt, F.**, Koch, B., **Elvert, M.**, Schmidt, G., Witt, M., and **Hinrichs, K.-U.** (2011) Diagenetic transformation of dissolved organic nitrogen compounds under contrasting sedimentary redox conditions in the Black Sea. *Environmental Science and Technology*, 45(12), 5223-5229. [doi: 10.1021/es2003414](https://doi.org/10.1021/es2003414)
- Schubotz, F.**, **Lipp, J.S.**, **Elvert, M.**, Kasten, S., **Prieto Mollar, X.**, Zabel, M., Bohrmann, G., and **Hinrichs, K.-U.** (2011) Petroleum degradation and associated microbial signatures at the Chapopote asphalt volcano, Southern Gulf of Mexico. *Geochimica et Cosmochimica Acta*, 75(16), 4377-4398. [doi:10.1016/j.gca.2011.05.025](https://doi.org/10.1016/j.gca.2011.05.025)
- Schubotz, F.**, **Lipp, J.S.**, **Elvert, M.**, and **Hinrichs, K.-U.** (2011) Stable carbon isotopic compositions of intact polar lipids of hydrocarbon degrading microbial communities at the Chapopote asphalt volcano in the southern Gulf of Mexico. *Geochimica et Cosmochimica Acta*, 75(16), 4399-4415. [doi:10.1016/j.gca.2011.05.018](https://doi.org/10.1016/j.gca.2011.05.018)
- Yoshinaga, M.Y.**, **Kellermann, M.Y.**, Rossel, P.E., **Schubotz, F.**, **Lipp, J.S.**, and **Hinrichs, K.-U.** (2011) Systematic fragmentation patterns of archaeal intact polar lipids by HPLC-ESI-IT-MS. *Rapid Communications in Mass Spectrometry*, 25, 3563–3574. [doi: 10.1002/rcm.5251](https://doi.org/10.1002/rcm.5251)
- Zhang, Y.G., Zhang, C.L., **Liu, X.-L.**, Li, L., **Hinrichs, K.-U.**, and Noakes, J.E. (2011) Methane Index: A tetraether archaeal lipid biomarker indicator for detecting the instability of marine gas hydrates. *Earth and Planetary Science Letters*, 307(3-4), 525-534. [doi:10.1016/j.epsl.2011.05.031](https://doi.org/10.1016/j.epsl.2011.05.031)

## 2010

- Borin, S., Ventura, S., Tambone, F., Mapelli, F., **Schubotz, F.**, Brusetti, L., Scaglia, B., D'Acqui, L., Solheim, B., Turicchia, S., Marasco, R., **Hinrichs, K.-U.**, Baldi, F., Adani, F., and Daffonchio, D. (2010) Rock weathering creates oases of life in a High Arctic desert. *Environmental Microbiology*, 12, 293-303. [doi: 10.1111/j.1462-2920.2009.02059.x](https://doi.org/10.1111/j.1462-2920.2009.02059.x)
- Christiansen, B., **Bühning, S.I.**, Pfannkuche, O., and Weikert, H. (2010) The near-bottom plankton community at the Porcupine Abyssal Plain, NE-Atlantic: structure and vertical distribution. *Marine Biology Research*, 6/2, 113-124. [doi:10.1080/17451000903150363](https://doi.org/10.1080/17451000903150363)
- Ertefai, T.**, **Heuer, V.B.**, **Prieto-Mollar, X.**, Vogt, C., Sylva, S.P., Seewald, J., and **Hinrichs, K.-U.** (2010) The biogeochemistry of sorbed methane in marine sediments. *Geochimica et Cosmochimica Acta*, 74, 6033-6048. [doi:10.1016/j.gca.2010.08.006](https://doi.org/10.1016/j.gca.2010.08.006)
- Haas, A., Peckmann, J., **Elvert, M.**, Sahling, H., and Bohrmann, G. (2010) Patterns of carbonate authigenesis at the Kouilou pockmarks on the Congo deep-sea fan. *Marine Geology*, 268(1-4), 129-136. [doi:10.1016/j.margeo.2009.10.027](https://doi.org/10.1016/j.margeo.2009.10.027)
- Heuer, V.B.**, Krüger, M., **Elvert, M.**, and **Hinrichs, K.-U.** (2010) Experimental studies on the stable carbon isotope biogeochemistry of acetate in lake sediments. *Organic Geochemistry*, 41, 22-30. [doi:10.1016/j.orggeochem.2009.07.004](https://doi.org/10.1016/j.orggeochem.2009.07.004)

- Kinnaman, F.S., Kimball, J., Busso, L., Birgel, D., Ding, H., **Hinrichs, K.-U.**, and Valentine, D.L. (2010) Gas flux and carbonate occurrence at a shallow seep of thermogenic natural gas. *Geo-Marine Letters*, 30, 355-365. [doi:10.1007/s00367-010-0184-0](https://doi.org/10.1007/s00367-010-0184-0)
- Leider, A., Hinrichs, K.-U.**, Mollenhauer, G., and **Versteegh, G.J.M.** (2010) Core-top calibration of the lipid-based UK<sub>37</sub> and TEX<sub>86</sub> temperature proxies on the southern Italian shelf (SW Adriatic Sea, Gulf of Taranto). *Earth and Planetary Science Letters*, 300(1-2), 112-124. [doi: 10.1016/j.epsl.2010.09.042](https://doi.org/10.1016/j.epsl.2010.09.042)
- Lever, M.A., **Heuer, V.B.**, Morono, Y., Masui, N., **Schmidt, F.**, Alperin, M.J., Inagaki, F., **Hinrichs, K.-U.**, and Teske, A. (2010) Acetogenesis in deep seafloor sediments of the Juan de Fuca Ridge flank: a synthesis of geochemical, thermodynamic, and gene-based evidence. *Geomicrobiology Journal*, 27, 183-211. [doi: 10.1080/01490450903456681](https://doi.org/10.1080/01490450903456681)
- Lichtschatg, A., Felden, J., Wenzhöfer, F., **Schubotz, F., Ertefai, T.**, Boetius, A., and deBeer, D. (2010) Methane and sulfide fluxes in permanent anoxia: in situ studies at the Dvurechenskii mud volcano (Sorokin Trough, Black Sea). *Geochimica et Cosmochimica Acta*, 74, 5002-5018. [doi:10.1016/j.gca.2010.05.031](https://doi.org/10.1016/j.gca.2010.05.031)
- Lin, Y.-S.**, Biddle, J.F., **Lipp, J.S.**, Orcutt, B., Holler, T., Teske, A., and **Hinrichs, K.-U.** (2010) Effect of storage conditions on archaeal and bacterial communities in subsurface marine sediments. *Geomicrobiology Journal*, 27, 261-272. [doi:10.1080/01490450903410423](https://doi.org/10.1080/01490450903410423)
- Lin, Y.-S., Heuer, V.B.**, Ferdelman, T.G., and **Hinrichs, K.-U.** (2010) Microbial formation of methylated sulfides in the anoxic sediment of Lake Plußsee, Germany. *Biogeosciences*, 7, 2433-2444. [doi:10.5194/bg-7-2433-2010](https://doi.org/10.5194/bg-7-2433-2010)
- Lin, Y.-S., Lipp, J.S., Yoshinaga, M.Y., Lin S.-H., Elvert M., and Hinrichs, K.-U.** (2010) Intramolecular stable carbon isotopic analysis of archaeal glycosyl tetraether lipids. *Rapid Communications in Mass Spectrometry*, 24, 2817-2826. [doi:10.1002/rcm.4707](https://doi.org/10.1002/rcm.4707)
- Liu, X.L., Leider, A.**, Gillespie, A., Gröger, J., **Versteegh, G.**, and **Hinrichs, K.-U.** (2010) Identification of polar lipid precursors of the ubiquitous branched GDGT orphan lipids in a peat bog in Northern Germany. *Organic Geochemistry*, 41, 653-660. [doi:10.1016/j.orggeochem.2010.04.004](https://doi.org/10.1016/j.orggeochem.2010.04.004)
- Pape, T., Bahr, A., Rethemeyer, J., Kessler, J.D., Sahling, H., **Hinrichs, K.-U.**, Klapp, S.A., Reeburgh, W.S., and Bohrmann, G. (2010) Molecular and isotopic partitioning of low-molecular weight hydrocarbons during migration and gas hydrate precipitation in deposits of a high-flux seepage site. *Chemical Geology*, 269, 350-363. [doi:10.1016/j.chemgeo.2009.10.009](https://doi.org/10.1016/j.chemgeo.2009.10.009)
- Perevalova, A.A., Bidzhieva, S.K., Kublanov, I.V., **Hinrichs, K.-U.**, **Liu, X.L.**, Mardanov, A.V., Lebedinsky, A.V., and Bonch-Osmolovskaya, E.A. (2010) *Fervidococcus fontis* gen. nov., sp. nov., a novel anaerobic thermophilic crenarchaeote from hot springs in Kamchatka, and proposal of *Fervidococcaceae* fam. nov. and *Fervidococcales* ord. nov. *International Journal of Systematic and Evolutionary Microbiology*, 60, 2082-2088. [doi:10.1099/ijs.0.019042-0](https://doi.org/10.1099/ijs.0.019042-0)
- Rethemeyer, J., **Schubotz, F.**, Talbot, H.M., Cooke, M.P., **Hinrichs, K.-U.**, and Mollenhauer, G. (2010) Distribution of polar membrane lipids in permafrost soils and sediments of a small high Arctic catchment. *Organic Geochemistry*, 41, 1130-1145. [doi:10.1016/j.orggeochem.2010.06.004](https://doi.org/10.1016/j.orggeochem.2010.06.004)
- Riedinger, N., Brunner, B., **Lin, Y. S.**, Vossmeier, A., Ferdelman, T. G., and Jorgensen, B.B. (2010) Methane at the sediment-water transition in Black Sea sediments. *Chemical Geology*, 274, 29-37. [doi:10.1016/j.chemgeo.2010.03.010](https://doi.org/10.1016/j.chemgeo.2010.03.010)
- Schmidt, F., Hinrichs, K.-U.**, and **Elvert, M.** (2010) Sources, transport, and partitioning of organic matter at a highly dynamic continental margin. *Marine Chemistry*, 118, 37-55. [doi:10.1016/j.marchem.2009.10.003](https://doi.org/10.1016/j.marchem.2009.10.003)
- Takano, Y., Chikaraishi, Y., Ogawa, N.O., Nomaki, H., Morono, Y., Inagaki, F., Kitazato, H., **Hinrichs, K.-U.**, and Ohkouchi, N. (2010) Sedimentary membrane lipids recycled by deep-sea benthic archaea. *Nature Geoscience*, 3, 858-861. [doi:10.1038/NGEO983](https://doi.org/10.1038/NGEO983)

## 2009

- Bradley, A.S., Fredricks, H.F., **Hinrichs, K.-U.**, and Summons, R.E. (2009) Structural diversity of diether lipids in carbonate chimneys at the Lost City Hydrothermal Field. *Organic Geochemistry*, 40, 1169-1178. [doi:10.1016/j.orggeochem.2009.09.004](https://doi.org/10.1016/j.orggeochem.2009.09.004)
- Bühning, S.I.**, Smittenberg, R.H., Sachse, D., **Lipp, J.S.**, Golubic, S., Sachs, J.P., **Hinrichs, K.-U.**, and Summons, R.E. (2009) A hypersaline microbial mat from the Pacific Atoll Kiritimati: Insight into composition and carbon fixation using biomarker analyses and a <sup>13</sup>C-labeling approach. *Geobiology*, 7, 308-323. [doi:10.1111/j.1472-4669.2009.00198.x](https://doi.org/10.1111/j.1472-4669.2009.00198.x)

- Heuer, V.B.,** Pohlman, J.W., Torres, M.E., **Elvert, M.,** and **Hinrichs, K.-U.** (2009) The stable carbon isotope biogeochemistry of acetate and other dissolved carbon species in deep sub-seafloor sediments at the northern Cascadia Margin. *Geochimica et Cosmochimica Acta*, 73, 3323-3336. [doi:10.1016/j.gca.2009.03.001](https://doi.org/10.1016/j.gca.2009.03.001)
- Joye, S.B., Samarkin, V.A., Orcutt, B.N., MacDonald, I.R., **Hinrichs, K.-U., Elvert, M.,** Teske, A.P., Lloyd K.G., Montoya, J.P., and Meile, C.D. (2009) Metabolic variability in seafloor brines revealed by carbon and sulphur dynamics. *Nature Geoscience*, 2, 349-354. [doi: 10.1038/NGEO475](https://doi.org/10.1038/NGEO475)
- Lipp, J.S.,** and **Hinrichs, K.-U.** (2009) Structural diversity and fate of intact polar lipids in marine sediments. *Geochimica et Cosmochimica Acta*, 73, 6816-6833. [doi:10.1016/j.gca.2009.08.003](https://doi.org/10.1016/j.gca.2009.08.003)
- Pohlman, J.W., Kaneko, M., **Heuer, V.B.,** Coffin, R.B., and Whiticar, M. (2009) Methane sources and production in the northern Cascadia margin gas hydrate system. *Earth and Planetary Science Letters*, 287, 504-512. [doi:10.1016/j.epsl.2009.08.037](https://doi.org/10.1016/j.epsl.2009.08.037)
- Schmidt, F., Elvert, M.,** Koch, B., Witt, M., and **Hinrichs, K.-U.** (2009) Molecular characterization of dissolved organic matter in pore water in continental shelf sediments. *Geochimica et Cosmochimica Acta*, 73, 3337-3358. [doi:10.1016/j.gca.2009.03.008](https://doi.org/10.1016/j.gca.2009.03.008)
- Schubotz, F.,** Wakeham, S.G., **Lipp, J.S.,** Fredricks, H.F., and **Hinrichs, K.-U.** (2009) Detection of microbial biomass by intact membrane lipid analysis in the water column and surface sediments of the Black Sea. *Environmental Microbiology*, 11, 2720-2734. [doi:10.1111/j.1462-2920.2009.01999.x](https://doi.org/10.1111/j.1462-2920.2009.01999.x)
- Sepúlveda, J.,** Wendler, J., **Leider, A.,** Kuss, H.-J., Summons, R.E., and **Hinrichs, K.-U.** (2009) Molecular-isotopic evidence of environmental and ecological changes across the Cenomanian-Turonian boundary in the Levant Platform of central Jordan. *Organic Geochemistry*, 40, 553-568. [doi:10.1016/j.orggeochem.2009.02.009](https://doi.org/10.1016/j.orggeochem.2009.02.009)
- Sepúlveda, J.C.,** Wendler, J., Summons, R.E., and **Hinrichs, K.-U.** (2009) Rapid resurgence of marine productivity at the Cretaceous-Paleogene mass extinction event. *Science*, 326, 129-132. [doi:10.1126/science.1176233](https://doi.org/10.1126/science.1176233)

## 2008

- Birgel, D., **Elvert, M.,** Han, X., and Peckmann, J. (2008) <sup>13</sup>C-depleted biphytanic diacids as tracers of past anaerobic oxidation of methane. *Organic Geochemistry*, 39(1), 152-156. [doi:10.1016/j.orggeochem.2007.08.013](https://doi.org/10.1016/j.orggeochem.2007.08.013)
- De Deckker, P., Abed, R.M.M., De Beer, D., **Hinrichs, K.-U.,** O'Loingsigh, T., Schefuss, E., Stuut, J.B., Tapper, N.J., and van der Kaars, S. (2008) Geochemical and microbiological fingerprinting of airborne dust that fell in Canberra, Australia, in October 2002. *Geochemistry, Geophysics, Geosystems*, 9, Q12Q10. [doi:10.1029/2008GC002091](https://doi.org/10.1029/2008GC002091).
- Elvert, M.,** and Niemann, H. (2008) Occurrence of unusual steroids and hopanoids derived from aerobic methanotrophs at an active marine mud volcano. *Organic Geochemistry*, 39(2), 167-177. [doi:10.1016/j.orggeochem.2007.11.006](https://doi.org/10.1016/j.orggeochem.2007.11.006)
- Ertefai, T.F.,** Fisher, M.C., Fredricks, H.F., **Lipp, J.S.,** Birgel, D., Udert, K.M., Cavanaugh, C.M., Pearson, A., Gschwend, P.M., and **Hinrichs, K.-U.** (2008) Vertical distribution of microbial lipids and functional genes in chemically distinct layers of a highly polluted meromictic lake. *Organic Geochemistry*, 39, 1572-1588. [doi:10.1016/j.orggeochem.2008.07.009](https://doi.org/10.1016/j.orggeochem.2008.07.009)
- Lipp, J.S.,** Morono, Y., Inagaki, F., and **Hinrichs, K.-U.** (2008) Significant contribution of Archaea to extant biomass in marine subsurface sediments. *Nature*, 454, 991-994. [doi:10.1038/nature07174](https://doi.org/10.1038/nature07174)
- Niemann, H., and **Elvert, M.** (2008) Diagnostic lipid biomarker and stable carbon isotope signatures of microbial communities mediating the anaerobic oxidation of methane with sulphate. *Organic Geochemistry*, 39(12), 1668-1677. [doi:10.1016/j.orggeochem.2007.11.003](https://doi.org/10.1016/j.orggeochem.2007.11.003)
- Meckler, A.N., Schubert, C.J., Hochuli, P.A., Plessen, B., Birgel, D., **Hinrichs, K.-U.,** and Haug, G.H. (2008) Glacial to Holocene terrigenous organic matter input to sediments from Orca Basin, Gulf of Mexico - a combined optical and biomarker approach. *Earth and Planetary Science Letters*, 272, 251-263. [doi:10.1016/j.epsl.2008.04.046](https://doi.org/10.1016/j.epsl.2008.04.046)
- Rossel, P.E., Lipp, J.S.,** Fredricks, H.F., Arnds, J., Boetius, A., **Elvert, M.,** and **Hinrichs, K.-U.** (2008) Intact polar lipids of anaerobic methanotrophic archaea and associated bacteria. *Organic Geochemistry*, 39, 992-999. [doi:10.1016/j.orggeochem.2008.02.021](https://doi.org/10.1016/j.orggeochem.2008.02.021)
- Stadnitskaia, A., Bouloubassi, I., **Elvert, M., Hinrichs, K.-U.,** and Sinninghe Damsté, J.S. (2008) Extended hydroxyarchaeol, a novel biomarker for anaerobic methanotrophy in cold seepage habitats. *Organic Geochemistry*, 39, 1007-1014. [doi:10.1016/j.orggeochem.2008.04.019](https://doi.org/10.1016/j.orggeochem.2008.04.019)



Strapoc, D., Picardal, F.W., Turich, C., Schaperdoth, I., Macalady, J.L., **Lipp J.S., Lin, Y.-S., Ertefai, T.F., Schubotz, F., Hinrichs, K.-U.**, Mastalerz, M., and Schimmelmann, A. (2008) Methane-Producing Microbial Community in a Coal Bed of the Illinois Basin. *Applied and Environmental Microbiology*, 74, 2424-2432. [doi:10.1128/AEM.00856-08](https://doi.org/10.1128/AEM.00856-08)

Wegener, G., Niemann, H., **Elvert, M., Hinrichs, K.-U.**, and Boetius, A. (2008) Assimilation of Methane and Inorganic Carbon by Microbial Communities Mediating the Anaerobic Oxidation of Methane. *Environmental Microbiology*, 10, 2287-2298. [doi:10.1111/j.1462-2920.2008.01653.x](https://doi.org/10.1111/j.1462-2920.2008.01653.x)

## 2007

Elshahed, M.S., Youssef, N.H., Luo, Q., Najar, F.Z., Roe, B.A., Sisk, T.M., **Bühning, S.I., Hinrichs, K.-U.**, and Krumholz, L.R. (2007) Phylogenetic and Metabolic Diversity of *Planctomycetes* from Anaerobic, Sulfide- and Sulfur-Rich Zoned Spring, Oklahoma. *Applied and Environmental Microbiology*, 73, 4707-4716. [doi:10.1128/AEM.00591-07](https://doi.org/10.1128/AEM.00591-07)

Fredricks, H.F., and **Hinrichs, K.-U.** (2007) Data report: Intact membrane lipids as indicators of subsurface life in Cretaceous and Paleogene sediments from Sites 1257 and 1258. *Proceedings of the Ocean Drilling Program, Scientific Results*, Vol. 207. [doi:10.2973/odp.proc.sr.207.112.2007](https://doi.org/10.2973/odp.proc.sr.207.112.2007)

Nauhaus, K., Albrecht, M., **Elvert, M.**, Boetius, A., and Widdel, F. (2007) In vitro cell growth of marine archaeal-bacterial consortia by anaerobic oxidation of methane with sulfate. *Environmental Microbiology*, 9(1), 187-196. [doi:10.1111/j.1462-2920.2006.01127.x](https://doi.org/10.1111/j.1462-2920.2006.01127.x)

## 2006

Alain, K., Holler, T., Musat, F., **Elvert, M.**, Treude, T., and Krüger, M. (2006) Microbiological investigation of methane- and hydrocarbon-discharging mud volcanoes in the Carpathian Mountains, Romania. *Environmental Microbiology*, 8(4), 574-590. [doi: 10.1111/j.1462-2920.2005.00922.x](https://doi.org/10.1111/j.1462-2920.2005.00922.x)

Bice, K., Birgel, D., Meyers, P.A., Dahl, K.A., **Hinrichs, K.-U.**, and Norris, R.D. (2006) A multiple proxy and modeling study of Cretaceous upper ocean temperatures and atmospheric CO<sub>2</sub> concentrations from tropical Atlantic foraminifera and organic matter. *Paleoceanography*, 21, PA2002. [doi:10.1029/2005PA001203](https://doi.org/10.1029/2005PA001203)

Biddle, J.F., **Lipp, J.S.**, Lever, M., Lloyd, K., Sørensen, K., Anderson, R., Fredricks, H.F., **Elvert, M.**, Kelly, T.J., Schrag, D.P., Sogin, M.L., Brenchley, J.E., Teske, A., House, C.H., and **Hinrichs, K.-U.** (2006) Heterotrophic Archaea dominate sedimentary subsurface ecosystems off Peru. *Proceedings of the National Academy of Sciences, U.S.A.*, 103, 3846-3851. [doi:10.1073/pnas.0600035103](https://doi.org/10.1073/pnas.0600035103)

Birgel, D., Thiel, V., **Hinrichs, K.-U., Elvert, M.**, Campbell, K., Reitner, J., Farmer, J.D., and Peckmann, J., (2006) Lipid biomarker patterns of methane-seep microbialites from the Mesozoic convergent margin of California. *Organic Geochemistry*, 37, 1289-1302. [doi:10.1016/j.orggeochem.2006.02.004](https://doi.org/10.1016/j.orggeochem.2006.02.004)

**Heuer, V., Elvert, M., Tille, S.**, Krummen, M., Prieto-Mollar, X., **Hmelo, L.R.**, and **Hinrichs, K.-U.** (2006) Online  $\delta^{13}\text{C}$  analysis of volatile fatty acids in sediment/porewater systems by liquid chromatography-isotope ratio-mass spectrometry. *Limnology and Oceanography: Methods*, 4, 346-357. [doi:10.4319/lom.2006.4.346](https://doi.org/10.4319/lom.2006.4.346)

**Hinrichs, K.-U.**, Hayes, J.M., Bach, W., Spivack, A., **Hmelo, L.R.**, Holm, N., Johnson, C.G., and Sylva, S.P. (2006) Biological formation of ethane and propane in the deep marine subsurface. *Proceedings of the National Academy of Sciences, U.S.A.*, 103, 14684-14689. [doi:10.1073/pnas.0606535103](https://doi.org/10.1073/pnas.0606535103)

Niemann, H., Duarte, J., Hensen, C., Omeregíe, E., Magalhães, V.H., **Elvert, M.**, Pinheiro, L.M., Kopf, A., and Boetius, A. (2006) Microbial methane turnover at mud volcanoes of the Gulf of Cadiz. *Geochimica et Cosmochimica Acta*, 70(21), 5336-5355. [doi:10.1016/j.gca.2006.08.010](https://doi.org/10.1016/j.gca.2006.08.010)

Niemann, H., Lösekann, T., de Beer, D., **Elvert, M.**, Nadalig, T., Knittel, K., Amann, R., Sauter, E., Schlüter, M., Klages, M., Foucher, J.P., and Boetius, A. (2006) Novel microbial communities of the Haakon Mosby mud volcano and their role as a methane sink. *Nature* 443(5227), 854-858. [doi: 10.1038/nature05227](https://doi.org/10.1038/nature05227)

Spivack, A., McNeill, C., Holm, N.G., and **Hinrichs, K.-U.** (2006) The determination of in situ methane based on the analysis of void gas. *Proceedings of the Ocean Drilling Program, Scientific Results*, Vol. 201, Ms 201SR-119, [http://www-odp.tamu.edu/publications/201\\_SR/119/119.htm](http://www-odp.tamu.edu/publications/201_SR/119/119.htm).

## 2005

**Elvert, M.**, Hopmans, E.C., Treude, T., Boetius, A., and Suess, E. (2005) Spatial variations of methanotrophic consortia at cold methane seeps: Implications from a high-resolution molecular and isotopic approach. *Geobiology*, 3(3), 195-209. [doi: 10.1111/j.1472-4669.2005.00051.x](https://doi.org/10.1111/j.1472-4669.2005.00051.x)

Niemann, H., **Elvert, M.**, Hovland, M., Orcutt, B., Judd, A., Suck, I., Gutt, J., Joye, S., Damm, E., Finster, K., and Boetius, A. (2005) Methane emission and consumption at a North Sea gas seep (Tommeliten area). *Biogeosciences*, 2(4), 335-351. <http://www.biogeosciences.net/2/335/2005/bg-2-335-2005.pdf>

Orcutt, B., Boetius, A., **Elvert, M.**, Samarkin, V., and Joye, S.B. (2005) Molecular biogeochemistry of sulfate reduction, methanogenesis and the anaerobic oxidation of methane at Gulf of Mexico cold seeps. *Geochimica et Cosmochimica Acta*, 69(17), 4267-4281. [doi: 10.1016/j.gca.2005.04.012](https://doi.org/10.1016/j.gca.2005.04.012)

## 2004

D'Hondt, S., Jørgensen, B.B., Miller, D.J., Batzke, A., Blake, R., Cragg, B.A., Cypionka, H., Dickens, G.R., Ferdelman, T., **Hinrichs, K.-U.**, Holm, N.G., Mitterer, R., Spivack, A., Wang, G., Bekins, B., Engelen, B., Ford, K., Gettemy, G., Rutherford, S.D., Sass, H., Skilbeck, C.G., Aiello, I.W., Guèrin, G., House, C., Inagaki, F., Meister, P., Nähr, T., Niitsuma, S., Parkes, R.J., Schippers, A., Smith, D.C., Teske, A., Wiegel, J., Padilla, C.N., and Solis Acosta, J.L. (2004) Distributions of metabolic activities in deep seafloor sediments. *Science*, 306, 2216-2221. [doi:10.1126/science.1101155](https://doi.org/10.1126/science.1101155)

Orphan, V.J., Ussler, W. III, Nähr, T., House, C.H., **Hinrichs, K.-U.**, and Paull, C. K. (2004) Geological, geochemical, and microbiological heterogeneity of the seafloor around methane vents in the Eel River Basin, offshore California. *Chemical Geology*, 205, 265-289. [doi:10.1016/j.chemgeo.2003.12.035](https://doi.org/10.1016/j.chemgeo.2003.12.035)

Sturt, H.F., Summons, R.E., Smith, K.J., **Elvert, M.**, and **Hinrichs, K.-U.** (2004) Intact polar membrane lipids in prokaryotes and sediments deciphered by ESI-HPLC-MSn – new biomarkers for biogeochemistry and microbial ecology. *Rapid Communications in Mass Spectrometry*, 18, 617-628. [doi:10.1002/rcm.1378](https://doi.org/10.1002/rcm.1378)

## 2003

**Hinrichs, K.-U.**, Hmelo, L.R., and Sylva, S.P. (2003) Molecular fossil record of elevated methane levels in late Pleistocene coastal waters. *Science*, 299, 1214-1217. [doi:10.1126/science.1079601](https://doi.org/10.1126/science.1079601)

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**The Hinrichs Lab was established at the MARUM/University of Bremen in October 2002.**

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