

PUBLICATION-LIST of Gerhard J. Herndl as of 15 Apr 2026Publications in Peer-Reviewed Journals

- 313) Amano, C., U. Wilhelm, T. Koch, T. Reinthaler, R.L. Hansmann, E. Sintes. G.J. Herndl, J.M. Gonzalez, F. Baltar, in press: Major contribution of anaplerosis to inorganic carbon fixation in the dark ocean. *Nature Geosci.*
- 312) Amano, C. E. Sintes, N. Lebon, J. Steiger, D. Prijovic, T. Reinthaler, I. Obernosterer, K. Bergauer, G.J. Herndl, 2026: Single-cell heterotrophic activity in deep-ocean prokaryotic communities quantified by BONCAT and microautoradiography. *ISME Comm.*, 6(1),
[yhttps://doi.org/10/93/ismeco/ycag038](https://doi.org/10/93/ismeco/ycag038)
- 311) Perharic Bailey, C.E., M. Vodopivec, G.J. Herndl, T. Tinta, M. Licer, 2026: Dynamic sinking and surface-area based decay modeling reduce estimates of gelatinous zooplankton-mediated carbon export to the deep sea. *Global Biogeochem. Cycles*, 40; e2025GB008937; doi.org/10.1029/2025GB008937
- 310) Hubot, N., S.L.C. Giering, N. Orel, K. Klun, G.J. Herndl, F. Hohaus, C.H. Lucas, T. Tinta, 2026: Jellyfish mucus-derived organic matter as a source of labile nutrients for the ambient microbial community. *Peer J.*,
doi.org/10.7717/peerj.20784
- 309) Heitger, M., C. Amano, T. Reinthaler, M. Papadatou, L. Pokorny, X.A. Alvarez-Salgado, G.J. Herndl, 2026: Major contribution of particle-associated microbe to deep-sea organic carbon degradation. *Limnol. Oceanogr.*, 71; e70310; [doi: 10.1002/lno.70310](https://doi.org/10.1002/lno.70310)
- 308) Chen, S, Z.-X. Xie, K.-Q. Yan, J.-W. Chen, L.-F. Kong, D.-X. Li, P.-F. Wu, L. Peng, L. Lin, Z. Zhao, G.-Y. Fan, S.-Q. Liu, G. J. Herndl, D.-Z. Wang, 2026: Integrated meta-omics reveals organic matter processing by bacteria in the dark ocean. *The Innovation Geoscience*, 4(1): 100184
- 307) Orel, N., E. Fadeev, M. Celussi, V. Turk, K. Klun, L. Afjehi-Sadat, G.J. Herndl, T. Tinta, 2026: Down the drain: exploring waste water's role in coastal microbiome transformations. *BMC Microbiome*, <https://doi.org/10.1186/s40168-025-02298-1>
- 306) Engel, A., B. Pontiller, K.W. Becker, C. Amano, Z. Zhao, G.J. Herndl, C. Lee, 2025: Microbial diagenesis of dissolved organic matter from the ocean's surface to abyssal depth: a case study in the Humboldt upwelling system. *Frontiers Microbiol.* 16:1677097; [doi:10.3389/fmicb.2025.1677097](https://doi.org/10.3389/fmicb.2025.1677097)

- 305) Pedrosa-Pamies, R., M.H. Conte, M. Honda, G.J. Herndl, 2025: Editorial: The oceanic particle flux and its cycling within the deep water column, volume II. *Frontiers Earth Sci.*, 13:1716510. doi: 10.3389/feart.2025.1716510
- 304) Markovski, M, M. Najdek, Z. Zhao, G.J. Herndl, M. Korlević, 2025: Shift in metabolic profile of sediment microbial communities during seagrass decline. *Environ. Microbiome*, <https://doi.org/10.1186/s40793-02500750-1>
- 303) Masdeu-Navarro, M. Cabrera-Brufau, L. Xue, P. Rodriguez-Ros, S.G. Gardner, K. Bergauer, K. Posman, S.D. Archer, G.J. Herndl, C. Marrasé, D.J. Kieber, R. Simó, 2025: The seascape of VOC production and cycling in a tropical coral reef (Moorea, French Polynesia). *Elementa: Science of the Anthropocene*, 13:1. doi: <https://doi.org/10.1525.e.elementa.202500014>
- 302) Huo, L., Z. Zhao, B. Mähner, N. Jiao, G.J. Herndl, Y. Zhang, 2025: Microbial metabolism in laboratory reared marine snow as revealed by a multi-omics approach. *Microbiome*, 13:114, <https://doi.org/10.1186/s40168-025-02097-8>
- 301) Elena, A.X., N. Orel, P. Fang, G.J. Herndl, T.U. Berendonk, T. Tinta, U. Klümper, 2025: Jellyfish blooms – an overlooked hotspot and potential vector for the transmission of antimicrobial resistance in marine environments. *mSystems*, doi: 10.1128/msystems.01012-24
- 300) Saito MA, J.K. Saunders, M.R. McIlvin, E.M. Bertrand, J.A. Breier, M. Mars Brisbin, S. Colston, J.R. Compton, T. Griffin, J. Hervey, R.L. Hettich, P. Jagtap, M. Janech, R. Johnson, R. Keil, H. Kleikamp, D. Leary, J.S.P. McCain, E. Moore, S. Mehta, D.M. Moran, J. Neibauer, B. Neely, M.V. Jakuba, J. Johnson, M. Duffy, G.J. Herndl, R. Giannone, R. Mueller, B.L. Nunn, M. Pabst, S. Peters, A. Rajczewski, E. Rowland, B. Searle, T. Van Den Bossche, G.J. Vora, J. Waldbauer, H. Zheng, Z. Zhao, 2024: Results from a multi-laboratory ocean metaproteomic intercomparison: effects of LC-MS acquisition and data analysis procedures. *Biogeosciences*, 21: 4889-4908; <https://doi.org/10.5194/bg-21-4889-2024>
- 299) Amaral, V., J. Forja, B. Steger-Mähner, G.J. Herndl, C. Romera-Castillo, 2024: Spatial distribution of dissolved free amino acids in three Iberian Atlantic estuaries. *Mar. Chem.*, 267: <https://doi.org/10.1016/j.marchem.2024.104456>
- 298) Heneghan, R.F., J. Holloway-Brown, J.M. Gasol, G.J. Herndl, X.A.G. Moran, E.D. Galbraith, 2024: The global distribution and climate resilience of marine

- heterotrophic prokaryotes. *Nature Communications*, 15:6943;
<https://doi.org/10.1038/s41467-024-50635-z>
- 297) Strnisa, F., T. Tinta, G.J. Herndl, G. Kosec, 2024: Dynamic population modeling of bacterioplankton community response to gelatinous marine zooplankton bloom collapse and its impact on marine nutrient balance. *Prog. Oceanogr.*, 227: 103312; doi.org/10.1016/j.pocean.2024.103312
- 296) Zhao, Z., C. Amano, T. Reinthaler, F. Baltar, M.V. Orellana, G.J. Herndl, 2024: Metaproteomic analysis decodes the trophic basis of microbes in the dark ocean. *Nature Communications*, doi.org/10.1038/s41467-024-50867-z
- 295) Chen, S., Z.-X. Xie, K.-Q. Yan, J.-W. Chen, D.-X. Li, P.-F. Wu, L. Peng, L. Lin, C.-M. Dong, Z. Zhao, G.-Y. Fan, S.-Q. Liu, G.J. Herndl, D.-Z. Wang, 2024: Functional vertical connectivity of microbial communities in the ocean. *Science Advances*, 10: eadj8184
- 294) Zhao, Z., C. Amano, T. Reinthaler, M.V. Orellana, G.J. Herndl, 2024: Substrate uptake patterns shape niche separation in marine heterotrophic microbes. *Science Advances*, 10: eadn5143
- 293) Zhao, Z., F. Baltar, G.J. Herndl, 2024: Decoupling between genetic potential and the metabolic regulation and expression in microbial organic matter cleavage across microbiomes. *Microbiology Spectrum*; [doi:10.1128/spectrum.03036-23](https://doi.org/10.1128/spectrum.03036-23)
- 292) Jiao, N, T. Luo, Q. Chen, Z. Zhao, X. Xiao, J. Liu, Z. Jian, S. Xie, H. Thomas, G.J. Herndl, R. Benner, M. Gonsior, F. Chen, W.-J. Cai, C. Robinson, 2024: Role of microbe driven carbon cycling in climate change. *Nat. Rev. Microbiol.*, [doi: https://doi.org/10.1038/s41579-024-01018-0](https://doi.org/10.1038/s41579-024-01018-0)
- 291) Masdeu-Navarro, M. J.-F. Mangot, L. Xue, M. Cabera-Brufau, D.J. Kieber, P. Rodriguez-Ros, S.G. Gardner, K. Bergauer, G.J. Herndl, C. Marrasé, R. Simó, 2024: Diel variation of seawater volatile compounds, DMSP-related compounds, and microbial plankton inside and outside a tropical coral reef ecosystem. *Front. Mar. Sci.*, 11:1341619; [doi: 10.3389/fmars.2024.1341619](https://doi.org/10.3389/fmars.2024.1341619)
- 290) Salazar-Alekseyeva, K., F. Baltar, G.J. Herndl, 2024: Influence of salinity on the extracellular enzymatic activities of marine pelagic fungi. *J. Fungi*, 10, 152; [doi: https://doi.org/10.3390/jof10020152](https://doi.org/10.3390/jof10020152)
- 289) Orel, N., E. Fadeev, G.J. Herndl, V. Turk, T. Tinta, 2024: Recovering high-quality bacterial genome from cross-contaminated cultures: a case of the

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- 288) Fadeev, E., J. Hennenfeind, C. Amano, Z. Zhao, K. Klun, G.J. Herndl, T. Tinta, 2024: Bacterial degradation of ctenophore *Mnemiopsis leidyi* organic matter. mSystems, doi: 10.1128/msystems.01264-23
- 287) Tang, W., B. Ward, M. Beman, L. Bristow, D. Clark, S. Fawcett, C. Frey, F. Fripiat, G.J. Herndl, M. Mduyana, F. Paulot, X. Peng, A.E. Santoro, T. Shiozaki, E. Sintès, C. Stock, X. Sun, X.S. Wan, M. Xu, Y. Zhang, 2023: Database of nitrification and nitrifiers in the global ocean. Earth System Science Data, 15: 5039-5077; doi.org/10.5194/essd-2023-194
- 286) Salazar-Alekseyeva, K., G.J. Herndl, F. Baltar, 2023: Release of cell-free enzymes by marine pelagic fungal strains. Front. Fungal Biology, 4; doi: 10.3389/ffunb.2023/1209265
- 285) Srivastava, A., De Corte, D, J.A.L. Garcia, B. Swan, R. Stepanauskas, G.J. Herndl, E. Sintès, 2023: Interplay between autotrophic and heterotrophic prokaryotic metabolism in the bathypelagic realm revealed by metatranscriptomic analyses. BMC Microbiome, 11: 239; <https://doi.org/10.1186/s40168-023-01688-7>
- 284) Debeljak, P., B. Bayer, Y. Sun, G.J. Herndl, I. Obernosterer, 2023: Seasonal patterns in microbial carbon and iron transporter expression in the Southern Ocean. BMC Microbiome, 11: 187; <https://doi.org/10.1186/s40168-023-01600-3>
- 283) Tinta, T., Z. Zhao, B. Bayer, G.J. Herndl, 2023: Jellyfish detritus supports niche partitioning and metabolic interactions among pelagic marine bacteria. BMC Microbiome, 11:156; <https://doi.org/10.1186/s40168-023-01598-8>
- 282) Baltar, F, C. Martinez-Perez, C. Amano, M. Vial, S. Robaina-Estevez, T. Reinthaler, Z. Zhao, R. Logares, G. J. Herndl, S.E. Morales, J.M. Gonzalez, 2023: A ubiquitous gammaproteobacterial clade dominates expression of sulfur cycling genes across the mesopelagic ocean. Nature Microbiol., 8: 1137-1148; <https://doi.org/10.1038/s41564-023-01374-2>
- 281) Fadeev, E., C. Carpaneto Bastos, J. Hennenfeind, S.J. Biller, D. Sher, M. Wietz, G.J. Herndl, 2023: Characterization of membrane vesicles in *Alteromonas macleodii* indicates potential functional roles in their copiotrophic lifestyle. microLife, 4: 1-11; doi: 10.1093/femsml/uqac025

- 280) Herndl, G.J., F. Baltar, B. Bayer, T. Reinthaler, 2023: Prokaryotic life in the deep ocean's water column. *Annu. Rev. Mar. Sci.*, 15: 461-483; doi: 10.1146/annurev-marine-032122-115655
- 279) Amano, C., T. Reinthaler, E. Sintes, M.M. Varela, J. Stefanschitz, S. Kaneko, Y. Nakano, W. Borchert, G.J. Herndl, M. Utsumi, 2023: A device for assessing microbial activity under ambient hydrostatic pressure: The in situ microbial incubator (ISMI). *Limnol. Oceanogr. Methods*, 21: 69-81; doi:10.1002/lom3.10528
- 278) Munson-McGee, J.H., M.R. Lindsay, J.M. Brown, E. Sintes, T. D-Angelo, J. Brown, L.C. Lubelczyk, P. Tomoko, D. Emerson, B.N. Orcutt, N.J. Poulton, G.J. Herndl, R. Stepanauskas, 2022: Decoupling of respiration rates and abundance in marine prokaryoplankton. *Nature*, 612: 764-770; doi.org/10.1038/s41586-022-05505-3
- 277) Korlevic, M., M. Markovksi, G.J. Herndl, M. Najdek, 2022: Temporal variation in the prokaryotic community of a nearshore marine environment. *Scientific Rep.*, 12: 16859; doi.org/101038/s41598-022-20954-6
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- 275) Conte, M.H. R, Pedrosa Pamies, M. Honda, G.J. Herndl, 2022: Editorial: The oceanic particle flux and its cycling within the deep water column. *Front. Earth Sci.*, 10:1020065; doi: 10.3389/feart.2022.1020265
- 274) Markovski, M., M. Najdek, G.J. Herndl, M. Korlevic, 2022: Compositional stability of sediment microbial communities during a seagrass meadow decline. *Front. Mar. Sci.*, 9: doi: 10.3389/fmars2022.966070
- 273) Breyer, E., Z. Zhao, G.J. Herndl, F. Baltar, 2022: Global contribution of pelagic fungi to protein degradation in the ocean. *Microbiome*, <https://doi.org/10.1186/s40168-022-01329-5>
- 272) Alekseyeva, K.S., G.J. Herndl, F. Baltar, 2022: Extracellular enzymatic activities of oceanic pelagic fungal strains and the influence of temperature. *J. Fungi*, 8: 571; doi: 10.3390/jof8060571
- 271) Malfertheiner, L., C. Martinez-Perez, Z. Zhao, G.J. Herndl, F. Baltar, 2022:

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- 270) Pinto, M., Z. Zhao, K. Klun, E. Libowitzky, G.J. Herndl, 2022: Microbial consortiums of putative degraders of low-density polyethylene-associated compounds in the ocean. *mSystems*, 7, e01415-21, doi: <https://doi.org/10.1128/msystems.01415-21>
- 269) Martinez-Perez, C., C. Greening, Z. Zhao, R.L. Lappan, S.K. Bay, D. DeCorte, C. Hulbe, C. Ohneiser, C. Stevens, B. Thomson, R. Stepanauskas, J.M. Gonzalez, R. Logares, G.J. Herndl, S.E. Morales, F. Baltar, 2022: Phylogenetically and functionally diverse microorganisms reside under the Ross Ice Shelf. *Nature Comm.*, 13:117; doi.org/10.1038/s4167-021-27769-5
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- 266) Korlevic, M., M. Markovski, Z. Zhao, G.J. Herndl, M. Najdek, 2021: Seasonal dynamics of epiphytic microbial communities on marine macrophyte surfaces. *Front. Microbiol.* 12:671342. doi: 10.3389/fmicb.2021.671342
- 265) Braun, A., M. Spona-Friedl, M. Avramov, M. Elsner, F. Baltar, T. Reinthaler, G.J. Herndl, C. Griebler, 2021: Reviews and syntheses: Heterotrophic fixation of inorganic carbon – significant but invisible flux in global carbon cycling. *Biogeosciences*, 18: 3689-3700; doi:org/10.5194/bg-18-3689-2021
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- 256) Najdek, M., M. Korlević, P. Paliaga, M. Markovski, I. Ivančić, L. Iveša, I. Felja, G.J. Herndl, 2020: Effects of the invasion of *Caulerpa cylindracea* in a *Cymodocea nodosa* meadow in the Northern Adriatic Sea. *Front. Mar. Sci.*, 7: 602055; doi: 10.3389/fmars.2020.602055
- 255) Steiner, P., J. Geijo, E. Fadeev, A. Obiol, E. Sintes, T. Rattei, G.J. Herndl, 2020: Functional seasonality of free-living and particle-associated prokaryotic communities in the coastal Adriatic Sea. *Front. Microbiol.*, 11: 584222; doi: 10.3389/fmicb.2020.584222
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