

Full List of Peer-reviewed articles

136. Salas E, Gorfer M, Bandian D, Eichorst SA, Schmidt H, Horak J, Rittmann SKR, [Schleper C](#), Reischl B, Pribasniig T, Jansa J, Kaiser C, Wanek W (2024) Reevaluation and novel insights into amino sugar and neutral sugar necromass biomarkers in archaea, bacteria, fungi, and plants. **The Science of the total environment** 906:167463. doi: 10.1016/j.scitotenv.2023.167463. Epub 2023 Oct 2. PMID: 37793447.
135. Melcher M, Hodgskiss LH, Mardini MA, [Schleper C](#), Rittmann SK-MR (2023) Analysis of biomass productivity and physiology of *Nitrososphaera viennensis* grown in continuous culture. **Frontiers in Microbiology** 14:1076342. doi: 10.3389/fmicb.2023.1076342
134. Hodgskiss LH, Melcher M, Kerou M, Chen W, Ponce-Toledo RI, Savvides SN, Wienkoop S, Hartl M, [Schleper C](#) (2023) Unexpected complexity of the ammonia monooxygenase in archaea. **The ISME Journal** 17(4):588-599. doi: 10.1038/s41396-023-01367-3. Epub 2023 Jan 31. Erratum in: ISME J. 2023 Apr 28;; PMID: 36721060; PMCID: PMC10030591.
133. Rodrigues-Oliveira T, Wollweber F, Ponce-Toledo RI, Xu J, Rittmann SKR, Klingl A, Pilhofer M, [Schleper C](#) (2023) Actin cytoskeleton and complex cell architecture in an Asgard archaeon. **Nature** 613(7943):332-339. DOI: 10.1038/s41586-022-05550-y.
132. Pfeifer K, Ehmoser EK, Rittmann SKR, [Schleper C](#), Pum D, Sleytr UB, Schuster B (2022) Isolation and Characterization of Cell Envelope Fragments Comprising Archaeal S-Layer Proteins. **Nanomaterials (Basel)** 12(14):2502. DOI: 10.3390/nano12142502.
131. Grau-Bové X, Navarrete C, Chiva C, Pribasniig T, Antó M, Torruella G, Galindo LJ, Lang BF, Moreira D, López-García P, Ruiz-Trillo I, [Schleper C](#), Sabidó E, Sebé-Pedrós A (2022) A phylogenetic and proteomic reconstruction of eukaryotic chromatin evolution. **Nature Ecology and Evolution** 6(7):1007-1023. DOI: 10.1038/s41559-022-01771-6.
130. Wimmer E, Zink I, [Schleper C](#) (2022) Reprogramming CRISPR-Mediated RNA Interference for Silencing of Essential Genes in Sulfolobales. **Methods in Molecular Biology** 2522:177-201. DOI: 10.1007/978-1-0716-2445-6_11.
129. Zink I, Fouqueau T, Tarrason Risa G, Werner F, Baum B, Bläsi U, [Schleper C](#) (2021) Comparative CRISPR type III-based knockdown of essential genes in hyperthermophilic *Sulfolobales* and the evasion of lethal gene silencing. **RNA Biology** 18(3): 421-434. DOI: 10.1080/15476286.2020.1813411.
128. Wang H, Bagnoud A, Ponce-Toledo RI, Kerou M, Weil M, [Schleper C](#), Urich T (2021) Linking 16S rRNA Gene Classification to amoA Gene Taxonomy Reveals Environmental Distribution of Ammonia-Oxidizing Archaeal Clades in Peatland Soils. **mSystems**: e0054621. DOI: 10.1128/mSystems.00546-21.
127. Kerou M, Ponce-Toledo RI, Zhao R, Abby SS, Hirai M, Nomaki H, Takaki Y, Nunoura T, Jørgensen SL, [Schleper C](#) (2021) Genomes of Traumnarchaeota from deep sea sediments reveal specific adaptations of three independently evolved lineages. **The ISME Journal**

- 15(9): 2792-2808. DOI: 10.1038/s41396-021-00962-6
126. Abby SS, Kerou M, Schleper C (2020) Ancestral Reconstructions Decipher Major Adaptations of Ammonia-Oxidizing Archaea upon Radiation into Moderate Terrestrial and Marine Environments. **mBio** 11(5): e02371-20. DOI: 10.1128/mBio.02371-20
125. Zhao R, Mogollon JM, Abby S, Schleper C, Biddle JF, Roerdink DL, Thorseth IH, Joergensen SL (2020) Geochemical transition zone powering microbial growth in subsurface sediments. **Proceedings of the National Academy of Sciences of the United States of America** 117(51): 32617-32626. DOI: 10.1073/pnas.2005917117.
124. Zink IA, Wimmer E, Schleper C (2020) Heavily Armed Ancestors: CRISPR Immunity and Applications in Archaea with a Comparative Analysis of CRISPR Types in *Sulfolobales*. **Biomolecules** 10(11): 1523. DOI: 10.3390/biom10111523.
123. Abby SS, Kerou M, Schleper C (2020) Ancestral Reconstructions Decipher Major Adaptations of Ammonia-Oxidizing Archaea upon Radiation into Moderate Terrestrial and Marine Environments. **mBio** 11(5): e02371-21. DOI: 10.1128/mBio.02371-20.
122. Reyes C, Hodgskiss L, Kerou M, Pribasnig T, Abby SS, Bayer B, Kraemer S, Schleper C (2020) Genome wide transcriptomic analysis of the soil ammonia oxidizing archaeon *Nitrososphaera viennensis* upon exposure to copper limitation. **The ISME Journal** 14(11): 2659-2674. DOI: 10.1038/s41396-020-0715-2.
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120. Schleper C, Sousa F (2020) News and views: Meet the relatives of our cellular ancestors. **Nature** 577: 478-479. DOI: 10.1038/d41586-020-00039-y
119. Mooshammer M, Alves RJE, Bayer B, Melcher M, Stieglmeier M, Jochum L, Rittmann S, Watzka M, Schleper C, Herndl G, Wanek W (2020) Nitrogen Isotope Fractionation During Archaeal Ammonia Oxidation: Coupled Estimates From Measurements of Residual Ammonium and Accumulated Nitrite. **Frontiers in Microbiology** 11: 1710. DOI: 10.3389/fmicb.2020.01710
118. Milojevic T, Kölbl D, Ferrière L, Albu M, Kish A, Flemming RL, Koeberl C, Blazevic A, Zebec Z, Rittmann SKR, Schleper C, Pignitter M, Somoza V, Schimak MP, Rupert AN (2019) Exploring the microbial biotransformation of extraterrestrial material on nanometer scale. **Scientific reports** 9: 18028. DOI: 10.1038/s41598-019-54482-7.
117. Zink IA, Pfeifer K, Wimmer E, Sleytr UB, Schuster B, Schleper C (2019) CRISPR-mediated gene silencing reveals involvement of the archaeal S-layer in cell division and virus infection. **Nature Communications** 10: 4797. DOI: 10.1038/s41467-019-12745-x.
116. Siljanen HMP, Alves RJE, Ronkainen JG, Lamprecht RE, Bhattarai HR, Bagnoud A, Marushchak ME, Martikainen PJ, Schleper C, Biasi C (2019) Archaeal nitrification is a key

- driver of high nitrous oxide emissions from arctic peatlands. **Soil Biology and Biochemistry** 137: 107539. DOI: 10.1016/j.soilbio.2019.107539.
115. Manoharan L, Kozłowski JA, Murdoch RW, Löffler FE, Sousa FL, Schleper C (2019) Metagenomes from Coastal Marine Sediments Give Insights into the Ecological Role and Cellular Features of Loki- and Thorarchaeota. **mBio** 10(5): e02039-19. DOI: 10.1128/mBio.02039-19.
114. Alves RJE, Kerou M, Zappe A, Bittner R, Abby SS, Schmidt HA, Pfeifer K, Schleper C (2019) Ammonia Oxidation by the Arctic Terrestrial Thaumarchaeote Candidatus *Nitrosocosmicus arcticus* Is Stimulated by Increasing Temperatures. **Frontiers in Microbiology** 10: 1571. DOI: 10.3389/fmicb.2019.01571.
113. Bassani F, Zink IA, Pribasniig T, Wolfinger MT, Romagnoli A, Resch A, Schleper C, Bläsi U, La Teana A (2019) Indications for a moonlighting function of translation factor alF5A in the crenarchaeum *Sulfolobus solfataricus*. **RNA Biology** 16(5): 675-685. doi: 10.1080/15476286.2019.1582953.
112. Baumann L, Taubner R, Bauersachs T, Steiner M, Schleper C, Peckmann J, Rittmann S, Birgel D (2018) Intact polar lipid and core lipid inventory of the hyperthermal vent methanogens *Methanocaldococcus villosus* and *Methanothermococcus okinawensis*. **Organic Geochemistry** 126: 33-42. DOI: 10.1016/j.orggeochem.2018.10.006.
111. Kozłowski J, Johnson ME, Ledesma-Vázquez J, Birgel D, Peckmann J, Schleper C (2018) Microbial diversity of a closed salt lagoon in the Puertecitos area, Upper Gulf of California. **Ciencias Marinas** 44(2): 71-90. doi: 10.7773/cm.v44i2.2825.
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108. Čapek P, Manzoni S, Kaštovská E, Wild B, Diáková K, Bárta J, Schneckner J, Biasi C, Martikainen PJ, Alves RJE, Guggenberger G, Gentsch N, Hugelius G, Palmtag J, Mikutta R, Shibistova O, Urich T, Schleper C, Richter A, Šantrůčková H (2018) A plant-microbe interaction framework explaining nutrient effects on primary production. **Nature Ecology & Evolution** 2(10): 1588-1596. DOI: 10.1038/s41559-018-0662-8.
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105. Abby SS, Melcher M, Kerou M, Krupovic M, Stieglmeier M, Rossel C, Schleper C (2018) Candidatus Nitrosocaldus cavascurensis, an Ammonia Oxidizing, Extremely Thermophilic Archaeon with a Highly Mobile Genome. **Frontiers in microbiology** 9: 28. doi: 10.3389/fmicb.2018.00028
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103. Kerou M, Offre P, Valledor L, Abby SS, Melcher M, Nagler M, Weckwerth W, Schleper C. (2016) Proteomics and comparative genomics of *Nitrososphaera viennensis* reveal the core genome and adaptations of archaeal ammonia oxidizers. **Proceedings of the National Academy of Sciences of the United States of America** 113(49): E7937-E7946. DOI: 10.1073/pnas.1601212113
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