

**Full List of Peer-reviewed articles**

132.

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.

131.

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.

130.

Grau-Bové X, Navarrete C, Chiva C, Pribasnig 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.

129.

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.

128.

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, Pribasnik 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.
121. Reyes C, Hodgskiss L, Baars O, Kerou M, Bayer B, Schleper C, Kraemer S (2020) Copper limiting threshold in the terrestrial ammonia oxidizing archaeon *Nitrososphaera viennensis*. **Research in Microbiology** 171 (3-4): 134-142. DOI: 10.1016/j.resmic.2020.01.003
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.

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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.

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Manoharan L, Kozlowski 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.

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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.

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Bassani F, Zink IA, Pribasnig 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.

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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.

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Kozlowski 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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- Taubner RS, Pappenreiter P, Zwicker J, Smrzka D, Pruckner C, Kolar F, Bernacchi S, Seifert AH, Krajete A, Bach W, Peckmann J, Paulik C, Firneis MG, Schleper C, Rittmann SKR (2018) Biological methane production under putative Enceladus-like conditions. **Nature Communications** 9(1): 748. doi: 10.1038/s41467-018-02876-y.
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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106. Alves RJE, Minh BQ, Urich T, von Haeseler A, Schleper C (2018) Unifying the global phylogeny and environmental distribution of ammonia-oxidising archaea based on amoA genes. **Nature communications** 9(1): 1517. doi: 10.1038/s41467-018-03861-1.
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
104. Elling FJ, Könneke M, Nicol GW, Stieglmeier M, Bayer B, Spieck E, de la Torre JR, Becker KW, Thomm M, Prosser JI, Herndl GJ, Schleper C, Hinrichs KU. (2017) Chemotaxonomic characterisation of the thaumarchaeal lipidome. **Environmental Microbiology** 19(7):2681-2700. doi: 10.1111/1462-2920.13759.
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