

Full List of Peer-reviewed articles

128.

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** 1-17. DOI: 10.1038/s41396-021-00962-6

127.

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

126.

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** [ePub ahead of print 2020 Dec 7]. DOI: 10.1073/pnas.2005917117.

125.

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.

124.

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.

123.

Zink I, Fouqueau T, Tarrason Risa G, Werner F, Baum B, Bläsi U, [Schleper C](#) (2020) Comparative CRISPR type III-based knockdown of essential genes in hyperthermophilic *Sulfolobales* and the evasion of lethal gene silencing. **RNA Biology** [ePub: 21 Sep 2020]. DOI: 10.1080/15476286.2020.1813411.

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.
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, 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.
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, Pribasnig T, Wolfinger MT, Romagnoli A, Resch A, Schleper C, Bläsi U, La Teana A (2019) Indications for a moonlighting function of translation factor aIF5A 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.
110. Šantrůčková H, Kotas P, Bárta J, Urich T, Čapek J, Palmtag J, Alves RJE, Biasi C, Biáková K, Gentsch N, Gittel A, Guggenberger G, Hugelius G, Lashchinsky N, Martikainen P, Mikutta R, Schleper C, Schneckner J, Schwab C, Shibistova O, Wild B, Richter A (2018) Significance of dark CO₂ fixation in arctic soils. **Soil Biology and Biochemistry** 119: 11-21. doi: 10.1016/j.soilbio.2017.12.021.
109. 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.
107. Söllinger A, Tveit AT, Poulsen M, Noel SJ, Bengtsson M, Bernhardt J, Frydendahl Hellwing AL, Lund P, Riedel K, Schleper C, Højberg O, Urich T (2018) Holistic Assessment of Rumen Microbiome Dynamics through Quantitative Metatranscriptomics Reveals Multifunctional Redundancy during Key Steps of Anaerobic Feed Degradation. **mSystems** 3(4): e00038-18. doi: 10.1128/mSystems.00038-18.
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.
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
102. Jung MY, Kim JG, Sinnighe Damsté JS, Rijpstra WI, Madsen EL, Kim SJ, Hong H, Si OJ, Kerou M, Schleper C, Rhee SK. (2016) A hydrophobic ammonia-oxidizing archaeon of the *Nitrosocosmicus* clade isolated from coal tar-contaminated sediment. **Environmental Microbiology Reports** 8(6):983-992. doi: 10.1111/1758-2229.12477.
101. Zebec Z, Zink IA, Kerou M, Schleper C (2016) Efficient CRISPR-Mediated Post-Transcriptional Gene Silencing in a Hyperthermophilic Archaeon Using Multiplexed crRNA Expression. **G3 (Bethesda)** 6(10):3161-3168. doi: 10.1534/g3.116.032482.
100. Wild B, Gentsch N, Čapek P, Diáková K, Alves RJ, Bárta J, Gittel A, Hugelius G, Knoltsch A, Kuhry P, Lashchinskiy N, Mikutta R, Palmtag J, Schleper C, Schneckner J, Shibistova O, Takriti M, Torsvik VL, Urich T, Watzka M, Šantrůčková H, Guggenberger G, Richter A (2016) Plant-derived compounds stimulate the decomposition of organic matter in arctic permafrost soils. **Scientific Reports** 6:25607. doi: 10.1038/srep25607.
99. Nesme J, Achouak W, Agathos SN, Bailey M, Baldrian P, Brunel D, Frostegård Å, Heulin T, Jansson JK, Jurkevitch E, Kruus KL, Kowalchuk GA, Lagares A, Lappin-Scott HM, Lemanceau P, Le Paslier D, Mandic-Mulec I, Murrell JC, Myrold DD, Nalin R, Nannipieri P, Neufeld JD, O'Gara F, Parnell JJ, Pühler A, Pylro V, Ramos JL, Roesch LF, Schloter M, Schleper C, Sczyrba A, Sessitsch A, Sjöling S, Sørensen J, Sørensen SJ, Tebbe CC, Topp E, Tsiamis G, van Elsas JD, van Keulen G, Widmer F, Wagner M, Zhang T, Zhang X, Zhao L, Zhu YG, Vogel TM, Simonet P (2016) Back to the Future of Soil Metagenomics. **Frontiers in Microbiology** 7:73. doi: 10.3389/fmicb.2016.00073.
98. Kozłowski JA, Stieglmeier M, Schleper C, Klotz MG, Stein LY (2016) Pathways and key intermediates required for obligate aerobic ammonia-dependent chemolithotrophy in bacteria and Thaumarchaeota. **The ISME Journal** 10(8): 1836-45. doi: 10.1038/ismej.2016.2.
97. Bayer B, Vojvoda J, Offre P, Alves RJE, Elisabeth NH, Garcia JA, Volland JM, Srivastava A, Schleper C, Herndl GJ (2016) Physiological and genomic characterization of two novel marine thaumarchaeal strains indicates niche differentiation. **The ISME Journal** 10: 1051-1063. doi: 10.1038/ismej.2015.200.

96. Taubner RS, Schleper C, Firneis MG, Rittmann SK (2015) Assessing the Ecophysiology of Methanogens in the Context of Recent Astrobiological and Planetological Studies. **Life (Basel)** 5(4):1652-86. doi: 10.3390/life5041652.
95. Berry D, Kuzyk O, Rauch I, Heider S, Schwab C, Hainzl E, Decker T, Müller M, Strobl B, Schleper C, Urich T, Wagner M, Kenner L, Loy A (2015) Intestinal Microbiota Signatures Associated with Inflammation History in Mice Experiencing Recurring Colitis. **Frontiers in Microbiology** 6:1408. doi: 10.3389/fmicb.2015.01408.
94. Söllinger A, Schwab C, Weinmaier T, Loy A, Tveit AT, Schleper C, Urich T (2015) Phylogenetic and genomic analysis of *Methanomassiliicoccales* in wetlands and animal intestinal tracts reveals clade-specific habitat preferences. **FEMS Microbiology Ecology** 92(1). doi: 10.1093/femsec/fiv149.
93. Hainzl E, Rauch I, Heider S, Berry D, Schwab C, Lassnig C, Loy A, Urich T, Wagner M, Schleper C, Kenner L, Decker T, Strobl B, Müller M (2015) Intestinal epithelial cell tyrosine kinase 2 transduces interleukin-22 signals to protect from acute colitis. **The Journal of Immunology** 195(10): 5011–5024. doi: 10.4049/jimmunol.1402565.
92. Čapek P, Diakova K, Dickopp JE, Bárta J, Wild B, Schneckner J, Alves RJE, Aiglsdorfer S, Guggenberger G, Gentsch N, Hugelius G, Lashchinskiy N, Gittel A, Schleper C, Mikutta R, Palmtag J, Shibistova O, Urich T, Richter A, Šantrůčková H. (2015). The effect of warming on the vulnerability of subducted organic carbon in arctic soils. **Soil Biology & Biochemistry** 90: 19-29.
91. Spang A, Saw JH, Jørgensen SL, Zaremba-Niedzwiedzka K, Martijn J, Lind AE, van Eijk R, Schleper C, Guy L, Ettema TJ (2015) Complex archaea that bridge the gap between prokaryotes and eukaryotes. **Nature** 521(7551): 173-179.
90. Taylor AE, Taylor K, Tennigkeit B, Palatinszky M, Stieglmeier M, Myrold DD, Schleper C, Wagner M, Bottomley PJ (2015) Inhibitory effects of c2 to c10 1-alkynes on ammonia oxidation in two nitrososphaera species. **Applied and Environmental Microbiology** 81(6): 1942-1948.
89. Gittel A, Barta J, Lacmanova I, Schneckner J, Wild B, Capek P, Kaiser C, Torsvik V, Richter A, Schleper C, Urich T (2014) Site- and horizon-specific pattern of microbial community structure and enzyme activities in permafrost-affected soils of Greenland. **Frontiers in Microbiology - Terrestrial Microbiology** 5: 541.
88. Offre P, Kerou M, Spang A, Schleper C (2014) Variability of the transporter gene complement in ammonia-oxidizing archaea. **Trends in Microbiology** 22(12): 665-675.
87. Rauch I, Hainzl E, Rosebrock F, Heider S, Schwab C, Berry D, Stoiber D, Wagner M, Schleper C, Loy A, Urich T, Müller M, Strobl B, Kenner L, Decker T (2014) Type I interferons have opposing effects during the emergence and recovery phases of colitis. **European Journal of Immunology** 44(9): 2749-2760.
- 86.

- Stieglmeier M, Klingl A, Alves RJ, Rittmann SK, Melcher M, Leisch N, Schleper C (2014) *Nitrososphaera viennensis* sp. nov., an aerobic and mesophilic ammonia-oxidizing archaeon from soil and member of the archaeal phylum Thaumarchaeota. **International Journal of Systematic and Evolutionary Microbiology** 64(Pt 8): 2738-2752.
85. Hanak AM, Nagler M, Weinmaier T, Sun X, Fragner L, Schwab C, Rattei T, Ulrich K, Ewald D, Engel M, Schloter M, Bittner R, Schleper C, Weckwerth W (2014) Draft Genome Sequence of the Growth-Promoting Endophyte *Paenibacillus* sp. P22, Isolated from *Populus*. **Genome Announcements** 2(2): e00276-14.
84. Urich T, Lanzén A, Stokke R, Bayer C, Pedersen RB, Thorseth I, Schleper C, Steen IH, Øvreas L (2014) Microbial community structure and functioning in marine sediments associated with diffuse hydrothermal venting assessed by integrated meta-omics. **Environmental Microbiology** 16(9): 2699-2710.
83. Gittel A, Bárta J, Kohoutová I, Mikutta R, Owens S, Gilbert J, Schneckner J, Wild B, Hannisdal B, März J, Lashchinskiy N, Ěapek P, Šantrùèková H, Gentsch N, Shibistova O, Guggenberger G, Richter A, Torsvik V, Schleper C, Urich T (2014) Distinct microbial communities associated with buried soils in the Siberian tundra. **The ISME Journal** 8: 841-853.
82. Schwab C, Berry D, Rauch I, Rennisch I, Ramesmayer J, Hainzl E, Heider S, Decker T, Kenner L, Müller M, Strobl B, Wagner M, Schleper C, Loy A, Urich T (2014) Longitudinal study of murine microbiota activity and interactions with the host during acute inflammation and recovery. **The ISME Journal** 8: 1101-1114.
81. Schwab C, Tveit A, Schleper C, Urich T (2014) Gene expression of lactobacilli in murine forestomach biofilms. **Microbial Biotechnology** 7(4): 347-359.
80. Stieglmeier M, Mooshammer M, Kitzler B, Wanek W, Zechmeister-Boltenstern S, Richter A, Schleper C (2014) Aerobic nitrous oxide production through N-nitrosating hybrid formation in ammonia-oxidizing archaea. **The ISME Journal** 8(5): 1135-1146.
79. Zebec Z, Manica A, Zhang J, White M, Schleper C (2014) CRISPR-mediated targeted mRNA degradation in the archaeon *Sulfolobus solfataricus*. **Nucleic Acids Research** 42(8): 5280-5288.
78. Prommer J, Wanek W, Hofhansl F, Trojan D, Offre P, Urich T, Schleper C, Sassmann S, Kitzler B, Soja G, Hood-Nowotny R (2014) Biochar Decelerates Soil Organic Nitrogen Cycling but Stimulates Soil Nitrification in a Temperate Arable Field Trial. **PLOS One** 9(1): e86388.
77. Jørgensen S, Thorseth I, Pedersen R, Baumberger T, Schleper C (2013) Quantitative and phylogenetic study of the Deep Sea Archaeal Group in sediments of the Arctic mid-ocean spreading ridge. **Frontiers in Microbiology** 4: 299.
- 76.

- Manica A, Zebec Z, Steinkellner J, Schleper C (2013) Unexpectedly broad target recognition of the CRISPR-mediated virus defense system of the Archaeon *Sulfolobus solfataricus*. **Nucleic Acids Research** 41(22): 10509-10517.
75. Alves R, Wanek W, Zappe A, Richter A, Svenning M, Schleper C, Urich T (2013) Nitrification rates in Arctic soils are associated with functionally distinct populations of ammonia-oxidizing archaea. **The ISME Journal** 7(8): 1620-1631.
74. Shen T, Stieglmeier M, Dai J, Urich T, Schleper C (2013) Responses of the terrestrial ammonia-oxidizing archaeon *Nitrososphaeraviennensis* and the ammonia-oxidizing bacterium *Nitrospirarmultiformis* to nitrification inhibitors. **FEMS Microbiology Letters** 344(2): 121-129.
73. Eme L, Reigstad L, Spang A, Lanzen A, Weinmaier T, Rattei T, Schleper C, Brochier-Armanet C (2013) Metagenomics of Kamchatkan hot spring filaments reveal two new major (hyper)thermophilic lineages related to Thaumarchaeota. **Research in Microbiology** 164(5): 425-438.
72. Poulsen M, Schwab C, Jensen B, Engberg R, Spang A, Canibe N, Højberg O, Milinovich G, Fregner L, Schleper C, Weckwerth W, Lund P, Schramm A, Urich T (2013) Methylophilic methanogenic Thermoplasmata implicated in reduced methane emissions from bovine rumen. **nature communications** 4:1428.
71. Vissers E, Anselmetti F, Bodelier P, Muyzer G, Schleper C, Tourna M, Laanbroek H (2013) Temporal and Spatial Coexistence of Archaeal and Bacterial amoA Genes and Gene Transcripts in Lake Lucerne. **Archaea-An international Microbiological Journal** 2013: 289478.
70. Vissers EW, Blaga CI, Bodelier PL, Muyzer G, Schleper C, Sinningh-Damsté JS, Tourna M, Laanbroek HJ (2013) Seasonal and vertical distribution of putative ammonia-oxidizing thaumarchaeotal communities in an oligotrophic lake. **FEMS Microbiology Ecology** 83(2): 515-526.
69. Spang A, Poehlein A, Offre P, Zumbrägel S, Haider S, Rychlik N, Nowka B, Schmeisser C, Lebedeva EV, Rattei T, Böhm C, Schmid M, Galushko A, Hatzenpichler R, Weinmaier T, Daniel R, Schleper C, Spieck E, Streit W, Wagner M (2012) The genome of the ammonia-oxidizing *Candidatus Nitrososphaera gargensis*: Insights into metabolic versatility and environmental adaptations. **Environmental Microbiology** 14(12): 3122-3145.
68. Jørgensen S, Hannisdal B, Lanzen A, Baumberg T, Flesland K, Fonseca R, Ovreas L, Steen IH, Torseth IH, Pedersen RB, Schleper C (2012) Correlating microbial community profiles with geochemical data in highly stratified sediments from the Arctic Mid-Ocean Ridge. **Proceedings of the National Academy of Sciences of the United States of America** 109(42): E2846-55.
67. Berry D, Schwab C, Milinovich G, Reichert J, Ben Mahfoudh K, Decker T, Engel M, Hai B, Hainzl E, Heider S, Kenner L, Müller M, Rauch I, Strobl B, Wagner M, Schleper C, Urich T,

- Loy A (2012) Phylotype-level 16S rRNA analysis reveals new bacterial indicators of health state in acute murine colitis. **The ISME Journal** 6(11): 2091-2106.
66. Sinninghe Damsté JS, Rijpstra WI, Hopmans EC, Jung MY, Kim JG, Rhee SK, Stieglmeier M, Schleper C (2012) Intact polar and core glycerol dibiphytanyl glycerol tetraether lipids of group I.1a and I.1b thaumarchaeota in soil. **Applied and Environmental Microbiology** 78(19): 6866-6874.
65. Bartossek R, Spang A, Weidler G, Lanzen A, Schleper C (2012) Metagenomic analysis of ammonia-oxidizing archaea affiliated with the soil group. **Frontiers in Microbiology** 3: 208.
64. Radax R, Rattei T, Lanzen A, Bayer C, Rapp HT, Urich T, Schleper C (2012) Metatranscriptomics of the marine sponge *Geodia barretti*: tackling phylogeny and function of its microbial community. **Environmental Microbiology** 14(5): 1308-1324.
63. Radax R, Hoffmann F, Rapp HT, Leininger S, Schleper C (2012) Ammonia-oxidizing archaea as main drivers of nitrification in cold-water sponges. **Environmental Microbiology** 14(4): 909-923.
62. Ajon M, Fröls S, van Wolferen M, Stoecker K, Teichmann D, Driessen AJM, Grogan DW, Albers SV, Schleper C (2011) UV-inducible DNA exchange in hyperthermophilic archaea mediated by type IV pili. **Molecular Microbiology** 82(4): 807-817.
61. Reigstad LJ, Jorgensen SL, Lauritzen SE, Schleper C, Urich T (2011) Sulfur-oxidizing chemolithotrophic proteobacteria dominate the microbiota in high arctic thermal springs on svalbard. **Astrobiology** 11(7): 665-678.
60. Reeve JN, Schleper C (2011) Archaea: very diverse, often different but never bad? **Current Opinion in Microbiology** 14(3): 271-273.
59. Tourna M, Stieglmeier M, Spang A, Könneke M, Schintlmeister A, Urich T, Engel M, Schloter M, Wagner M, Richter A, Schleper C (2011) *Nitrososphaera viennensis*, an ammonia oxidizing archaeon from soil. **Proceedings of the National Academy of Sciences of the United States of America** 108(20): 8420-8425.
58. Reigstad LJ, Bartossek R, Schleper C (2011) Preparation of high-molecular weight DNA and metagenomic libraries from soils and hot springs. **Methods in Enzymology** 496: 319-344.
57. Manica A, Zebec Z, Teichmann D, Schleper C (2011) In vivo activity of CRISPR-mediated virus defence in a hyperthermophilic archaeon. **Molecular Microbiology** 80 (2): 481-491.
56. Krupovic M, Spang A, Gribaldo S, Forterre P, Schleper C (2011) A thaumarchaeal provirus testifies for an ancient association of tailed viruses with archaea. **Biochemical Society Transactions** 39(1): 82-88.
- 55.

- Schleper C (2010) Ammonia oxidation: different niches for bacteria and archaea? **The ISME Journal** 4(9): 1092-1094.
54. Spang A, Hatzenpichler R, Brochier-Armanet C, Rattei T, Tischler P, Spieck E, Streit W, Stahl DA, Wagner M, Schleper C (2010) Distinct gene set in two different lineages of ammonia-oxidizing archaea supports the phylum Thaumarchaeota. **Trends in Microbiology** 18(8): 331-340.
53. Reigstad LH, Jorgensen SL, Schleper C (2010) Diversity and abundance of Korarchaeota in terrestrial hot springs of Iceland and Kamchatka. **The ISME Journal** 4(3): 346-356.
52. Bartossek R, Nicol GW, Lanzen A, Klenk HP, Schleper C (2010) Homologues of nitrite reductases in ammonia-oxidizing archaea: diversity and genomic context. **Environmental Microbiology** 12(4): 1075-1088.
51. Zaparty M, Esser D, Gertig S, Haferkamp P, Kouril T, Manica A, Pham TK, Reimann J, Schreiber K, Sierocinski P, Teichmann D, van Wolferen M, von Jan M, Wieloch P, Albers SV, Driessen AJ, Klenk HP, Schleper C, Schomburg D, van der Oost J, Wright PC, Siebers B (2009) "Hot standards" for the thermoacidophilic archaeon *Sulfolobus solfataricus*. **Extremophiles** 14(1): 119-142.
50. Redder P, Peng X, Brügger K, Shah SA, Roesch F, Greve B, She Q, Schleper C, Forterre P, Garrett RA, Prangishvili D (2009) Four newly isolated fuselloviruses from extreme geothermal environments reveal unusual morphologies and a possible intervirial recombination mechanism. **Environmental Microbiology** 11(11): 2849-2862.
49. Hoffmann F, Radax R, Woebken D, Holtappels M, Lavik G, Rapp HT, Schläppy ML, Schleper C, Kuypers MM (2009) Complex nitrogen cycling in the sponge *Geodia barretti*. **Environmental Microbiology** 11(9): 2228-2243.
48. Schauss K, Focks A, Leininger S, Kotzerke A, Heuer H, Thiele-Bruhn S, Sharma S, Wilke BM, Matthies M, Smalla K, Munch JC, Amelung W, Kaupenjohann M, Schloter M, Schleper C (2009) Dynamics and functional relevance of ammonia-oxidizing archaea in two agricultural soils. **Environmental Microbiology** 11(2): 446-456.
47. Albers SV, Birkeland NK, Driessen AJ, Gertig S, Haferkamp P, Klenk HP, Kouril T, Manica A, Pham TK, Ruoff P, Schleper C, Schomburg D, Sharkey KJ, Siebers B, Sierocinski P, Steuer R, van der Oost J, Westerhoff HV, Wieloch P, Wright PC, Zaparty M SulfoSYS (Sulfolobus Systems Biology) (2009) Towards a silicon cell model for the central carbohydrate metabolism of the archaeon *Sulfolobus solfataricus* under temperature variation. **Biochemical Society Transactions** 37(Pt 1): 58-64.
46. Schleper C (2008) Microbial ecology: Metabolism of the deep. **Nature** 456(7223): 712-714.
45. Perevalova AA, Kolganova TV, Birkeland NK, Schleper C, Bonch-Osmolovskaya EA, Lebedinsky AV (2008) Distribution of Crenarchaeota representatives in terrestrial hot

- springs of Russia and Iceland. **Applied and Environmental Microbiology** 74(24): 7620-7628.
44. Fröls S, Ajon M, Wagner M, Teichmann D, Zolghadr B, Folea M, Boekema, Driessen AJM, Schleper C, Albers SV (2008) UV-inducible cellular aggregation of the hyperthermophilic archaeon *Sulfolobus solfataricus* is mediated by pili formation. **Molecular Microbiology** 70(4): 938-952.
43. Nicol GW, Leininger S, Schleper C, Prosser JI (2008) The influence of soil pH on the diversity, abundance and transcriptional activity of ammonia oxidizing archaea and bacteria. **Environmental Microbiology** 10(11): 2966-2978.
42. Urich T, Lanzén A, Qi J, Huson DH, Schleper C, Schuster SC (2008) Simultaneous assessment of soil microbial community structure and function through analysis of the meta-transcriptome. **PLoS ONE** 3(6): e2527.
41. Reigstad LJ, Richter A, Daims H, Urich T, Schwark L, Schleper C (2008) Nitrification in terrestrial hot springs of Iceland and Kamchatka. **FEMS Microbiology Ecology** 64(2): 167-174.
40. Fröls S, Gordon PM, Panlilio MA, Duggin ID, Bell SD, Sensen CW, Schleper C (2007) Response of the hyperthermophilic Archaeon *Sulfolobus solfataricus* to UV damage. **Journal of Bacteriology** 189(23): 8708-8718.
39. Fröls S, Gordon PM, Panlilio MA, Schleper C, Sensen CW (2007) Elucidating the transcription cycle of the UV-inducible hyperthermophilic archaeal virus SSV1 by DNA microarrays. **Virology** 365(1): 48-59.
38. Hallam S, Mincer T, Schleper C, Preston C, Roberts K, Richardson P, DeLong E (2006) Pathways of carbon assimilation and ammonia oxidation suggested by environmental genomic analyses of marine crenarchaeota. **PLoS Biology** 4(4): 520-536.
37. Hallam S, Konstantinidis K, Putnam N, Schleper C, Watanabe Y, Sugahara J, Preston C, de la Torre J, Richardson P, DeLong E (2006) Genomic analysis of the uncultivated marine crenarchaeote *Cenarchaeum symbiosum*. **Proceedings of the National Academy of Sciences of the United States of America** 103(48):18296-18301.
36. Lubelska J, Jonuscheit M, Schleper C, Albers S, Driessen A (2006) Regulation of expression of the arabinose and glucose transporter genes in the thermophilic archaeon *Sulfolobus solfataricus*. **Extremophiles** 10(5): 383-391.
35. Leininger S, Urich T, Schloter M, Schwark L, Qi J, Nicol G, Prosser J, Schuster S, Schleper C (2006) Archaea predominate among ammonia-oxidizing prokaryotes in soils. **Nature** 442(7104): 806-809.
34. Fieseler L, Quaiser A, Schleper C, Hentschel U (2006) Analysis of the first genome fragment from the marine sponge-associated, novel candidate phylum Poribacteria by environmental genomics. **Environmental Microbiology** 8(4): 612-624.

33. Albers S, Jonuscheit M, Dinkelaker S, Urich T, Kletzin A, Tampe R, Driessen A, Schleper C (2006) Production of recombinant and tagged proteins in the hyperthermophilic archaeon *Sulfolobus solfataricus*. **Applied and Environmental Microbiology** 71(1): 102-111.
32. Treusch A, Leiniger S, Kletzin A, Schuster S, Klenk H, Schleper C (2005) Novel genes for nitrite reductase and Amo-related proteins indicate a role of uncultivated mesophilic crenarchaeota in nitrogen cycling. **Environmental Microbiology** 7(12): 1985-1995.
31. Treusch A, Kletzin A, Raddatz G, Ochsenreiter T, Quaiser A, Meurer G, Schuster S, Schleper C (2004) Characterization of large-insert DNA libraries from soil for environmental genomic studies of Archaea. **Environmental Microbiology** 6(9): 970-980.
30. Fuetterer O, Angelov A, Liesegang H, Gottschalk G, Schleper C, Schepers B, Dock C, Antranikian G, Liebl W (2004) Genome sequence of *Picrophilustorridus* and its implications for life around pH 0. **Proceedings of the National Academy of Sciences of the United States of America** 101(24):9091-9096.
29. Quaiser A, Ochsenreiter T, Lanz C, Schuster S, Treusch A, Eck J, Schleper C (2003) Acidobacteria form a coherent but highly diverse group within the bacterial domain: evidence from environmental genomics. **Molecular Microbiology** 50(2): 563-575.
28. Ochsenreiter T, Selezi D, Quaiser A, Bonch-Osmolovskaya L, Schleper C (2003) Diversity and abundance of Crenarchaeota in terrestrial habitats studied by 16S RNA surveys and real time PCR. **Environmental Microbiology** 5(9): 787-797.
27. Jonuscheit M, Martusewitsch E, Stedman K, Schleper C (2003) A reporter gene system for the hyperthermophilic archaeon *Sulfolobus solfataricus* based on a selectable and integrative shuttle vector. **Molecular Microbiology** 48(5): 1241-1252.
26. Lorenz P, Liebeton K, Niehaus F, **Schleper C**, Eck J (2003) The impact of non-cultivated biodiversity on enzyme discovery and evolution. **Biocatalysis and Biotransformation** 21(2): 87-91.
25. Quaiser A, Ochsenreiter T, Klenk H, Kletzin A, Treusch A, Meurer G, Eck J, Sensen C, Schleper C (2002) First insight into the genome of an uncultivated crenarchaeote from soil. **Environmental Microbiology** 4(10): 603-611.
24. Ochsenreiter T, Pfeifer F, Schleper C (2002) Diversity of Archaea in hypersaline environments characterized by molecular-phylogenetic and cultivation studies. **Extremophiles** 6(4): 267-274.
23. Martusewitsch E, Sensen C, Schleper C (2000) High spontaneous mutation rate in the hyperthermophilic archaeon *Sulfolobus solfataricus* is mediated by transposable elements. **Journal of Bacteriology** 182(9): 2574-2581.
- 22.

- Stedman K, Schleper C, Rumpf E, Zillig W (1999) Genetic requirements for the function of the archaeal virus SSV1 in *Sulfolobus solfataricus*: Construction and testing of viral shuttle vectors. **Genetics** 152(4): 1397-1405.
21. DeLong E, Schleper C, Feldman R, Swanson R (1999) Application of genomics for understanding the evolution of hyperthermophilic and nonthermophilic *Crenarchaeota*. **Biological Bulletin** 196(3): 363-365.
20. Sandler S, Hugenholtz P, Schleper C, DeLong E, Pace N, Clark A (1999) Diversity of radA genes from cultured and uncultured Archaea: Comparative analysis of putative RadA proteins and their use as a phylogenetic marker. **Journal of Bacteriology** 181(3): 907-915.
19. Schleper C, DeLong E, Preston C, Feldman R, Wu K, Swanson R (1998) Genomic analysis reveals chromosomal variation in natural populations of the uncultured psychrophilic archaeon *Cenarchaeum symbiosum*. **Journal of Bacteriology** 180(19): 5003-5009.
18. DeLong E, King L, Massana R, Cittone H, Murray A, Schleper C, Wakeham S (1998) Dibiphytanyl ether lipids in nonthermophilic crenarchaeotes. **Applied and Environmental Microbiology** 64(3): 1133-1138.
17. Schleper C, Swanson R, Mathur E, DeLong E (1997) Characterization of a DNA polymerase from the uncultivated psychrophilic archaeon *Cenarchaeum symbiosum*. **Journal of Bacteriology** 179(24): 7803-7811.
16. Schleper C, Holben W, Klenk H (1997) Recovery of Crenarchaeotal ribosomal DNA sequences from freshwater-lake sediments. **Applied and Environmental Microbiology** 63(1): 321-323.
15. Schleper C, Puhler G, Klenk H, Zillig W (1996) *Picrophilusoshimae* and *Picrophilus torridus* fam nov, gen nov, sp nov, two species of hyperacidophilic, thermophilic, heterotrophic, aerobic archaea. **International Journal of Systematic Bacteriology** 46(3): 814-816.
14. Elferink M, Schleper C, Zillig W (1996) Transformation of the extremely thermoacidophilic archaeon *Sulfolobus solfataricus* via a self-spreading vector. **FEMS Microbiology Letters** 137(1): 31-35.
13. Keeling P, Klenk H, Singh R, Feeley O, Schleper C, Zillig W, Doolittle W, Sensen C (1996) Complete nucleotide sequence of the *Sulfolobus islandicus* multicopy plasmid pRN1. **Plasmid** 35(2): 141-144.
12. Schleper C, Puhler G, Holz I, Gambacorta A, Janekovic D, Santarius U, Klenk H, Zillig W (1995) *Picrophilus* gen-nov, fam-nov - A Novel aerobic heterotrophic, thermoacidophilic genus and family comprising archaea capable of growth around pH-0. **Journal of Bacteriology** 177(24): 7050-7059.
- 11.

- Schleper C, Holz I, Janekovic D, Murphy J, Zillig W (1995) A multicopy plasmid of the extremely thermophilic archaeon *Sulfolobus* effects its transfer to Recipients by Mating. **Journal of Bacteriology** 177(15): 4417-4426.
10. Schleper C, Puhler G, Kuhlmoorgen B, Zillig W (1995) Life at extremely low pH. **Nature** 375(6534): 741-742.
9. Schleper C, Zillig W (1995) *Lipolimoviridae* (SSV1 Group). Classification and Nomenclature of Viruses. **Vith report of the International Committee on Taxonomy of Viruses** (ICTV).
8. Schleper C, Roder R, Singer T, Zillig W (1994) An insertion element of the extremely thermophilic archaeon *Sulfolobus solfataricus* transposes into the endogenous Beta-Galactosidase Gene. **Molecular & General Genetics** 243(1): 91-96.
7. Zillig W, Kletzlin A, Schleper C, Holz I, Janekovic D, Hain J, Lanzendorfer M, Kristjansson J (1994) Screening for Sulfolobales, their Plasmids and their Viruses in Icelandic Solfataras. **Systematic and Applied Microbiology** 16(4): 609-628.
6. Durovic P, Kutay U, Schleper C, Dennis P (1994) Strain Identification and 5S Ribosomal-RNA Gene Characterization of the Hyperthermophilic Archaeobacterium *Sulfolobus acidocaldarius*. **Journal of Bacteriology** 176(2): 514-517.
5. Palm P, Schleper C, Arnoldammer I, Holz I, Meier T, Lottspeich F, Zillig W (1993) The DNA-dependent RNA-Polymerase of *Thermotogamaritima* - Characterization of the enzyme and the DNA-sequence of the genes for the large subunits. **Nucleic acids Research** 21(21): 4904-4908.
4. Klenk H, Schleper C, Schwass V, Brudler R (1993) Nucleotide sequence, transcription and phylogeny of the gene encoding the superoxide-dismutase of *Sulfolobus acidocaldarius*. **Biochimica et Biophysica Acta** 1174(1): 95-98.
3. Schleper C, Kubo K, Zillig W (1992) The Particle SSV1 from the extremely thermophilic Archaeon *Sulfolobus* is a virus - demonstration of infectivity and of transfection with viral-DNA. **Proceedings of the National Academy of Sciences of the United States of America** 89(16):7645-7649.
2. Palm P, Schleper C, Grampp B, Yeats S, McWilliam P, Reiter W, Zillig W (1991) Complete Nucleotide sequence of the virus SSV1 of the Archaeobacterium *Sulfolobus shibatae*. **Virology** 185(1): 242-250.
1. Zillig W, Palm P, Klenk HP, Pühler G, Gropp F, Schleper C (1991) Phylogeny of DNA-dependent RNA-polymerases: Testimony for the origin of eukaryotes. In: **General and Applied Aspects of Halophilic Microorganisms**. NATO ASI Series 201. Plenum Press, New York. Rodriguez-Valera F (ed.).

Reviews and book chapters

24. Schleper C (2020) The life of archaea. **Nature** 577: 294. DOI: 10.1038/d41586-020-00087-4.
23. Kerou M, Schleper C (2016) Genus *Nitrososphaera*. In: **Bergey's Manual of Systematics of Archaea and Bacteria**. Editor(s): Professor William B. Whitman. Wiley Online Library. DOI: 10.1002/9781118960608
22. Kerou M, Schleper C (2016) Family *Nitrososphaeraceae*. In: **Bergey's Manual of Systematics of Archaea and Bacteria**. Editor(s): Professor William B. Whitman. Wiley Online Library. DOI: 10.1002/9781118960608
21. Kerou M, Alves, R, Schleper C (2016) Class *Nitrososphaeria*. In: **Bergey's Manual of Systematics of Archaea and Bacteria**. Editor(s): Professor William B. Whitman. Wiley Online Library. DOI: 10.1002/9781118960608
20. Stieglmeier M, Alves R, Schleper C (2014) Thaumarchaeota. In: **The Prokaryotes - Other Major Lineages of Bacteria and The Archaea**. E. Rosenberg, E.F. DeLong, S. Lory, E. Stackebrandt, F. Thompson (Eds.) 4th ed. 2014 Springer.
19. Albers S, Forterre P, Prangishvili D, Schleper C (2013) The legacy of Carl Woese and Wolfram Zillig: from phylogeny to landmark discoveries. **Nature Reviews Microbiology** 11(10): 713-719.
18. Offre P, Spang A, Schleper C (2013) Archaea in Biogeochemical Cycles. **Annual Review of Microbiology** 67: 437-457.
17. Manica A, Schleper C (2013) CRISPR-mediated defense mechanisms in the hyperthermophilic archaeal genus *Sulfolobus*. **RNA Biology** 10(5): 671-678.
16. Pester M, Schleper C, Wagner M (2011) The Thaumarchaeota: an emerging view of their phylogeny and ecophysiology. **Current Opinion in Microbiology** 14 (3): 300-306.
15. Urich T, Schleper C (2011) The double RNA approach to simultaneously assess the structure and function of environmental microbial communities by metatranscriptomics. IN: **Handbook of Molecular Microbial Ecology**, F. De Bruin (ed.) Wiley-Blackwell.
14. Nicol G, Leininger S, Schleper C (2010) Distribution and Activity of Ammonia Oxidizing Archaea in Natural Environments. IN: **Nitrification**. B. Ward, M. Klotz, D. Arp (eds.) ASM Press.
13. Schleper C, Nicol GW (2010) Ammonia-oxidising archaea-physiology, ecology and evolution. **Advances in Microbial Physiology** 57:1-47.
12. Fröls S, White MF, Schleper C (2009) Reactions to UV damage in the model archaeon *Sulfolobus solfataricus*. **Biochemical Society Transactions** 37(Pt 1): 36-41.
11. Schleper C (2007) Diversity and Ecology of Archaea: Perspectives from microbial ecology and metagenomics. In: **Archaea: Evolution, Physiology & Molecular Biology**. Klenk H, R Garrett R (eds). Blackwell Publishing.
10. Nicol G, Schleper C (2006) Ammonia-oxidising Crenarchaeota: important players in the nitrogen cycle? **Trends in Microbiology** 14(5): 207-212.
9. Treusch A, Schleper C (2006) The microbial soil flora: Novel approaches for accessing the phylogenetic and physiological diversity of prokaryotes. In: **Soil Biology: Intestinal Microorganisms of Termites and other Invertebrates**. König H, Varma A (eds). Springer Verlag Berlin, Deutschland.
8. Treusch A, Schleper C (2005) Environmental Genomics: A Novel Tool for Study of Uncultivated Microorganisms. in: **Handbook of Genome Research: Genomics, Proteomics, Metabolomics, Bioinformatics, Ethical and Legal Issues**. Sensen C (ed.). Blackwell Science Publication, Osney Mead, Oxford, England.

7. Schleper C, Jurgens G, Jonuscheit M (2005) Genomic studies of uncultivated archaea. **Nature Reviews Microbiology** 3(6): 479-488.
6. Lorenz P, Schleper C (2002) Metagenomes - a challenging source of enzyme discovery. **Journal of Molecular Catalysis B-Enzymatic** 19(SI): 13-19.
5. Schulze R, Meurer G, Schleper C (2002) Das Metagenom als Quelle neuartiger, rekombinanter Wirkstoffe und Enzyme. **BIOspektrum-Sonderausgabe** (8): 498-501.
4. Schleper C, Eck J (2000) Umweltgenomik: Charakterisierung und Nutzung nicht-kultivierter Mikroorganismen. **BIOspektrum** 6:449-451.
3. Schleper C (1999) The archaeobacteria among us. **La Recherche-Spécial: Les Frontières du Vivant**. 317: 30-33.
2. Zillig W, Prangishvilli D, Schleper C, Elferink M, Holz I, Albers S, Janekovic D, Gotz D (1996) Viruses, plasmids and other genetic elements of thermophilic and hyperthermophilic Archaea. **FEMS Microbiology Reviews** 18(2-3): 225-236.
1. Schleper C, Zillig W (1995) Transfection of *Sulfolobus solfataricus*. In: **Archaea: Thermophiles: A laboratory manual**. F. Robb, A Place (eds). Cold Spring Harbor Laboratory Press, New York, USA.