

## ***Curriculum Vitae***

Name: **Christa Schleper**  
 Nationality: Germany  
 Birth year/place: 1962 in Oberhausen (Germany)  
 two children (\* 2001, 2003)  
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 Full list of publications:  
[https://archaea.univie.ac.at/fileadmin/user\\_upload/p\\_archaea/people/Schleper/Schleper\\_Publications\\_2024\\_01.pdf](https://archaea.univie.ac.at/fileadmin/user_upload/p_archaea/people/Schleper/Schleper_Publications_2024_01.pdf)

### **EDUCATION**

2003 Habilitation (*venia legendi*) in Microbiology and Genetics, Darmstadt  
 University of Technology, Germany  
 13/01/1994 PhD Biology, Max-Planck-Institute for Biochemistry and Ludwig-  
 Maximilians-University (LMU), Munich, Germany  
 1989 Diploma in Biology, University of Konstanz, Germany

### **CURRENT POSITION**

2020 – now (Vice)Head of Department Functional and Evolutionary Ecology  
 (<http://ecology.univie.ac.at>)  
 2007 – now Full Professor (Universitätsprofessor), Head of Archaea Biology and  
 Ecogenomics Unit, University of Vienna, Austria

### **PROFESSIONAL EXPERIENCE / PREVIOUS POSITIONS**

2007 – 2014 Adjunct Professor, Center of Excellence for Geobiology, University of  
 Bergen, Norway  
 2004 – 2007 University Professor, Department of Biology, University of Bergen, Norway  
 1998 – 2004 Assistant Professor, group leader, Dep. of Microbiology, University of  
 Darmstadt, Germany  
 1996 – 1997 Postdoctoral fellow, University of Santa Barbara, California, USA  
 1995 – 1996 Postdoctoral fellow, CALTECH, Californian Institute of Technology,  
 Pasadena, USA  
 1994 – 1995 Postdoctoral fellow at Max-Planck-Institute for Biochemistry, Munich,  
 Germany  
 Offers to ETH Zurich, TU Munich and University of Waterloo declined

## RESEARCH AREAS

Ecology and Evolution of Archaea with particular focus on

- Physiology and Evolution of Ammonia Oxidizing Archaea in soils, sediments and hot springs
- Physiology, Metabolism and Cell Biology of Asgardarchaea
- CRISPR defense systems in Sulfolobales

To achieve this we use comparative genomics, phylogenomics, proteomics, biochemistry, imaging and innovative cultivation techniques.

## PUBLICATIONS IN PEER REVIEWED JOURNALS: (Google Scholar 1/2024)

listed publications: 160  
 total citations: 27.751  
 h-index (ISI Web): 79

## MOST IMPORTANT PUBLICATIONS

- 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.
- 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.
- 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.
- 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
- Zhao R, Mogollon JM, Abby S, Schleper C, Biddle JF, Roerdink DL, Thorseth IH, Jørgensen SL (2020) Geochemical transition zone powering microbial growth in subsurface sediments. **Proc Nat Acad Sci USA** 117(51): 32617-32626. DOI: 10.1073/pnas.2005917117.
- Reyes C, Hodgskiss LH, Kerou M, Pribasniig T, Abby SS, Bayer B, Kraemer SM, [Schleper C](#). (2020) Genome wide transcriptomic analysis of the soil ammonia oxidizing archaeon *Nitrososphaera viennensis* upon exposure to copper limitation. **ISME Journal** 14(11): 2659-2674. DOI: 10.1038/s41396-020-0715-2.
- 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.
- 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(1): 4797. DOI: 10.1038/s41467-019-12745-x.

- 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.
- 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 Adacemy of Sciences of the United States of America** 113(49): E7937-E7946. DOI: 10.1073/pnas.1601212113.
- 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. DOI: 10.1038/nature14447.
- Offre P, Spang A, Schleper C (2013) Archaea in Biogeochemical Cycles. **Annual Review of Microbiology** 67:437-457. DOI: 10.1146/annurev-micro-092412-155614.
- 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 Adacemy of Sciences of the United States of America** 108(20): 8420-8425. DOI: 10.1073/pnas.1013488108.
- 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. DOI: 10.1038/nature04983.
- Schleper C, Jurgens G, Jonuscheit M (2005) Genomic studies of uncultivated archaea. **Nature Reviews Microbiology** 3(6): 479. DOI: 10.1038/nrmicro1159.

## FELLOWSHIPS AND AWARDS (selected)

2022	Wittgenstein Award (1.5 Mio Euro), Austrian Science Fund, Austria
2019, 2020	Highly cited researcher (Web of Science Group)
2018	Elected Member of the European Molecular Biology Organisation (EMBO)
2017	Elected Member of the Austrian Academy of Sciences (ÖAW)
2016	ERC Advanced Grant (2.5 Mio Euro), EU Horizon 2020
2011	Elected member of the American Academy of Microbiology (AAM)
2011	EMBO Young Investigator Award
1995-1997	Post-Doctoral Fellowship of the Deutsche Forschungsgesellschaft of US

## COMMISSIONS OF TRUST (selected)

2020 – now	Austrian representative on the council of the European Molecular Biology Laboratory and Conference (EMBL/EMBC)
2019	ERC panel (ERC-consolidator grants, panel LS8)
2019 – now	Editorial board member of Frontiers in Microbiology/ Archaea Journal
2018 – now	Editorial board of mBio Journal

- 2016 Evaluation panel for Heidelberg-Karlsruhe Research Partnership (HEIKA)
- 2013 – now Member of the Commission for Interdisciplinary Ecological Studies (KIÖS) of the Austrian Academy of Sciences (ÖAW)
- 2014 Review panel member on Environmental Sciences, Academy of Finland
- 2013 Review panel for Leibniz Institute DSMZ (German collection of microorganisms)
- 2011 – 2012 Senior Editor of ISME Journal
- 2008 – 2011 Member of Editorial board Environmental Microbiology
- 2009 – 2012 Main Coordinator of InflammoBiota (Metagenomics and Metatranscriptomics for the investigation of the gut microbiota associated with inflammatory bowel disease). National consortium of five groups funded by the Austrian Genome Programme GEN-AU

#### **ORGANISATION OF SCIENTIFIC MEETINGS (selected)**

- 2018 Main-organizer of EMBO Workshop: Molecular Biology of Archaea: From mechanisms to ecology, Vienna, Austria
- 2017 Co-organizer and chair of International Symposium: Editing genomes with CRISPR, Vienna, Austria
- 2017 Co-organizer and Conference Chair of the Fifth International Conference on Nitrification and Related Processes (ICoN5), Vienna, Austria
- 2015 Scientific Program Co-Organizer of SMBE conference –Society of Molecular Biology & Evolution, Vienna, Austria
- 2015/13/11/9 Scientific Board of the biannual International Conference on Nitrification
- 2014 Session Convener. American Society of Microbiology Annual Meeting, Boston, USA
- 2007 Co-organizer of Congress: Thermophiles 2007, Bergen, Norway
- 2005 Co-initiator and -organizer of international meeting: Archaea, the first generation, to the honor of W. Zillig and K.O. Stetter, Munich, Germany
- 2003 Main initiator and organizer: Metagenomics 2003 -From Microbial Diversity to Function , The world-wide first international meeting on Metagenomics, in Darmstadt, Germany, supported by EMBO and NSF

**OUTREACH ACTIVITIES (selected)**

- Interdisciplinary lecture series: Climate Change and Climate Crisis, University of Vienna, Austria, with international and national speakers, >1500 students (2019/20, 2020/21, 2021/22, 2022/23)
- Talks for schools and other institutions on microbiology or nitrogen pollution and climate change
- Green Labs Austria Initiative: <http://greenlabsaustria.at>

**INVITED CONFERENCE TALKS, KEYNOTE LECTURES; SESSION CONVENOR (selected)**

07/2023	Gordon Research Conference: Archaea – Ecology, Metabolism and Molecular Biology, Mount Snow, USA
09/2022	13 <sup>th</sup> International Congress on Extremophiles 2022, Loutraki, Greece
08/2022	Molecular Biology of Archaea, Frankfurt, Germany (career talk)
03/2022	2 <sup>nd</sup> Network Training Event of the ARISTO project, Lyon, France
03/2021	Annual Conference of the Association for General and Applied Microbiology (VAAM)
11/2020	22 <sup>nd</sup> EMBL PhD Symposium. Virtual meeting. What is wrong with the nitrogen cycle?
03/2020	EMBO – EMBL Symposium: The Organism and its Environment. Heidelberg, Germany.
01/2020	Workshop on (Meta-)Genomics. Český Krumlov, Czech Republic.
09/2019	The Biology and Biotechnological Application of Archaea & Re-Opening of the Archaea Fermentation Facility. Regensburg, Germany.
07/2019	Keynote lecture, Gordon Research Conference on Archaea 2019: Ecology, Metabolism and Molecular Biology, Les Diablerets, Switzerland
04/2019	Keynote lecture, NeLLi 2019 International Symposium on New Lineages of Life. San Francisco
10/2018	GdR Archaea: From environmental biodiversity to fundamental cellular processes. Plouzané, France
12/2017	International workshop of the DFG CRISPR Forschungsgruppe, Berlin, Germany.
10/2017	MDC Symposium 2017. Berlin, Germany.
09/2017	SAME: 15 <sup>th</sup> Symposium on aquatic microbial ecology. Zagreb, Croatia
03/2017	6 <sup>th</sup> International Conference on Microbial Communication for Young Scientists. Jena, Germany.
12/2015	Ecology of soil Microorganisms 2015, Prague, Czech Republic
07/2015	ICON4, International conference on Nitrification, Alberta Canada
12/2015	Astrobiology and Space Medicine workshop, Graz, Austria
05/2014	3 <sup>rd</sup> European CRISPR Meeting, Berlin, Germany
05/2014	(Lecture and session convenor) American Society of Microbiology Annual Meeting, Boston
05/2014	Molecular Biology of Archaea 4 (MBOA4) Paris, France
09/2013	ICoN3: Third International Conference on Nitrification. Tokio, Japan
03/2013	VAAM and Joint conference of the German and Dutch Societies for Microbiology, Germany
07/2012	Molecular Biology of Archaea 3, Marburg, Germany