

Curriculum vitae

Division of Microbial Ecology
Department of Microbiology and Ecosystem Science
Centre for Microbiology and Environmental Systems Science
University of Vienna
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Univ.-Prof. Dr.

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Biosketch

Alexander Loy is Professor for Microbial Communities at the Centre for Microbiology and Environmental Systems Science (University of Vienna, Austria), deputy head of the Department of Microbiology and Ecosystem Science (University of Vienna), deputy operational director of the Joint Microbiome Facility (JMF, University of Vienna and Medical University of Vienna), managing director of the Austrian Microbiome Initiative (AMICI), and faculty member of the Austrian Polar Research Institute (APRI).

He received his PhD in Microbiology at the Technical University of Munich in Germany. In 2003, he was awarded a Marie Curie postdoctoral fellowship and joined the newly founded Department of Microbial Ecology at the University of Vienna in Austria, where he established his own research group in 2006 based on third-party grants and was Assistant Professor from 2009 to 2013 and Associate Professor from 2013 to 2017. He received his Habilitation (*venia docendi*) and the Young Scientist Award of the City of Vienna in 2012.

Research of the Loy group focuses on evolution and ecology of sulfur microorganisms, the function of the complex symbiotic microbiota of animals and humans in health and disease, and the development of molecular and isotope-labeling methods for studying uncultivated microorganisms in their natural environment.

Since 2002, he has published 84 papers in peer-reviewed journals (including one paper each in *Nature*, *Nature Communications*, *Science* and *PloS Biology*, and two in *PNAS*), 3 genome announcements, 10 book chapters and other publications, and has edited a book on Geomicrobiology and a Frontiers Research Topic on microbial sulfur metabolism. The papers were cited 7639 (Scopus)/10979 (Google Scholar) times and have a total impact factor of 624 (ISI Journal Citation Reports 2019) (mean impact factor per paper = 7.4). His current h-index is 47 (Scopus)/54 (Google Scholar) (August 3rd, 2020). He has been invited to 57 presentations at national and international workshops, conferences or institutions. Since 2004, he has obtained 13 research grants as PI (total budget >4.3 million €) and four sequencing grants.

Research Interests

- Function of the complex symbiotic microbiota of animals and humans
- Evolution and ecology of sulfur-compound-metabolizing microorganisms, including sulfate reducers
- Development of molecular and isotope-labeling methods for studying uncultivated microorganisms in their natural environment.

Current Positions

04/2019	Deputy Head of the Department of Microbiology and Ecosystem Science, University of Vienna, Austria
10/2018	Deputy operational director of the Joint Microbiome Facility (JMF) of the University of Vienna and the Medical University of Vienna
10/2017	Professor for Microbial Communities, Dept. Microbiology & Ecosystem Science, University of Vienna, Austria
2016	Committee and founding member (managing director till 2020) of the Austrian Microbiome Initiative (AMICI, http://www.microbiome.at/)
2013	Founding and faculty member of the Austrian Polar Research Institute http://www.polarresearch.at/
2006	Group leader at the University of Vienna. The group currently consists of 3 Postdocs, 3 PhD students, and 2 master's students.

Education and Professional Career

12/2013-09/2017	Associate professor, Dept. Microbiology & Ecosystem Science, University of Vienna, Austria
April 13, 2012	Habilitation (<i>venia docendi</i>) in Microbiology obtained at the University of Vienna (thesis <i>Evolution and ecology of sulfur cycle microorganisms - Sulfite reductase genes as molecular markers and novel, sulfur compound-dissimilating microorganisms in the environment</i>)
02/2009-11/2013	Assistant professor (tenure track) at the Department of Microbial Ecology (University of Vienna, Austria)
03/2008-01/2009	Assistant professor (“Universitätsassistent”) at the Department of Microbial Ecology
04/2006-02/2008	Independent group leader (self-financed by FWF grant) at the Department of Microbial Ecology
07/2003-03/2006	Postdoctoral fellow at the Department of Microbial Ecology (University of Vienna, Austria)

July 7, 2003	Dissertation (Dr. rer. nat) Thesis <i>DNA Microarray Technology for Biodiversity Inventories of Sulfate-Reducing Prokaryotes</i> (Grade magna cum laude 1.1)
02/2000-06/2003	Ph.D. student at the Department of Microbiology at the Technical University of Munich, Germany with Priv.-Doz. Dr. Michael Wagner and Prof. Karl-Heinz Schleifer.
10/1999-01/2000	Researcher at the Helmholtz Zentrum München (German Research Center for Environmental Health, Neuherberg, Germany)
October 16, 1999	Diploma in Biology (Univ. Dipl.-Biol.) Thesis <i>Molecular Identification of Bacteria in Natural Mineral Water</i> (Grade 1.3).
11/1998-10/1999	Experimental diploma thesis at the Helmholtz Zentrum München (German Research Center for Environmental Health, Neuherberg, Germany) in the Group for Flow Cytometry with Dr. Michael Nüsse and Dr. Harald Meier.
1993-1999	Biology student at the Technical University of Munich, Germany with focus on microbiology and subsidiary topics on virology, immunology, and clinical chemistry.

Academic Honors and Awards

2012	'Förderungspreis der Stadt Wien' (Early-Career Science Award of the City of Vienna for scientists <40 years of age)
2007	Young Scientist Award "Focus of Excellence" of the Faculty of Life Sciences, University of Vienna
2004-2006	Marie Curie Fellow within the Sixth European Framework Programme

Positions offered

12/2008	Associate Professor with Tenure (Molecular Microbial Ecology) at the Biological Institute (Faculty of Science) of the University of Southern Denmark
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Membership in Scientific Societies

Since 2015	Austrian Association of Molecular Life Sciences and Biotechnology (ÖGMBT)
Since 2013	Austrian Polar Research Institute (APRI, http://www.polarresearch.at/)
Since 2012	European Society for Neurogastroenterology & Motility (ESNM) – Gut Microbiota & Health Section
Since 2011	Society for Applied Microbiology (SfAM)
2011	Geochemical Society
Since 2004	International Society for Microbial Ecology (ISME)
Since 2003	American Society for Microbiology (ASM)
Since 2001	Association for General and Applied Microbiology (VAAM), Germany

Funding

Since 2004: **12** third-party research grants as PI (€ **4,017,961**), **1** competitive university grant (€ **311,233**), **11** projects as supervisor/host (€ **>818.395**), and **4** sequencing grants

1. Microbial symbioses in dynamic environments: Metabolic interplay and novel interactions (MAINTAIN). **doc.funds doctoral school - FWF Austrian Science Fund** [2019, 4 years] (*coordinators* Matthias Horn, Jillian Petersen, *principal investigator* Alexander Loy; Supervisor of 1 PhD fellow, 190,264€ of 1,902,623 €).
2. The wetland sulfur microbiome: Intra- and interspecies metabolic interactions. **FWF Austrian Science Fund project** [2019, 4 years] (*principal investigator* Alexander Loy, 399.000 €).
3. Physiological interactions of *Salmonella* and the intestinal microbiota – Ecological and genetic fitness determinants in colonization resistance and inflammation. **International D-A-CH project with FWF Austrian Science Fund as lead agency** [2016, 3 years] (*principal investigator* Alexander Loy, 449,768 of 703,156€).
4. Nutrition and the intestinal microbiota-host symbiosis: A holistic stable isotope-labeling approach to decipher key microbial players and quantitatively link single cell activity to system function. **WWTF Vienna Science and Technology Fund** [2013, 3 years] (*principal investigator* Alexander Loy, *Co-PI* David Berry, 335.700 €).
5. The cold microbial majority: Ecophysiology, biogeography, and genomics of psychrophilic sulfate-reducing microorganisms in arctic marine sediments. **FWF Austrian Science Fund project** [2013, 5 years] (*principal investigator* Alexander Loy, 445.757 €).
6. Ecophysiology of a sulfate-reducing rare biosphere member – in situ analysis of a peatland *Desulfosporosinus* sp. on a genomic, transcriptional, and metabolic level. **FWF Austrian Science Fund project** [since 2011/4, 3 years] (*principal investigator* Michael Pester (2011/4-2012/12), Alexander Loy (2013/1-2014/3), 383.103 €).

7. 'Aqua incognita' in bottles: Microbial ecology of bottled waters and implications for formation of methylated sulfur and selenium compounds. **Industry funded project** [since 2011/1, 3.5 years] (*principal investigator* Alexander Loy, 491.692 €)
8. Metagenomics and metatranscriptomics of the Inflammatory Bowel Disease Microbiota. **GEN-AU III joint project - BMWF Austrian Federal Ministry of Science and Research** [2009/5, 3 years] (*subproject leaders* Alexander Loy and Michael Wagner, 367.705 € of 1.540.000 €)
9. Diversity and biogeography of thermophilic sporeforming sulfate-reducing microorganisms in cold marine sediments: Bioindicators for fluid flow from the hot subsurface? **FWF Austrian Science Fund project** [2007/11, 3 years] (*principal investigator* Alexander Loy, 224.564 €).
10. Joint project: Impact of microbial diversity and activity on sustainable land use; Subproject 2: "Nitrifying microorganisms and *Acidobacteria* as bioindicators for soil health". **BMBF German Federal Ministry of Education and Research** [2007/1, 3 years] (*subproject leaders* Alexander Loy, Wolfgang Ludwig, Michael Wagner, 133.124 € of 325.139 €)
11. Identity, community dynamics, and ecophysiology of novel and uncultured sulfate-reducing prokaryotes in an acidic fen system. **FWF Austrian Science Fund project** [2006/4, 3 years] (*principal investigator* Alexander Loy, 362.353 €).
12. Biodiversity of microbial communities involved in sulfur cycling at a shallow water hydrothermal vent. **Marie Curie Intra-European Fellowship in the EU 6th framework programme** [2004-2006] (*Marie Curie fellow* Alexander Loy, 148.262 €).

Competitive university funding

1. Secondary Metabolomes of Bacterial Communities (MetaBac). **Research Platform University of Vienna** [2020/05, 4 years] (*head* Sergey Zotchev, *deputy head* Alexander Loy, 311,232.55€ of 596,565.10 €).

Host/supervisor for the projects of team members:

1. Interspecies hydrogen transfer in the mammalian gut: How interactions between fermenters and hydrogenotrophs influence colonic homeostasis (H2Gut). **Marie Skłodowska-Curie Individual Fellowship in the EU Horizon 2020 framework programme**, [2018/09, 2 years] *fellow* Dr. Kerim Dimitri Kits, *host* Alexander Loy, 178,157 €.
2. Diversity and ecophysiology of sulfur-compounds-metabolizing microorganisms in the intestinal tract of human and animals. **China Scholarship Council**, PhD fellowship to Huimin Ye [2016, 4 years], 57,600 €.
3. Missing links in the marine sulfur cycle – identity and functions of microorganisms utilizing sulfur cycle intermediates and organic sulfur molecules in marine sediments.

- FWF Austrian Science Fund project** [2016/07, 3 years] (*principal investigator* Kenneth Wasmund, 305.514,30 € excluding overheads).
4. **Back-to-research grant, University of Vienna**, Dr. Celine Lesaulnier [2014/10, 9 months], 20,000 €
 5. **PhD completion grant, University of Vienna**, Albert Müller [2014], 3,000 €
 6. **Fulbright fellowship**, Erin McClure [2013-2014] *Supervisors* David Berry, Alexander Loy.
 7. Understanding the relationships between polycyclic aromatic hydrocarbon-degrading bacteria and marine eukaryotic phytoplankton. **James Watt PhD Fellowship, Heriot Watt University, Edinburgh**, Haydn Thompson [since 2013, 3 years]. *Supervisors* Tony Gutierrez, Alexander Loy.
 8. Insights into the function of uncultured microbial phyla obtained by isotope labelling-based microarray and single cell technologies. **Marie Curie Intra-European Fellowship in the EU 7th framework programme**, *fellow* Dr. Marcell Nikolausz, *host* Alexander Loy [2010/1, 24 months] (224,874 €). *Project was approved by EU but withdrawn by the host because Dr. Nikolausz accepted an alternative job offer.*
 9. **ASEA-UNINET Stipend and International Budget, University of Vienna**, Dr. Pinsurang Deevong [2010/4, 3 months]
 10. **ASEA-UNINET Stipend and International Budget, University of Vienna**, Dr. Pinsurang Deevong [2009/3, 3 months]
 11. The function of *Acidobacteria* in acidic fen soils. **Feodor Lynen-Forschungsstipendium, Alexander-von-Humboldt Stiftung**, Dr. Michael Pester [since 2007/12, 2 years], 29,250 €.

Sequencing grants:

1. Unravelling the metabolic diversity of uncharacterised clades of marine subsurface *Chloroflexi*. CSP-2787. **Joint Genome Institute - Community Sequencing Program**. [2015] (*principal investigator* Kenneth Wasmund, *Co-PIs* Alexander Loy, Lorenz Adrian, Steffen Leth Jorgensen, sequencing of single amplified genomes of 48 *Chloroflexi* cells)
2. Participant in the **MinION Access programme (MAP), Oxford Nanopore** [2014-2015] (*principal investigator* Alexander Loy, recipient of two MAP packages including flow-cells).
3. Targeted metagenomics and metatranscriptomics of a sulfate-reducing rare biosphere member and potentially novel sulfate reducers that impact methane emission from peatlands. CSP-605. **Joint Genome Institute - Community Sequencing Program**. [2011] (*principal investigator* Michael Pester, *Co-PI* Alexander Loy and others, metagenome/metatranscriptome/single cell genome sequencing)

4. Comparative genomics of *Desulfosporosinus* species – Insights into the evolution and genetic blueprints of sulfate-reducing bacteria involved in wetland carbon cycling and heavy metal bioremediation. **Joint Genome Institute - Community Sequencing Program.** [2010] (*principal investigator* Alexander Loy, sequencing of 4 *Desulfosporosinus* genomes)

Reviewing Activities

Reviewer stats on Publon <https://publons.com/a/505334/>

Editorial Board Member

Since 2020	The ISME Journal
Since 2013	Frontiers in Microbiology - Microbial Symbiosis
2012-2017	Applied and Environmental Microbiology
Since 2011	Frontiers in Microbiology - Extreme Microbiology
Since 2009	Environmental Microbiology/Environmental Microbiology Reports

Reviewer for diverse journals, including *Science*, *Nature Microbiology*, *Nature Microbiology Reviews*, *Nature Communications*, *ISME Journal*, *mBio*, *Nature Protocols*, *Environmental Science & Technology*, *Molecular Ecology*, *Water Research*, *FEMS Microbiology Ecology*, **and funding agencies**, including Agence Nationale de Recherche (France), Natural Environment Research Council (UK), Swiss National Science Foundation, Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO) (Belgium).

Conference organization

2018	Organizing committee member, Vienna Microbial Ecology Symposium, Vienna, Austria, 12 September 2018 (150 participants)
2016-2018	Organizing committee member, 5th International Symposium on Microbial Sulfur Metabolism, Vienna, Austria, 16-18 April 2018 (110 participants)
2017	Co-organizer and convenor of the Sulfur-Cycling Symposium at the American Society of Microbiology (ASM) Microbe 2017, New Orleans, USA, 1-5 June 2017
2016-2017	Main organizer of the 1st Symposium of the Austrian Microbiome Initiative, Vienna, Austria, 23. February 2017 (150 participants)
2015	Organizer and convenor of the session "Sulfur Geomicrobiology – New Microbes, New Processes, New Insights" at the Goldschmidt 2015 conference in Prague, Czech Republic, 16-21 August 2015
2015	Scientific committee member, 4th EMBO Workshop on Microbial Sulfur Metabolism, Helsingor, Denmark

2004, 2006- 2008, 2010, 2011, 2013, 2015, 2016, 2017, 2019	Main organizer (2004-2016) and supervisor (since 2004) of the “ <i>International Course for Fluorescence in situ hybridization</i> ”, University of Vienna, Austria, http://www.microbial-ecology.net/
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Other Professional Activities

Since 2020	Expert evaluator of the European Research Council (ERC)
Since 2018	Member of the scientific advisory committee of the Centre for Arctic Gas Hydrate, Environment and Climate (CAGE, https://cage.uit.no), Norwegian Centre of Excellence, UiT The Arctic University of Norway, Tromsø
2017	Member of the search committee for a Tenure Track Assistant Professor position in Microbial Ecology (University of Vienna)
Since 01/2017	Deputy member of the Steering Committee of the Environmental Sciences Research Network, University of Vienna
2015-2016	Consultant on Microbiome and Stable Isotope Techniques for the Nutrition Section at the International Atomic Energy Agency, IAEA
2013-2015	Coordinator of the Emerging Field “Human and animal microbiome function” at the Faculty of Life Sciences, University of Vienna
2012	Member of the search committee for an Assistant Professor position in Molecular Microbiology (University of Vienna)
2012-2013	Member of the working group for the new master curriculum “Molecular Microbiology, Microbial Ecology, and Immunobiology” (University of Vienna)
Since 2007	Co-founder of probeCheck (http://www.microbial-ecology.net/probecheck/) – an online resource for evaluating probe/primer specificity and coverage
2004-2007	Invited expert of the COST action 853 “Agricultural Biomarkers for Array Technology”, 31.10.2001 - 06.03.2007
Since 2002	Co-founder and curator of probeBase – an online resource for rRNA-targeted oligonucleotide probes (http://www.probebase.net/); recommended in Science NetWatch (Science 2002, 298, p. 19)

Public outreach

My research and professional activities have been covered in over **90 newspapers, magazines or online articles**, among others in the national newspapers *Der Standard*, *Die Presse*, and *Kronenzeitung* (Austria) and the magazine *2012*. I have appeared in several features on Austrian radio (Ö1) and in reports/documentaries on Austrian TV (ORF2, ORF3).

I was lecturer at the annual children university in Vienna 'KinderUni' www.kinderuni.at between 2007 and 2013.

Since 2017, I am an expert for Open Science www.openscience.or.at (a non-profit association committed to life science communication) and involved in diverse outreach activities (e.g. Microbiome PubQuiz, teaching material on the human microbiome for Austrian school kids).

Supervision of graduate students and postdocs

I have served/ am serving as **main supervisor for 8 postdocs, 8 PhD students, and 32 diploma/master students** at the University of Vienna.

Member of PhD thesis committees of Benjamin Zwirzitz, since 2017 (University of Veterinary Medicine Vienna, Austria), Elke Korb, since 2016 (Medical University of Vienna, Austria), Caroline Buckner, since 2015 (Max-Planck-Institute for Marine Microbiology, Bremen, Germany), Lara Jochum, since 2014 (Center for Geomicrobiology, University of Aarhus, Denmark), Luke McKay, 2012-2014 (University of North Carolina, USA), and Julia Rosa de Rezende, 2008-2011 (University of Aarhus, Denmark).

External PhD thesis reviewer/opponent of Cameron M. Callbeck, 2017 (University of Bremen, Germany), Stefanie Urimare Wetzels, 2016 (University of Veterinary Medicine Vienna, Austria), Lina Russ, 2015 (Radboud University, Nijmegen, The Netherlands), Jing Zhang, 2014 (University of Wageningen, The Netherlands); Luke McKay, 2014 (University of North Carolina, USA); Evelyne Mann, 2014 (University of Veterinary Medicine Vienna, Austria); and Petia Kovatcheva-Datchary, 2010 (University of Wageningen, The Netherlands).

Teaching activities

Over **100 courses in bachelor and master curricula** at the University of Vienna since 2007. See here for details: <https://ufind.univie.ac.at/en/person.html?id=86633>

- Lectures:* Biodiversity and molecular ecology of microorganisms (in bachelor and master studies), The human microbiome, Evolution and ecology of sulfur-cycle microorganisms
- Seminars:* Current topics in molecular microbial ecology and evolution, Environmental sciences, Proseminar in microbial ecology
- Lab courses:* DNA microarrays, Scientific practice in microbial ecology

Invited Presentations

I have been **invited to 57 presentations** at national and international workshops, conferences or institutions.

1. [2019] *Decrypting cryptic sulfur cycling in wetlands and the human gut: One new microbe and metabolism at a time*. Seminar at University of Greifswald, **Greifswald, Germany**, 23 September 2019
2. [2019] *New microbes and processes in the sulfur cycle: or What we learned about the microbiomes of a Bavarian peat and Popeye's gut*. Special SCMB Seminar at University of Queensland, **Brisbane, Australia**, 19 July 2019
3. [2019] *Microbial ecology of Popeye's gut: New metabolic functions of the core human microbiota*. Microbial Ecology Workshop of the Center of Advanced Studies – Ludwig-Maximilians-University of Munich, **Munich, Germany**, 31 January – 1 February 2019 (canceled)
4. [2018] *Uncovering the secrets of Popeye's diet: New metabolic functions of the core human microbiota*. Annual Retreat of the Immunology Research Cluster of the Medical University of Vienna, **Vienna, Austria**, 5 December 2018
5. [2018] *New functions of the core human microbiota: Metabolism of a vegetarian diet compound in the gut*. 2nd AMICI and 5th Theodor-Escherich Joint Symposium on Medical Microbiome Research, **Graz, Austria**, 8-9 November 2018
6. [2018] *New human microbiome functions: How a vegetarian diet supports an exclusive physiological niche for gut commensals and contributes to hydrogen sulfide production*. 10th Annual Meeting of the Austrian Association of Molecular Life Sciences and Biotechnology (ÖGMBT), **Vienna, Austria**, 17-20 September 2018 (canceled)
7. [2018] *Gut microbiota functions: A selection of limited knowledge*. Symposium on Comparative Medicine, **Vienna, Austria**, 31 January - 1 February 2018
8. [2018] *Physiological interactions in guts and wetlands: The role of sulfur microbes*. University of Bonn, **Bonn, Germany**, 12 January 2018
9. [2017] *Revealing the eco-metabolism of intestinal microorganisms by in vivo stable isotope probing*. AustroMetabolism 2017 Workshop, **Vienna, Austria**, 28 September 2017
10. [2017] *Revealing physiological host-microbiome interactions by in vivo stable isotope probing: From complex intestinal communities to beneficial designer microbiota*. Annual Microbiome Summit: Translating into Diagnostics & BioTherapeutics, **Vienna, Austria**, 21 -22 September 2017
11. [2017] *Sulfate reducers – how great is the diversity?* Marine Geomicrobiology Workshop, **Sandbjerg, Denmark**, 28 August - 1 September 2017
12. [2017] *Functional wetland microbiomics reveals unexpected metabolic versatility and expanded phylum-diversity of sulfur microorganisms*. American Society of Microbiology (ASM) Microbe 2017, **New Orleans, USA**, 1-5 June 2017

13. [2017] *Stable isotope probing of complex microbial communities: Studying intestinal microbes after their last 'heavy' supper*. Video conference presentation for Bill & Melinda Gates Foundation, **Seattle, USA**, 20 February 2017
14. [2016] *Modern microbiome methods: Amplicon sequencing, metagenomics, metatranscriptomics, and more*. Summer School 'Nutrition and Animal Gut Health', University of Veterinary Medicine, **Vienna, Austria**, 1-6 August 2016
15. [2015] *The intestinal microbiome in action – revealing the functions of individual members in health and disease by single cell stable isotope probing*. Technical Meeting on Environmental Enteric Dysfunction, the Microbiome and Undernutrition. International Atomic Energy Agency. **Vienna, Austria**, 28-30 October 2015
16. [2015] *Sulfate-reducing microorganisms in wetlands - Undervalued players in carbon cycling and climate change*. Department of Microbiology, Radboud University. **Nijmegen, The Netherlands**, 8 July 2015
17. [2015] *Understanding colonization resistance - new tools to analyze in vivo physiology and substrate competition of individual microbial cells in the intestinal tract*. Leibniz Center Infection Symposium 'Emerging Infections 2015'. **Hamburg, Germany**, 29-30 January 2015
18. [2014] *The intestinal microbiome in action – revealing the functions of individual members in health and disease*. Microbiomes in oncology: from basic science to therapeutic visions. **Vienna, Austria**, 14 November 2014
19. [2014] *From functional gene studies to ecosystem functions: a case study of hidden sulfate-reducing microorganisms in wetlands*. Agouron Institute Research Meeting - The sulfur cycle. **Rancho Palos Verdes, USA**, October 26-30, 2014
20. [2014] *Fecal microbiota transplantation for treatment of inflammatory bowel disease – do we have to curb our enthusiasm?* Third International Advanced course on “The Intestinal Microbiome and Diet in Human and Animal Health”. **Wageningen, The Netherlands**, 1-3 October 2014
21. [2014] *New single cell technologies for dietary and physiological studies in mice and men*. Third International Advanced course on “The Intestinal Microbiome and Diet in Human and Animal Health”. **Wageningen, The Netherlands**, 1-3 October 2014
22. [2013] *Go with the flow: Endospores of thermophilic bacteria as tracers of microbial dispersal by ocean currents*. Institute for Chemistry and Biology of the Marine Environment, University of Oldenburg. **Oldenburg, Germany**, 11 December 2013.
23. [2013] *Metabolic individuality in the intestinal wilderness - a novel single-cell approach to study in vivo function of intestinal microbiota members*. Keynote lecture at the 6th Seon Conference on 'Microbiota, Probiota and Host'. **Seon, Germany**, 28-30 June 2013. (not given due to illness)
24. [2013] *Microbial individuality in the intestinal wilderness of men and mice*. Institute of Specific Prophylaxis and Tropical Medicine, Medical University Vienna. **Vienna, Austria**, 24 April 2013.

25. [2012] *Applied and basic properties of the intestinal microbiota: fecal microbiota transplantation and a new single-cell method for identification of host-compound-foraging microbes*. Keynote lecture at the 2. Symposium of the intra-university research cluster “Animal Gut Health”, University of Veterinary Medicine. **Vienna, Austria**, 12 November 2012. (not given due to illness)
26. [2012] *Individuality matters – of microbes and man*. Cologne Science Center Symposium on “Intestinal Microbiota in Health and Disease - Impact on Personalized Nutrition & Medicine. **Köln, Germany**, 14 June 2012.
27. [2012] *Ecology of sulfate-reducing microorganisms in wetlands - fame-less actors in carbon cycling and climate change*. EMBO Workshop on Microbial Sulfur Metabolism. **Noordwijkerhout, The Netherlands**, 15-18 April 2012.
28. [2011] *Eating heavy: isotope-labeling approaches for studying the function of uncultivated microorganisms in the environment*. **Keynote lecture** at 1st International Symposium on Microbial Horticulture, SLU, **Alnarp, Sweden**, May 15-19, 2011
29. [2010] *Molecular biology of sulfate reduction in peatlands – a rare microorganism is involved in a process that mitigates global warming*. Young Group Leader presentation at the 2nd Annual Meeting of the Austrian Association of Molecular Life Sciences and Biotechnology. **Vienna, Austria**, 27-29 September 2010.
30. [2010] *Sulfate reduction in peatlands – Does a rare keystone microorganism drive a process that mitigates global warming? Keynote lecture* at the Goldschmidt 2010, Earth, Energy, and the Environment. **Knoxville, USA**, 13-18 June 2010.
31. [2010] *Tracking down sulphate-reducing microorganisms by molecular and isotope-labelling techniques*. European Geosciences Union General Assembly 2010. **Vienna, Austria**, 2–7 May 2010.
32. [2010] *Sulfate reduction in peatlands: Does a ‘rare biosphere’ microorganism do the job!?* Seminar at the Center of Geomicrobiology, University of Aarhus. **Aarhus, Denmark**, 16. March 2010.
33. [2009] *On the opportunities and challenges of diagnosing sulfate-reducing microorganisms*. **Opening lecture** at the 2nd International Symposium on Applied Microbiology and Molecular Biology in Oil Systems (ISMOS-2). **Aarhus, Denmark**, 17-19. June 2009.
34. [2008] *Evolution and ecology of sulfur microorganisms: Hidden players in a well-known biogeochemical cycle*. Seminar at the University of Southern Denmark. **Odense, Denmark**, 26. November 2008.
35. [2008] *Evolution and ecology of sulfur cycle microorganisms*. Seminar at the Masaryk University. **Brno, Czech Republic**, 30. October 2008.
36. [2008] *Molecular evolution of dissimilatory sulfite reductases revisited: News on sulfur oxidation*. Seminar at the University of Aarhus. **Aarhus, Denmark**, 13 October 2008.

37. [2008] *New methods for probing physiological capabilities of uncultivated microorganisms*. 14th International Symposium on Biodeterioration and Biodegradation (IBBS-14), **S. Alessio Siculo, Italy**, 6.-11. October 2008.
38. [2008] *New insights into the microbial ecology of sulfur cycling: Looking below the tip of the iceberg*. Seminar at the Friedrich Schiller University Jena. **Jena, Germany**, 28 May 2008.
39. [2008] *Analyzing microbes after their last meal: Raman microspectroscopy of isotope-labeled cells and nucleic acids*. rRNA Workshop. **Bremen, Germany**, 7.-9. April 2008.
40. [2008] *Die Henkersmahlzeit unkultivierter Mikroben: rRNA-basierte Mikroarrays für Struktur-Funktionsanalysen komplexer mikrobieller Lebensgemeinschaften*. Genomics & Proteomics Workshop Zinsser Analytic. **Wien, Austria**, 12 Februar 2008.
41. [2008] *Evolution and ecology of sulfur microbes: Sulfite reductase as evolutionary key to a life with sulfur?* Seminar at the MPI Bremen. **Bremen, Germany**, 10 January 2008.
42. [2007] *The “last meal” of uncultivated microbes: Microarray and single cell tools for structure-function analysis of polymicrobial communities*. Seminar at the UCL Eastman Dental Institute. **London, England**, 21 November 2007.
43. [2007] *Deciphering “Who is doing what in complex microbial communities?” with DNA microarrays* Meeting of the European Research Group for Oral Biology “Biofilms in Oral Biology”. **Geneva, Switzerland**, 9 June 2007.
44. [2006] *Microbial ecology of sulfur cycling: A molecular perspective*. Seminar at the University of Aarhus. **Aarhus, Denmark**, 31 October 2006.
45. [2006] *Microbial ecology of sulfur cycling: The hidden diversity*. Seminar at the Baltic Sea Research Institute. **Warnemünde, Germany**, 12 October 2006.
46. [2006] *From PhyloChips to Isotope Arrays - structure and function of microbial communities at one fell swoop*. 11th International Symposium on Microbial Ecology, ISME-11. **Vienna, Austria**, 20.-25. August 2006.
47. [2006] *Ecology and evolutionary history of sulfate-reducing prokaryotes*. International Symposium on Microbial Sulfur Metabolism (ISMSM). **Münster, Germany**, 29 June – 2 July 2006.
48. [2006] *Functional probing of microbial communities with rRNA-targeted oligonucleotide microarrays*. Workshop “Marine Genomics meets Marine Diversity” at MPI Bremen, EU Network of Excellence Marine Genomics Europe. **Bremen, Germany**, 8-9 June 2006.
49. [2006] *New insights in the ecology of sulfur cycling via microarrays and environmental genomics*. European Geosciences Union General Assembly 2006. **Vienna, Austria**, 2–7 April 2006.
50. [2006] *Exploring the composition and ecophysiology of microbial communities using rRNA-targeted oligonucleotide microarrays*. 4th Biorhiz Workshop – MPI Jena. **Jena, Germany**, 24-27 January 2006.

51. [2006] *On PhyloChips and Isotope Arrays: Problems and Solutions*. Seminar at TU München. **Freising, Germany**, 13 January 2006.
52. [2005] *Isotopic labeling and PhyloChips: Exploring ecophysiology of microbial communities*. Cost Action 853 meeting: Agricultural biomarkers for array technology. **Lyon, France**, 29-30 November 2005.
53. [2005] *Beyond the use of phylogenetic microarrays for highly parallel microbial diversity analysis - the Isotope Array approach*. Workshop on "Detection of microbial diversity in environmental samples". **Camarino, Italy**, 19-21 September 2005.
54. [2005] *Simultaneous analysis of microbial community composition and function by rRNA-targeted oligonucleotide microarrays*. Biodiversity and integrative Genetics Seminar. University of Lausanne. **Lausanne, Switzerland**, 18 March 2005.
55. [2004] *In silico design and evaluation of oligonucleotide microarray probes*. Cost Action 853 meeting: Agricultural biomarkers for array technology. **York, England**, 28 October 2004.
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Publications in Peer-Reviewed Journals

I have published **84 papers in peer-reviewed journals** (including 1 paper each in *Nature*, *Nature Communications*, *Science* and *PLoS Biology*, and two papers in *PNAS*), **3 genome announcements**, and **10 book chapters** or other publications, and I have edited a **book** and a **Frontiers in Microbiology Research Topic**. The papers were **cited 7639 (Scopus)/10979 (Google Scholar) times** and have a **total impact factor of 624** (ISI Journal Citation Reports 2019) (mean impact factor per paper = 7.4). My current **h-index is 47 (Scopus)/54 (Google Scholar)** (August 3rd, 2020).

Google scholar <http://scholar.google.com/citations?user=6MIGowYAAAAJ>
 Scopus <http://www.scopus.com/authid/detail.url?authorid=56243274300>
 Researcher ID <http://www.researcherid.com/rid/A-8182-2008>
 ORCID <http://orcid.org/0000-0001-8923-5882>
 Loop <http://loop.frontiersin.org/people/30294/bio>

*Asterisk indicates corresponding authorship; IF = impact factor; the most important publications are boxed.

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