

Assoc.-Prof. Dr. rer. nat. Holger Daims

Division of Microbial Ecology
Department of Microbiology and Ecosystem Science
University of Vienna
Althanstrasse 14, 1090 Vienna, Austria
Homepage: www.microbial-ecology.net/daims
ResearcherID: I-8410-2012
ORCID ID: 0000-0002-4195-0913
Scopus Author ID: 6602614813

Research Interests

- Nitrogen-cycling microorganisms, with emphasis on nitrite-oxidizing and completely nitrifying (comammox) organisms
- Microbiology of wastewater treatment
- Molecular and isotope methods for studying uncultured microorganisms
- Development and application of digital image analysis tools in microbial ecology and medical microbiology

Professional Experience

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| since 8/2012 | Associate Professor, University of Vienna |
| 4/2012 | Habilitation (<i>venia docendi</i>) in Microbiology obtained at the University of Vienna (thesis: “Diversity, ecophysiology, and evolution of nitrite-oxidizing bacteria”) |
| 12/2010 - 7/2012 | Assistant Professor (tenure track), Department of Microbial Ecology, University of Vienna |
| 2/2003 - 11/2010 | Assistant Professor (“Universitätsassistent”), Department of Microbial Ecology, University of Vienna |
| 4/2002 - 6/2002 | Research visit at the Department of Microbiology, University of Queensland, Brisbane, Australia |
| 10/2001 - 1/2003 | Post-doctoral fellow, Department of Microbiology, Technische Universität München, Germany |

Education

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| 18.09.2001 | Dissertation (Dr. rer. nat), grade 1.1 (<i>magna cum laude</i>), Technische Universität München, Germany |
| 2/1998 - 9/2001 | PhD studies, Department of Microbiology, Technische Universität München, Germany (thesis: “Population structure and functional analyses, by in situ techniques, of nitrifying bacteria in wastewater treatment plants”) |
| 26.09.1997 | Diploma in Biology, grade 1.0 (“Mit Auszeichnung”, “with distinction”), University of Technology of the Rhineland, Aachen, Germany |
| 2/1995 - 4/1995 | Internship at the Department of Microbiology, University of Hawaii at Manoa, Honolulu, HI, USA |
| 1990 - 1997 | Studies in Biology, University of Technology of the Rhineland, Aachen, Germany, and University of Cologne, Germany |

Honors and Awards

- 2016 *ISME-IWA Bio Cluster Award*, Grand Prize
- 2016 *Distinguished Track Lecturer*, Ecological and Evolutionary Science Track, ASM Microbe 2016, Boston, USA
- 2009 *Wiener Zukunftspreis (Vienna Future Award)* of the City of Vienna and the *News Magazine*
- 2006 *Focus of Excellence* award of the Faculty of Life Sciences, University of Vienna, Austria
- 1997 *Springorum* medal of the University of Technology of the Rhineland, Aachen

Editorial and Reviewing Activities

- Since 2017 Editorial Board member of *Environmental Microbiology*
- since 2013 Editorial Board member of *Applied and Environmental Microbiology*
- since 2007 Editorial Board member of *The ISME Journal*
- 2006 - 2012 Associated Editor of *Microbiology* (SGM)
- 2006 - 2007 Editorial Board member of *Microbial Ecology*
- Ad hoc* referee for diverse journals including *Science*, *Nature Reviews Microbiology*, *PNAS*, *Trends in Microbiology*, *Trends in Biotechnology*, *FEMS Microbiology Ecology*, *Systematic and Applied Microbiology*, *Water Research*
- Grant proposal reviewer for funding agencies including *NSF*, *BSF*, *Human Frontier Science Program*, *NWO Research Council for Earth and Life Sciences*

Selected Professional Activities

- 2016 - 2017 Co-chair and co-organizer (with Christa Schleper and Michael Wagner) of the 5th International Conference on Nitrification (ICoN5), Vienna, Austria (July 23-27, 2017)
- 2016 Session convener at the 16th International Symposium on Microbial Ecology (ISME-16), Montreal, Canada (August 21-26, 2016)
- 2014 - 2015 Member of the Scientific Advisory Committee and session convener, 4th International Conference on Nitrification (ICoN4), Edmonton, Canada (June 28-July 1, 2015)
- 2014 Session convener at the 15th International Symposium on Microbial Ecology (ISME-15), Seoul, South Korea (August 24-29, 2014)
- 2013 - 2014 Member of the Local Organizing Committee for the Biofilms 6 conference, Vienna, Austria (May 11-13, 2014)
- 2013 - 2015 Member of the university-wide Curricular Workgroup for Teacher Education (*Curriculare Arbeitsgruppe LehrerInnenbildung Neu*), University of Vienna
- 2011 - 2013 Member of the Senate of the University of Vienna
- 2004 - 2006 Member of the Local Organizing Committee for the 11th Symposium on Microbial Ecology (ISME-11), Vienna, Austria (August 20-25, 2006)
- 5/2006, 10/2010, 10/2012 Lecturer at the international workshop “Microbial Ecology in Wastewater Treatment”, Aalborg University, Denmark
- 6/2012 Lecturer at the international “Advanced Course on Environmental Biotechnology”, TU Delft, The Netherlands

- 6/2011 Lecturer at the “1st Bremen FISH Camp (international workshop on Fluorescence *in situ* Hybridization)”, Max-Planck Institute for Marine Microbiology, Bremen, Germany
- since 1999 Co-organiser, lecturer, and supervisor at the annual “International FISH Course”, Technische Universität München, Germany, and University of Vienna, Austria
- since 1999 Developer of digital image analysis software for fluorescence and confocal microscopy, which has been used by researchers in microbiology, medicine, and other sciences in more than 200 published studies

Teaching Activities and Supervision of Graduate Students

Over 100 courses in bachelor and master curricula at the University of Vienna since 2003.

- Lectures: Biodiversity of microorganisms, Microbial communities and symbioses
- Seminars: Current topics in molecular microbial ecology and evolution, Current topics in symbiosis research, Molecular processes of early evolution, Field trips in microbiology, Seminar in environmental sciences
- Lab courses: Fluorescence *in situ* hybridization, Phylogeny of prokaryotes

Served as **main supervisor and co-supervisor of 6 postdocs, 11 PhD students, and 19 diploma/master students** at the University of Vienna.

Member of PhD thesis committees of Dennis Fink, 2010-2011 (University of Bremen, Germany), Jessika Füssel, 2010-2014 (University of Bremen, Germany), Irene Schaffner, since 2013 (University of Natural Resources and Life Sciences, Vienna), Katharina Kitzinger, since 2015 (University of Bremen, Germany and University of Vienna, Austria), and Franziska Klotz, since 2017 (University of Constance, Germany).

External PhD thesis reviewer/opponent of Rheanne Pickering, 2008 (Newcastle University, UK), Cristina Moraru, 2010 (University of Bremen, Germany), Jessika Füssel, 2014 (University of Bremen, Germany), Boris Nowka, 2014 (University of Hamburg, Germany), and Alejandro Palomo, 2017 (Technical University of Denmark).

Publication Output

Author on **73 papers** in peer-reviewed journals (including 4 papers in *Nature*, 2 papers in *Science*, and 5 papers in *PNAS*). Received in total **6,877 citations; h-index 35** (ISI Web of Science) [Google Scholar: **9,733 citations; h-index 40**].

Author of **9 book chapters** and Co-Editor of 1 book.

A complete list of publications and citation data is available at:

www.microbial-ecology.net/daims and www.researcherid.com/rid/I-8410-2012

Invited Talks

since 2002 **53 invited talks** at international conferences, workshops, and university seminars in 17 countries

A complete list of oral presentations is available at: www.microbial-ecology.net/daims

Patents

since 2006 1 patent (EP 1903010 A1)

Funding

Projects as principal investigator

- FWF P30570-B21. Physiology and environmental importance of complete ammonia oxidizers (comammox). € 390,138 [2017-2020]
- FWF W1257. Post-genomic characterization of *Nitrospina*, a major marine nitrite oxidizer. € 196,682 [2016-2019]. Project in the FWF-funded doctoral school “Microbial Nitrogen Cycling – From Single Cells to Ecosystems”
- FWF P27319-B21. Microdiversity of uncultured nitrite-oxidizing bacteria. € 424,000 [2015-2018]
- FWF P25231-B21. Illuminating the ecology of nitrite-oxidizing bacteria in soil and aquatic ecosystems. € 370,000 [2013-2018]
- WWTF LS09-40. Multiphasic comparative analysis of key nitrite-oxidizing bacteria in wastewater treatment plants. € 630,000 [2010-2014]
- FWF/ESF I44. Project in the EuroDiversity consortium “COMIX - Coupling biofilm diversity and ecosystem functioning: The role of communication and mixing in microbial landscapes”. € 192,000 [2006-2011]
- FWF S100. Project in the National Research Network (NFN) “MICDIF - Linking microbial diversity and ecosystem functions across scales and interfaces”; project title “Functional diversity of nitrifying and heterotrophic microorganisms”. € 299,000 [2007-2010]
- WWTF LS216. Genomics and exology of novel uncultured nitrite-oxidizing bacteria in natural and engineered surroundings. € 460,000 [2004-2008]

Projects as co-PI

- FWF T 938. Ecology of novel nitrite-oxidizers in the phylum Chloroflexi (PI Anne Daebeler). € 230,010 [2017-2020]. Project in the FWF Hertha Firnberg program for female post-docs.
- DOE-JGI CSP1497. Raman-based microcolony genomics and transcriptomics for studying microevolution and ecology of nitrifiers. In-kind contributions (Large scale next generation sequencing) [2013-2015]
- University of Vienna. Graduate school (*Initiativkolleg*) “Symbiotic Interactions”. € 64,500 of a total amount of € 247,000 allocated to the Division of Microbial Ecology [2007-2010]
- University of Vienna. Project in the University Research Focus “Symbiosis research and principles of molecular recognition”, project title “Molecular Interactions between intracellular bacteria and their eukaryotic host cells”. € 65,000 of a total amount of € 450,000 [2006-2009]

Projects as host

- University of Vienna. PhD Completion Grant to Christiane Gruber-Dorninger [2014-2015]
- FWF P24101. Illuminating the Ecophysiology of *Nitrotoga*-like NOB (PI Sebastian Lucker). € 181,000 [2012-2014]

Last updated: August 31, 2017