Curriculum vitae (as of 09/2022)

Prof. Dr. Christian Kost

Department of Ecology

Osnabrück University

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Email	christiankost@gmail.com
Web	Kostlab.com
Twitter	@KostChristian

1 Personal information

Citizenship	German
Family status	married, two children

2 Education

2003-2006	**Dr. rer. nat.** (>>*Magna cum Laude*<<), Ecology MPI for Chemical Ecology/ Friedrich-Schiller University Jena, Germany
1995-2001	**Diploma** (very good), Biology University of Kaiserslautern, Germany

3 Research positions

Since 2018	**Associate faculty member**, Institute of Environmental Systems Research Osnabrück University, Osnabrück, Germany
Since 2016	**Professor**, Ecology Osnabrück University, Osnabrück, Germany
2009-2016	**Group leader** MPI for Chemical Ecology, Jena, Germany
2006-2008	**Postdoctoral researcher** Rainey lab, Massey University, Auckland, New Zealand
2006-2006	**Postdoctoral researcher** Boland lab, MPI for Chemical Ecology, Jena, Germany
2003-2006	**Doctoral researcher** Heil lab, MPI for Chemical Ecology, Jena, Germany
2001-2003	**Scientific coworker** Linsenmair lab, University of Würzburg, Germany
1995-2001	**Diploma student** Wirth lab, University of Kaiserslautern, Germany

4 Research interests

- Ecology and evolution of metabolite cross-feeding among microorganisms
- Genomic and physiological consequences of a synergistic coevolution
- Contact-dependent interactions among bacterial cells
- Coevolutionary dynamics within microbial interaction networks
- Bacterial multicellularity

5 Scientific credentials

Academic awards and honours

Since 2022	Member | SPP 2389
2016-2022	Member | SFB 944
2018-2022	Speaker of the UOS-funded international graduate school *EvoCell*
2015-2018	Member | SPP 1617
2011	Best oral presentation | Evolution at the Sea Symposium (VolkswagenStiftung)
2009 -	Associate faculty member | Faculty of 1.000
2007	Travel award | University of Auckland (500 NZ$)
2006-2008	Feodor Lynen Fellowship | Alexander von Humboldt Foundation (78,600 €)
2006	Travel award | Summer Institute of Statistical Genetics, Seattle, USA (2,000 US$)
2006	Merian award | Society for Tropical Ecology
2005	Best poster award | International Max Planck Research School (1,000 €)
2005	Travel award | International Society of Chemical Ecology (500 US$)
2001	Merian award | Society for Tropical Ecology

Evaluations

2016	Evaluated by the Scientific Advisory Board of the MPI for Chemical Ecology and given the grade	**»outstanding«**
2014	Evaluated by the Scientific Advisory Board of the MPI for Chemical Ecology and given the grade	**»outstanding«**
2012	Evaluated by the Scientific Advisory Board of the MPI for Chemical Ecology and given the grade	**»excellent«**

International research experience

2006-2008	**Postdoc**: Auckland, New Zealand (2 years)
2004	**Field work** for PhD project: Puerto Escondido, Mexico (2.5 months)
2003	**Field work** for PhD project: Puerto Escondido, Mexico (2.5 months)
2002	**Field work** for research project: Comoé National Park, Ivory Coast (4.5 months)
2001	**Field work** for research project: Comoé National Park, Ivory Coast (2 months)
1999-2000	**Field work** for diploma project: Paracou, French Guiana (3 months)
1999	**Voluntary service and research practical**: Utila, Honduras (2 months)
1999	**Research practical**: Sahara, Tunisia (1 month)

Advanced training

2020	*Stress Management*, DHV, Bonn, Germany
2019	*Leadership of employees*, DHV, Bremen, Germany
2015	*Appointment Negotiations*, DHV, Bonn, Germany
2014	*Academic Teaching for Natural Scientists*, FSU Jena, Jena, Germany
2013	*Mediation and Conflict Management for Ombudspersons*, ZWM Speyer, , Germany
2011-2012	*Management Development Programme in Science Modules I, II, III, and IV*, MPG, Germany
2010	*Appointment Negotiations,* ZWM Speyer, Germany
2009	*Communication, Conflict- and Project Management*, ZWM Speyer, Germany
2009	*Safety Aspects of Genetic Engineering,* Jena, Germany
2006	*Statistical Genetics*, Seattle, USA
2006	*Adaptive Dynamics*, Groningen, Netherlands
2004	*Mass Spectrometry in Chemical Ecology*, MPI CE, Jena, Germany
2003-2006	*International Max Planck Research School (IMPRS):* The Exploration of Ecological Interactions with Molecular and Chemical Techniques, MPI CE, Jena, Germany

Membership in professional organisations

Since 2011	German Association of University Professors and Lecturers (DHV)
Since 2009	Association for General and Applied Microbiology (VAAM)
Since 2007	European Society for Evolutionary Biology (ESEB)
Since 2007	Society for the Study of Evolution (SSE)
1999-2006	British Ecological Society (BES)
1998-2003	Deutschen Gesellschaft für Herpetologie und Terrarienkunde (DGHT)
2000-2006	German Society for General and Applied Entomology (DGaaE)
1999-2008	Society for Tropical Ecology (gtö)

Third-party funding

Total: 4,161 k€

2022-2025	Multicellular bacterial clusters (DFG: SPP 2389, KO 3909/9-1)	270 k€
2022-2025	Metabolic trade-offs (DFG: KO 3909/6-1)	273 k€
2021-2024	Black queen hypothesis (DFG: KO 3909/4-1)	467 k€
2019-2022	Interbacterial nanotubes (DFG, SFB 944, TP 19)	526 k€
2018-2021	Multicellular clusters in bacteria (UOS, EvoCell)	237 k€
2018-2021	Individual-based modelling (UOS, EvoCell, with Karin Frank)	220 k€
2018	High-resolution laser scanning microscope (DFG/ MWK)	544 k€
2018	Triple quadrupole tandem mass spectrometer (DFG/ MWK)	275 k€
2016-2018	Interbacterial nanotubes (DFG, SFB 944, TP 19)	320 k€
2016-2018	Transcriptional analysis of cross-feeding bacteria (IMPRS, MPG)	95 k€
2015-2018	Phenotypic heterogeneity (DFG, SPP1617, KO 3909/2-1)	188 k€
2015-2018	Black queen hypothesis (DAAD, GERLS)	42 k€
2010-2017	Evolution and maintenance of mutualisms (VW Foundation, I/85 290)	344 k€
2006-208	Reverse Experimental Evolution (AvH Foundation)	79 k€
2012-2015	Evolution of metabolic cooperation (DFG, JSMC)	142 T€
2012-2015	Maintenance of cooperation (DFG, JSMC)	87 T€
2012-2015	Plasmid evolution (MPG, IMPRS)	52 T€

6 Scientific output

Peer-reviewed publications

Articles:	**49**	(6 first author, 28 senior author)
H-index	**31**	(source: Google scholar)
Citations:	**5,047**	

* corresponding author(s), ** equally contributing authors.

2022 Oña L*, **Kost C**. Cooperation increases robustness to ecological disturbance in microbial cross-feeding networks. *Ecology Letters*. 25 (6): 1410-1420.

Giri S*, Yousif G, Shitut S, Oña L, **Kost C***. Prevalent emergence of reciprocity among cross-feeding bacteria. *ISME Communications,* 2 (1), 1-7.

Pauli B, Oña L, Hermann M, **Kost C***. Obligate mutualistic cooperation limits evolvability. *Nature Communications*, 13:337.
→ Highlighted in a blog on the 'The Molecular Ecologist'

Bogdanowski A, Frank K*, Banitz T, Muhsal LK, **Kost C**. McComedy: a user-friendly tool for next-generation individual-based modeling of microbial consumer-resource systems. *PLoS Computational Biology*, 18(1): e1009777.

2021 Giri S*, Oña L, Waschina S, Shitut S, Yousif G, Kaleta C, **Kost C***. Metabolic dissimilarity determines the establishment of cross-feeding interactions in bacteria. *Current Biology,* 31 (24), 5547-5557.e6.
→ Highlighted in a blog on 'preLights'

Oña L**, Giri S**, Avermann N**, Kreienbaum M, Thormann KM, **Kost C***. Obligate cross-feeding expands the metabolic niche of bacteria. *Nature Ecology and Evolution*, 5 (9), 1224-1232.
→ Highlighted in a News & Views article in 'Nature Ecology & Evolution'

2020 Preussger D, Giri S, Muhsal LK, Oña L, **Kost C***. Reciprocal fitness feedbacks promote the evolution of mutualistic cooperation. *Current Biology*, 30 (18), 3580-3590 e7.
→ rated as *'Very good'* by Faculty Opinions
→ Highlighted in dispatch article in 'Current Biology'

Giri S, Shitut S, **Kost C***. Harnessing ecological and evolutionary principles to guide the design of microbial production consortia. *Current Opinion in Biotechnology*, 62, 228-238.

2019 Giri S, Waschina S, Kaleta C, **Kost C***. Defining division of labour in microbial communities. *Journal of Molecular Biology,* 431 (23), 4712-4731.

Dietel AK, Merker H, Kaltenpoth M*, **Kost C***. Selective advantages favour high genomic AT-contents in intracellular elements. *PLoS Genetics*, 15 (4), e1007778.

Shitut S, Ahsendorf T, Pande S, Egbert M, **Kost C***. Nanotube-mediated cross-feeding couples the metabolism of interacting bacterial cells. *Environmental Microbiology*, 21 (4), 1306-1320.

2018 Dietel AK, Kaltenpoth M, **Kost C***. Convergent evolution in intracellular elements: Plasmids as model endosymbionts. *Trends in Microbiolgy*, 26 (9), 755-768.

D'Souza G, Shitut S, Preussger D, Yousif G, Waschina S, **Kost C***. Ecology and evolution of metabolic cross-feeding interactions in bacteria. *Natural Product Reports*, 35, 455-488.

2017 Pande S*, **Kost C***. Bacterial unculturability and the formation of intercellular metabolic networks. *Trends in Microbiology*, 25(5), 349-361.

Sudakaran S*, **Kost C**, Kaltenpoth M*. Symbiont acquisition and replacement as a source of ecological innovation. *Trends in Microbiology*, 25 (5): 375-390.

Hölscher T**, Schiklang T**, Dragoš A, Dietel AK, **Kost C**, Kovács ÁT*. Impaired competence in flagellar mutants of Bacillus subtilis is connected to the regulatory network governed by DegU. *Environmental Microbiology Reports*, 10 (1), 23-32.

Junker RR*, Kuppler J, Amo L, Blande JD, Borges RM, van Dam NM, Dicke M, Dötterl S, Ehlers BK, Etl, F., Gershenzon J, Glinwood R, Gols R, Groot AT, Heil M, Hoffmeister M., Holopainen JK, Jarau S., John L, Kessler A, Knudsen JT, **Kost C**, Larue-Kontic A-A-C, Leonhardt SD, Lucas-Barbosa D, Majetic CJ, Menzel F, Parachnowitsch AL, Pasquet RS, Poelman EH, Raguso RA, Ruther J, Schiestl FP, Schmitt T, Tholl D, Unsicker S, Verhulst N, Visser ME, Weldegergis BT, Köllner TG. Covariation and phenotypic integration in chemical communication displays: biosynthetic constraints and eco-evolutionary implications. *New Phytologist*, 220 (3), 755-768.

2016 D'Souza G, **Kost C***. Experimental evolution of metabolic dependency in bacteria. *PLoS Genetics*, 12(11): e1006364.

Germerodt S, Bohl K, Lück A, Pande S, Schröter A, Kaleta C, Schuster S, **Kost C***. Pervasive selection for cooperative cross-feeding in bacterial communities. *PLoS Computational Biology*, 12(6): e1004986.

Pande S, Kaftan F, Lang S, Svatoš A, Germerodt S, **Kost C***. Privatization of cooperative benefits stabilizes mutualistic cross-feeding interactions in spatially structured environments. *The ISME Journal*, 10, 1413-1423.

Waschina S, D'Souza G, **Kost C***, Kaleta C*. Metabolic network architecture and carbon source determine metabolite production costs. *The FEBS Journal*, 283, 2149-2163.

2015 D'Souza G, Waschina S, Kaleta C, **Kost C***. Plasticity and epistasis strongly affect bacterial fitness after losing multiple metabolic genes. *Evolution*, 69(5), 1244-1254.

Pande S, Shitut S, Freund L, Westermann M, Bertels F, Colesie C, Bischofs IB, **Kost C***. Metabolic cross-feeding via intercellular nanotubes among bacteria. *Nature Communications*, 6: 6238.
→ Featured in an article in 'The Scientist', 'Max Planck Research', and 'PNAS'
→ Featured in a podcast by detektor.fm.
→ Highlighted in 'Nature'.

Schmidt R, Waschina S, Boettger-Schmidt D, **Kost C**, Kaleta C*. Computing autocatalytic sets to unravel inconsistencies in metabolic network reconstructions. *Bioinformatics*, 31(3), 373-381.

Seccareccia I, **Kost C**, Nett M*. Quantitative analysis of *Lysobacter* predation. *Applied and Environmental Microbiology*, 81(20), 7098-7105.

Sudakaran S, Retz F, Kikuchi Y, **Kost C***, Kaltenpoth M*. Evolutionary transition in symbiotic syndromes enabled diversification of phytophagous insects on an imbalanced diet. *The ISME Journal*, 9(12), 2587-2604.

2014 D'Souza G, Waschina S, Pande S, Bohl K, Kaleta C, **Kost C***. Less is more: Selective advantages can explain the prevalent loss of biosynthetic genes in bacteria. *Evolution*, 68(9): 2559-2570.

Thiele T, **Kost C**, Roces F, Wirth R*. Foraging leaf-cutting ants learn to reject *Vitis vinifera* ssp. *vinifera* plants that emit herbivore-induced volatiles. *Journal of Chemical Ecology*, 40:617-620

Pande S, Merker H, Bohl K, Reichelt M, Schuster S, de Figueiredo, LF, Kaleta C, **Kost C***. Fitness and stability of obligate cross-feeding interactions that emerge upon gene loss in bacteria. *The ISME Journal,* 8, 953-962.
→ rated as *'hot'* by Thompson Reuters (top 0.1% of papers in its field)
→ article featured on the journal's homepage

2012 Bertels F, Merker H, **Kost C***. Design and characterization of auxotrophy-based amino acid biosensors. *PLoS ONE*, 7(7): e41349.

Radhika V, **Kost C**, Bonaventure G, David A, Boland W*. Volatile emission in bracken fern (*Pteridium aquilinum*) is induced by jasmonates but not by herbivory. *PLoS ONE*. 7(11): e48050.

Sudakaran S, Salem H, **Kost C**, Kaltenpoth M*. Geographic and ecological stability of the symbiotic mid-gut microbiota in European firebugs, *Pyrrhocoris apterus* (Hemiptera, Pyrrhocoridae). *Molecular Ecology*, 21(24): 6134-6151.

2011 **Kost C***, Tremmel M, Wirth R. Do leaf cutting ants cut undetected? Testing the effect of ant-induced plant defences on foraging decisions in *Atta colombica. PLoS ONE*, 6(7), e22340.

Rainey PB*, Beaumont HJE, Ferguson, GC, Gallie J, **Kost C**, Libby E, Zhang XX. The evolutionary emergence of stochastic phenotype switching in bacteria. *Microbial Cell Factories*, 10 Suppl 1:S14.
→ rated as *'Good'* by FACULTY of 1.000

2010 Radhika V, **Kost C**, Boland W, Heil M*. Towards elucidating the differential regulation of floral and extrafloral nectar secretion. *Plant Signaling & Behavior*, 5, 924-926.

Radhika V, **Kost C**, Mithöfer A, Boland W*. Regulation of extrafloral nectar secretion by jasmonates in lima bean is light dependent. *Proceedings of the National Academy of Sciences of the United States of America*, 107, 17228-17233.

Radhika V, **Kost C**, Boland W, Heil M*. The role of jasmonates in floral nectar secretion. *PLoS ONE*, 5(2), e9265.

Bohl K**, de Figueiredo LF**, Hädicke O, Klamt S, **Kost C**, Schuster S, Kaleta C*. CASOP GS: Computing intervention strategies targeted at production improvement in genome-scale metabolic networks, in Schomburg D & Grote A (Eds.), *Proceedings of the 25th German Conference on Bioinformatics.* 71-80.

2009 Beaumont HJE*, Gallie J, **Kost C**, Ferguson GC, Rainey PB. Experimental evolution of bet hedging. *Nature*, 462, 90-93.
→ rated as *'Exceptional'* by FACULTY of 1.000

2008 **Kost C***, Heil M. The defensive role of volatile emission and extrafloral nectar secretion for lima bean in nature. *Journal of Chemical Ecology*, 34, 2-13.

Radhika V, **Kost C**, Bartram S, Heil M, Boland W*. Testing the optimal defence hypothesis for two indirect defences: secretion of extrafloral nectar and emission of volatile organic compounds. *Planta*, 228, 449-457.

2007 **Kost C***, Lakatos T, Böttcher I, Arendholz WR, Redenbach M, Wirth R. Non-specific association between filamentous bacteria and fungus-growing ants, *Naturwissenschaften*, 94, 821-828.

Mekem Sonwa M, **Kost C**, Biedermann A, Wegener R, Schulz S, Boland W*. Dehydrogenation of ocimene by active carbon: artefact formation during headspace sampling from leaves of *Phaseolus lunatus*, *Arkivoc*, 3, 164-172.

2006 Heil M*, **Kost C**. Priming in indirect defences, *Ecology Letters*, 9, 813-817.

Leal IR*, Fischer A, **Kost C**, Tabarelli M, Wirth R. Ant protection against herbivores and nectar thieves in *Passiflora coccinea* flowers, *Écoscience*, 13, 431-438.

Kost C*, Heil M. Herbivore-induced plant volatiles induce an indirect defence in neighbouring plants, *Journal of Ecology*, 94, 619-628.

2005 **Kost C***, Heil M. Increased availability of extrafloral nectar reduces herbivory in Lima beans (*Phaseolus lunatus*, Fabaceae), *Basic and Applied Ecology*, 6, 237-248.

Kost C, de Oliveira EG, Knoch TA, Wirth R*. Spatio-temporal permanence and plasticity of foraging trail systems in young and mature leaf-cutting ant colonies (*Atta* spp.), *Journal of Tropical Ecology*, 21, 1-12.

Arimura GI, **Kost C**, Boland W*. Herbivore-induced, indirect plant defences, *Biochimica et Biophysica Acta: Lipids and Lipid Metabolism*, 1734, 91-111.

Other publications (non peer-reviewed)

2021 **Kost C**. Allianz gegen Räuber, *Biospektrum*, 27(3): 279.

2020 **Kost C**. Evolution: Predictable patterns of symbiont cointegration. *Current Biology*, 30 (10), R446-R448.

2016 **Kost C**. Gemeinsam stärker: metabolische Arbeitsteilung bei Bakterien. Deutsche Zeitschrift für klinische Forschung, Innovation und Praxis, 4: 13-17.

2015 Hölscher T, **Kost C**, Kovács ÁT. Einblicke in das Sozialleben von Mikroben. *Biospektrum*, 264-266.

Kost C. Gemeinsam stärker: metabolische Arbeitsteilung bei Bakterien. *Biospektrum*, 592, 592-596.

2006 Schulze B, **Kost C**, Arimura GI, Boland W. Duftstoffe: Die Sprache der Pflanzen - Signalrezeption, Biosynthese und Ökologie, *Chemie in unserer Zeit*, 40, 366-377.

Book chapter

2008 **Kost C**. Chemical Communication, in Jorgensen SE & Fath BD (Eds.), *Encyclopedia of Ecology*, Oxford: Elsevier, 557-575.

Invited talks (national)

Total: 34

*online lecture

2022 Max Planck Institute for Chemical Ecology, Jena, Germany
Max Planck Institute for Evolutionary Biology, Plön, Germany
IMPRS – Max Planck Institute for Chemical Ecology, Jena, Germany
Max Planck Institute for Developmental Biology, Tübingen, Germany

2021 Gutenberg Workshop, Ingelheim, Germany
*SFB/ TRR 51 Roseobacter, University of Oldenburg, Oldenburg, Germany

2019 Institute for Environmental Systems Research, Osnabrück, Germany

2018 University of Mainz, Mainz, Germany
SFB 1127, Jena, Germany

2017 Münster Graduate School of Evolution, Münster, Germany
Irseer Naturstofftage, Dechema, Kloster Irsee, Germany
DGFZ 2017, Jena, Germany
LMU Munich, Munich, Germany
GSC 214: Jena School for Microbial Communication (JSMC), Jena, Germany
2016 Institute for Medical Microbiology, Giessen, Germany
SFB 987, Marburg, Germany
SFB 944, Osnabrück, Germany
SFB 680 Cologne, Germany
2015 IMPRS, Max Planck Institute for Evolutionary Biology, Plön, Germany
GZMB-Kolloquium Mikrobiologie/Strukturbiologie, Göttingen, Germany
Max Planck Institute for Biochemistry, Martinsried, Germany
2014 Max Planck Institute for Marine Microbiology, Bremen, Germany
Christian Albrechts University, Kiel, Germany
Center for Molecular Biology, Ruprecht Karls University, Heidelberg, Germany
LeadNet meeting, Mainz, Germany
2013 Max Planck Institute for Terrestrial Microbiology, Marburg, Germany
Free University, Berlin, Germany
RGT 1708 Workshop, Bad Urach, Germany
2012 Frontiers in Chemical Ecology, Max Planck Institute for Chemical Ecology, Jena, Germany
2011 Max Planck Institute for Chemical Ecology, Jena, Germany
2009 University of Kaiserslautern, Kaiserslautern, Germany
Jena Centre for Bioinformatics JCB, Jena, Germany
Max Planck Institute for Chemical Ecology, Jena, Germany
2007 Jena Centre for Bioinformatics JCB, Jena, Germany

Invited talks (international)

Total: 22

*online lecture

2022 Microbiology Society Focus Meeting, Manchester, UK
Wageningen University and Research, Wageningen, Netherlands
ISME 18, Lausanne, Switzerland
21st European BioEnergetics Conference, Aix-en-Provence, France
*Erato – Fukatsu Evolving Symbiosis Project, Tsukuba, Japan
2021 *Indiana University Bloomington, Bloomington, Indiana, USA
*Netherlands Institute of Ecology (NIOO), Wageningen, Netherlands
*University of Manchester, Manchester, United Kingdom
*Hebrew University of Jerusalem, Jerusalem, Israel
2020 National Center for Biological Sciences, Bangalore, India
Indian Institute of Science (IISC), Bangalore, India
2019 Gordon Research Conference on Microbial Population Biology, Andover, USA
University of Bern, Bern. Switzerland

Division of Microbial Ecology (DOME), University of Vienna, Vienna, Austria

2018 Biofilm meeting, DTU, Copenhagen, Denmark

2015 National Center for Biological Sciences, Bangalore, India

Indian Institute of Science (IISC), Bangalore, India

Gordon Research Conference on Animal-Microbe Symbioses, Waterville Valley, USA

Swiss Microbial Ecology Meeting, Ascona, Switzerland.

2013 NESCent Catalysis Meeting, Durham, USA

2010 ETH Zürich, Zürich, Switzerland

Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Dübendorf, Switzerland

Talks at scientific conferences and workshops (national + international)

Total: 16

2018 Münster Evolution Meeting, Münster, Germany

2015 Annual Conference of the Association for General and Applied Microbiology (VAAM), Marburg, Germany

2014 Volkswagen Foundation Status Symposium, Hannover, Germany

2013 12th Symposium on Bacterial Genetics and Ecology (BAGECO), Ljubljana, Slovenia

Jena Centre for Bioinformatics (JCB) Workshop 2013, Jena, Germany

2011 Volkswagen Status Symposium, Sylt, Germany

2009 12th Congress of the European Society of Evolutionary Biology (ESEB), Turino, Italy

2007 Evolution 2007, Christchurch, New Zealand

2006 International Conference of the Society for Tropical Ecology, Kaiserslautern, Germany

→ Merian award for best talk.

2005 27th Franconian-Middle German Meeting of Natural Product Chemists, Bayreuth, Germany

Multi-trophic Interactions, Göttingen, Germany

Institute of Ecology, Friedrich- Schiller University Jena, Jena, Germany

Kurt-Mothes Workshop, Halle, Germany

2004 Institute of Ecology, Friedrich- Schiller University Jena, Jena, Germany

2003 Institute of Ecology, Friedrich- Schiller University Jena, Jena, Germany

2002 1st International BIOTA-West Workshop, Abidjan, Ivory Coast, West-Africa

2001 International Conference of the Society for Tropical Ecology, Bremen, Germany

→ Merian award for 2nd best talk.

Posters at scientific conferences and workshops (national + international)

Total: 12

2017 Gordon Research Conference on Microbial Population Biology, Andover, USA

2015 Annual Conference of the Association for General and Applied Microbiology (VAAM), Marburg, Germany

2014 SPP1617 International Conference Phenotypic Heterogeneity and Sociobiology of Bacterial Populations, Irsee, Germany

2011 Gordon Research Conference on Microbial Population Biology, Andover, USA

2009 12th Congress of the European Society of Evolutionary Biology (ESEB), Turino, Italy
Gordon Research Conference on Microbial Population Biology, Andover, USA
2007 Gordon Research Conference on Microbial Population Biology, Andover, USA
2005 17. Irseer Naturstofftage der DECHEMA e.V., Irsee, Germany
21st Annual Meeting of the Intern ational Society for Chemical Ecology, Washington, USA
2004 12th Symposium on Insect-Plant Relationships, Berlin, Germany
2003 Munich Science Days: Threads of Life - 50 Years of DNA Double Helix, Munich, Germany
2002 1st International BIOTA-West Workshop, Abidjan, Ivory Coast, West Africa
2001 Annual Status Seminar of BIOLOG - German Programme on Biodiversity and Global Change, Bonn, Germany.
2000 Association for General and Applied Microbiology (VAAM): Biologie bakterieller Naturstoffproduzenten, Bonn, Germany.

7 Scientific service

Work in research community

Since 2021 **Head of the PR team,** School of Biology/ Chemistry, Osnabrück University
Since 2018 **Member of School Executive Board**, School of Biology/ Chemistry, Osnabrück University
Since 2018 **Associate faculty member**, Institute of Environmental Systems Research Osnabrück University, Osnabrück, Germany
2020 **Member of recruitment commission**, W2 Professorship in Environmental Systems Modelling, School of Biology/ Chemistry, Osnabrück University
2019-2022 **Board member**, SFB 944
2019-2022 **Board member**, IRTG-SFB 944
2018-2022 **Speaker** of the UOS-funded international graduate school *EvoCell*
2018-2020 **Member of study commission**, School of Biology/ Chemistry, Osnabrück University
2018 **Member of recruitment commission**, W2 Professorship in Environmental Systems Modelling, School of Biology/ Chemistry, Osnabrück University
2018 **Member of recruitment commission**, W3 Professorship in Animal Physiology, School of Mathematics/Computer Science, Osnabrück University
2017 **Member of recruitment commission**, W3 Professorship in Plant Physiology, School of Biology/ Chemistry, Osnabrück University
2009-2016 **Elected ombudsperson**, MPI for Chemical Ecology, Jena, Germany

Organisation

Since 2011 **Annual Group Retreat** (3d), Kostlab, different locations, Germany
2019 **Retreat** (2d), *EvoCell*, Bohmte, Germany
2018 **Meeting** (1d), *EvoCell* kick-off meeting, Osnabrück, Germany
2018 **Selection of speakers** (3d) , Münster Evolution Meeting, Münster, Germany (with Jürgen Gadau and others)
2017 **Mini-Symposium** (1d), Osnabrück, Germany: *Microbiota* (with Karlheinz Altendorf, Michael Hensel, Sabine Zachgo)

Conference session (1d), ESEB, Groningen, Netherlands: *Major transitions in evolution* (with Abel Bernadou, Boris Kramer, Karen Meusemann, and William Ratcliff)

2016 **Conference session** (1d), VAAM Mini Symposium of the Specialist Group Symbioses, Jena, Germany: *The chemical language of symbiosis* (with Martin Kaltenpoth)

2015 **Conference session** (1d), ESEB, Lausanne, Switzerland: *Groups versus individuals: levels of selection in microbial systems* (with Martin Ackermann)

2013 **Retreat** (3d), Group leaders of the MPI-ICE, Berlin, Germany (with Martin Kaltenpoth)

2012 **Workshop** (1d), MICOM, Jena, Germany: *Are bacteria multicellular organisms?*

2011 **Conference session** (1d), ESEB, Tübingen, Germany: *Mutualistic interactions: causes and consequences* (with Martin Kaltenpoth)

Workshop (1d), MICOM, Jena, Germany: *Bacterial individuality*

Reviewing activities

Journals

Behavioral Ecology (1x)
Biological Journal of the Linnaean Society (1x)
Biosystems (1x)
BMC Evolutionary Biology (2x)
Cell Reports (2x)
Chemoecology (1x)
Communications, Earth & Environment (1x)
Current Biology (4x)
Current Opinion in Microbiology (1x)
Ecological Applications (1x)
Ecological Entomology (1x)
Ecology (1x)
Ecology Letters (6x)
eLife (4x)
Environmental Microbiology Reports (1x)
Evolution (5x)
Evolution Letters (1x)
Frontiers in Microbiology (1x)
GEO kompakt (1x)
Insectes Sociaux (1x)
ISME Communications (1x)
Journal of Applied Entomology (1x)
Journal of Bacteriology (1x)
Journal of Chemical Ecology (4x)
Journal of Ecology (4x)
Journal of Insect Behavior (1x)
Journal of Plant Interactions (1x)

Journal of Plant Growth Regulation (1x)
Microbial Ecology (1x)
Molecular Biology and Evolution (1x)
Molecular Ecology (1x)
mSystems (1x)
Natural Computing (1x)
Nature (1x)
Nature Communications (4x)
Nature Ecology & Evolution (4x)
Nature Microbiology (3x)
New Phytologist (1x)
Oecologia (1x)
PLoS Biology (3x)
PLoS Genetics (1x)
PLoS ONE (2x)
Proceedings of the National Academy of Sciences of the United States of America (2x)
Proceedings of the Royal Society B: Biological Sciences (1x)
Scientific Reports (2x)
The ISME Journal (7x)
The Open Plant Science Journal (1x)

Funding bodies

Academia Sinica (1x)
L'Agence nationale de la recherché (1x)
Alexander von Humboldt Foundation (1x)
Balance of the Microverse (2x)
Czech Science Foundation (2x)
Daimler Benz Stiftung (1x)
Danish National Research Foundation (1x)
Deutsche Forschungsgemeinschaft (2x)
European Research Council (1x)
Human Frontier Science Program (1x)
International Society for Chemical Ecology (1x)
Israel Science Foundation (1x)
Klaus Tschira Foundation (1x)
Maurice & Phyllis Paykel Trust (1x)
Max Planck Society (4x)
National Science Foundation (2x)
Natural Environment Research Council (1x)
NER Indian Chemical Ecology (1x)
Netherlands Organisation for Scientific Research (1x)

New Zealand Foundation for Research, Science, and Technology (2x)
Royal Society of New Zealand - Marsden Fund (1x)
Sigma Delta Epsilon – Graduate Women in Science (2x)
Studienstiftung des Deutschen Volkes (1x)
Swiss National Science Foundation (2x)
United States – Israel Binational Science Foundation (BSF) (1x)
Wellcome Trust/DBT India Alliance (1x)

Institutes
Eidgenössische Technische Hochschule Zürich, Switzerland (1x)
Friedrich Schiller University Jena, Germany, for a W2 professorship (1x)
Friedrich Schiller University Jena, Germany, for a junior group leader position (1x)
National Centre for Biological Sciences, India (3x)
University of Mainz, Germany (1x)

Editorial activities

Guest editor eLife (1x)

Examinations

External examiner of doctoral thesis
Paul Herrera, University of Vienna, Austria
Marek Johannes Deckena, Osnabrück University, Germany
Dibyendu Dutta Rollno, Indian Institute of Technology, Bombay, India

Board of examiners for doctoral thesis
Laura Victoria Florez Patino, FSU Jena, Jena, Germany
Shashank Dadsena, Osnabrück University, Germany
Irina Vortkamp, Osnabrück University, Germany
Tatjana Reuter, Osnabrück University, Germany
Jennifer Röder, Osnabrück University, Germany
Laura Elpers née Klein, Osnabrück University, Germany
Tatjana Reuter, Osnabrück University, Germany
Janina Noster, Osnabrück University, Germany
Marc Schulte, Osnabrück University, Germany
Stefanie Hoffmann, Osnabrück University, Germany

8 Pedagogical credential

Teaching activities (PhD/ postdocs)

2022 **Lecture**: *The role of membranes for the origin of life*, Summer School "Molecular & Cellular Membrane Biology", Osnabrück University, Germany, 2h.

2020 **Basic lecture course**: *Practical statistics*, PhD students of the IRTG, SFB 944, Osnabrück University, Germany, 2 x 2 h.

2019 **Lecture**: *The role of membranes for the origin of life*, Summer School "Molecular & Cellular Membrane Biology", Osnabrück University, Germany, 2h.

2017 **Lecture**: *The role of membranes for the origin of life*, Summer School "Molecular & Cellular Membrane Biology", Osnabrück University, Germany, 2h.

2014 **Block course** for PhD students: *Ecological interactions and evolutionary game theory*, JSMC, Friedrich-Schiller-University Jena, Germany, 1 week (with Stefan Schuster).

2013 **Basic lecture course**: *Practical statistics*, MPI ICE, Jena, Germany, 2 h.

Basic lecture course: *Ecological interactions in structured environments*, IMPRS, MPI ICE Jena, Germany, 2 h.

2012 **Invited guest lecture**: *Microorganisms as model systems in chemical ecology*, Frontiers in Chemical Ecology, MPI ICE, Jena, Germany, 2 h.

Basic lecture course: *Experimental evolution*, IMPRS, MPI ICE, Jena Germany, 2 h.

2011 **Basic lecture course**: Good scientific practice, MPI ICE, Jena, Germany, 2 h.

Basic lecture course: *Practical statistics*, MPI Jena.

2010 **Block course** for PhD students: *Ecological interactions and evolutionary game theory*, JSMC, Friedrich-Schiller-University Jena, Germany, 1 week (with Stefan Schuster).

2006 **Basic lecture course**: *Practical statistics*, MPI ICE, Jena, Germany, 2 h.

2005 **Basic lecture course**: Practical statistics, MPI ICE, Jena, Germany, 2 h.

Teaching activities (Master students)

Since 2017 **Master module**: *Experimental Ecology and Evolution* (includes lecture series, seminar, and practical course), Osnabrück University, Germany,
9 semester periods per week, winter semester.

2010-2016 **Master module**: *Chemical Ecology* (included lecture series, seminar, and practical course), Friedrich-Schiller-University Jena, Germany,
4 semester periods per week, winter semester.

2005 **Short course**: *Field ecology*, Friedrich-Schiller-University Jena, Germany, 1 week.

Teaching activities (Bachelor students)

Since 2017 **Extension module**: *Fundamental principles in ecology and evolution* (includes lecture series, seminar, and practical course), Osnabrück University, Germany,
9 semester periods per week, summer semester.

Basic module: Ecology (includes lecture series and practical course), 1.7 semester periods per week, summer semester.

Mentoring meeting, First semester students, Osnabrück University, Germany, 3 x 1 h, winter semester.

2002 **Advanced field course: Experimental animal ecology**, Ivory Coast, Julius-Maximilians-Universität of Würzburg, 3 month.

Teaching activities (Pupils, kindergarteners)

2005-2006 **Project assignment**, Friedrich Schiller Gymnasium, Eisenberg, 15 month.

2005 **Guided tour**: *Chemical Ecology and plant-insect interactions*, group of kindergartners, MPI ICE, Germany, 3 h.

Hosting of postdoctoral researchers

Total: 4

Since 2017	Dr. Lenardo Oña	(from Argentina)
2017-2021	Dr. Silvia Kost	(from Germany)
2017	Dr. Chong Becker	(from China)
2016-2020	Dr. Piyali Pal Chowdhury	(from India)

Supervision of doctoral researchers

Total: 18

Since 2021	**Sharvari Harshe**
Since 2021	**Swagatika Dash**
Since 2020	**Benedikt Pauli**
Since 2019	**Shiksha Ajmera**
Since 2019	**Saskia Wilmsen**
Since 2018	**Linea Muhal**
Since 2015	**Ghada Yousif**
2018-2022	**André Bogdanowski** (Co-supervision with Prof. Dr. Karin Frank) PhD Thesis: "Individual-based modelling of microbial systems under consideration of consumer-resource interactions and evolution" *>>Summa cum Laude<<*
2015-2021	**Samir Giri** PhD Thesis: "Ecological and evolutionary drivers of metabolic cross-feeding" *>>Summa cum Laude<<*
2013-2020	**Anne-Kathrin Dietel** PhD Thesis: "Identifying the molecular causes for the commonly observed AT-bias in endosymbiont genomes" *>>Summa cum Laude<<*
2013-2020	**Daniel Preußger** PhD Thesis: "The evolution of metabolic cooperation in bacterial communities – causes and consequences" *>>Magna cum Laude<<*
2013-2017	**Shraddha Shitut** PhD Thesis: "Mechanistic and metabolic basis of bacterial cross-feeding" *>>Summa cum Laude<<*
2012-2016	**Silvio Waschina** (Co-supervision with Dr. Christoph Kaleta) PhD Thesis: "Evolutionary systems biology of bacterial metabolic adaptation" *>>Summa cum Laude<<*
2011-2016	**Glen D'Souza** PhD Thesis: "The evolution of metabolic dependency in bacteria" *>>Magna cum Laude<<*
2010-2015	**Sailendharan Sudakaran** (Co-supervision with Dr. Martin Kaltenpoth) PhD thesis: "Evolution of mutualistic microbiome in firebugs and cotton stainers (Hemiptera; Pyrrhocoridae) *>>Magna cum Laude<<*

2010-2014	**Samay Pande** PhD Thesis: "Ecological mechanisms that stabilize cooperative cross-feeding interactions in bacteria" *>>Summa cum Laude<<*
2009-2014	**Katrin Bohl** (Co-supervision with Prof. Dr. Stefan Schuster) PhD thesis: "Modelling cooperative cross-feeding among bacteria" *>>Summa cum Laude<<*
2006-2010	**Radhika Venkatesan** (Co-supervision with Prof. Dr. Wilhelm Boland) Regulation of nectar secretion and volatile emission in plants by jasmonates *>>Summa cum Laude<<*

Supervision of diploma/ master students

Total: 26

Since 2021	Jenna Boy (Osnabrück University, Germany)
Since 2020	Andreas Messer (Osnabrück University, Germany)
Since 2020	Michael Itermann (Osnabrück University, Germany)
2018-2021	Thomas Schulzendorf (Osnabrück University, Germany)
2018-2020	Jan-Paul Fischer (Osnabrück University, Germany)
2019	Pascal Brameier-Weuda (Osnabrück University, Germany)
2019	Benedikt Pauli (Osnabrück University, Germany)
2019	Iqra Rafik Kasu (from Sastra University, India, Osnabrück University, Germany)
2018	Nadja Raifarth (Osnabrück University, Germany)
2016	Ramona Buchheit (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2015-2017	Esther Voigt (FSU Jena, Germany)
2015-2016	Muhammad Atiqur Rahman (University of Tampere, Finland)
2014-2015	Ariane Zander (FSU Jena, Germany)
2014-2015	Elena Inguglia (FSU Jena, Germany)
2014-2015 -	Daniela Marenco (TU Kaiserslautern, Germany, cosupervision with Dr. R. Wirth)
2013-2014	Theresa Thiele (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2012	Anja Lück (FSU Jena, Germany, co-supervision with Prof. Dr. Stefan Schuster)
2011-2012	Daniel Preußger (FSU Jena, Germany)
2011-2012	Silvio Waschina (FSU Jena, Germany, co-supervision with Prof. Dr. C. Kaleta)
2011-2012	Anne-Kathrin Dietel (FSU Jena, Germany, co-supervision with Dr. M. Kaltenpoth)
2011-2012	Nicole Bischof (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2010-2011	Sandra Scholz (FSU Jena, Germany)
2010	Felix Bertels (FH Jena, Germany)
2010	Joerg Stephan (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2008	Martin Tremmel (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2007	Jan Aigner (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)

Supervision of bachelor students

Total: 17

Since 2022	Nikolas Westerwiede Barros (Osnabrück University, Germany)
Since 2022	Brian Gaertner (Osnabrück University, Germany)
2021-2022	Lefkothea Karamani (Osnabrück University, Germany)
2021	Anna-Lena Otto (Osnabrück University, Germany)
2020-2021	Wyn Pflug (Osnabrück University, Germany)
2020	Neele Avermann (Osnabrück University, Germany)
2020	Anna Milchin (Osnabrück University, Germany)
2019	Franziska Theising (Osnabrück University, Germany)
2018-2019	Alexander Pfaff (Osnabrück University, Germany)
2018	Ananya N. Srinivasa (from Sastra University, India, Osnabrück University, Germany)
2018	Caroline Rolfes (Osnabrück University, Germany)
2016	Ramya Ganesan (from Sastra University, India, Osnabrück University, Germany)
2013	Lisa Freund (FSU Jena, Germany)
2013	Linda Rothenburger (FSU Jena) , Germany
2013	Florian Rötz (FSU Jena, Germany)
2011	Theresa Thiele (TU Kaiserslautern, Germany, co-supervision with Dr. R. Wirth)
2011	Tobias Weise (FH Jena, Germany)

Supervision of project and internship students

Total: 25

2022	**Project work**, Ilkem Yaman (Osnabrück University, Germany), 6 weeks.
2022	**Project work**, Lena Germann (Osnabrück University, Germany), 6 weeks.
2022	**Project work**, Lea Schäpermeier (Osnabrück University, Germany), 6 weeks.
2022	**Project work**, Lea Hinrichs (Osnabrück University, Germany), 6 weeks.
2021-2022	**Internship**, Aditi Shekhar (from IISER Mohali, India), remote supervision, 7 month.
2021	**Internship**, Sonja Türpitz (from FSU Jena, Osnabrück University, Germany), 6 weeks.
2021	**Project work**, Celina Dohmen (Osnabrück University, Germany), 6 weeks.
2021	**Project work**, Alina-Sophie Klix (Osnabrück University, Germany), 6 weeks.
2021	**Project work**, Alexandra Abromeit (Osnabrück University, Germany), 6 weeks.
2021	**Internship**, Jolie-Celine Barthold, (Osnabrück University, Germany), 2 xweeks.
2020	**Internship**, Joachim Fischer, (Osnabrück University, Germany), 2 weeks.
2020	**Project work**, Ann-Marie Tobinski (Osnabrück University, Germany), 6 weeks.
2020	**Project work**, Michael Itermann (Osnabrück University, Germany), 6 weeks.
2016	**Internship**, Ramya Ganesan (from Sastra University, India, MPI ICE, Jena, Germany) 6 month.
2014	**Internship**, Tina Schiklang (MPI ICE, Jena, Germany) 9 weeks.
2013	**Internship**, Janet Grabengiesser (MPI ICE, Jena, Germany) 12 weeks.

2012	**Microbiological laboratory module for bachelor students**, Linda Rothenburger (Friedrich-Schiller-University Jena, Germany) 3 weeks.
	Microbiological laboratory module for bachelor students, Lisa Freund (Friedrich-Schiller-University Jena, Germany) 3 weeks.
	Internship, Robin Bubholz (MPI ICE, Jena, Germany) 4 weeks.
2011	**Internship**, Jasmin Herden (MPI ICE, Jena, Germany) 1 week.
2010	**Internship**, Ingrid Teich (MPI ICE, Jena, Germany) 4 month.
2009	**Cell biological practical**, Carsten Dornblut (from University of Applied Sciences Jena, MPI ICE, Jena, Germany) 4 weeks.
2005-2006	**Project assigmnent**, Jens Burckhardt (from Friedrich Schiller Gymnasium, Eisenberg, MPI ICE, Jena, Germany) 15 month.
2005-2006	**Project assigmnent**, Henri Busch (from Friedrich Schiller Gymnasium, Eisenberg, MPI ICE, Jena, Germany) 15 month.
2002	**Advanced field course: Experimental animal ecology (Ivory Coast)**, Stefan Otto (Julius-Maximilians-Universität of Würzburg) 3 month.
2002	**Advanced field course: Experimental animal ecology (Ivory Coast)**, Petra Eschler (Julius-Maximilians-Universität of Würzburg) 3 month.
2002	**Advanced field course: Experimental animal ecology (Ivory Coast)**, Jochen Fründ (Julius-Maximilians-Universität of Würzburg) 3 month.

Careers of previous lab members

Doctoral researchers

Name	Time in lab	Presently
André Bogdanowski	2018-2022	**Postdoctoral researcher,** Helmholtz-Centre for Environmental Research UFZ
Samir Giri	2015-2021	**Postdoctoral researcher**, EMBL, Heidelberg, Germany
Anne-Kathrin Dietel	2013-2020	**Postdoctoral researcher**, Leibniz Institute for Photonic Technologies, Jena, Germany
Daniel Preußger	2013-2020	**Postdoctoral researcher**, Friedrich-Loeffler-Institute, Jena, Germany
Shraddha Shitut	2013-2017	**Postdoctoral researcher**, EMBL, Heidelberg, Germany
Silvio Waschina	2012-2016	**Junior Professor**, University of Kiel, Kiel, Germany
Glen D'Souza	2011-2016	**Postdoctoral researcher**, ETH-Zürich / EAWAG, Zürich, Switzerland
Sailendharan Sudakaran	2010-2015	**Multi Omics Hub Coordinator**, Wisconsin Institute of Discovery, Madison, USA
Samay Pande	2010-2014	**Assistant professor**, IISC, Bangalore, India
Katrin Bohl	2009-2014	**Postdoctoral researcher,** University Hospital Cologne, Cologne, Germany
Radhika Venkatesan	2006-2010	**Assistant Professor**, IISER Kolkata, Kolkata, India