

CURRICULUM VITAE NICOLE DUBILIER

Address

Max-Planck-Institute for Marine Microbiology (MPI-MM)
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Academic Training

1985	University of Hamburg	Zoology, Biochemistry, Microbiology	Diplom
1992	University of Hamburg	Marine Biology	PhD

Dissertation Title: Adaptations of the Marine Oligochaete *Tubificoides benedii* to Sulfide-rich Sediments: Results from Ecophysiological and Morphological Studies.

Current Position

Director of the Max Planck Institute for Marine Microbiology (MPI-MM)
Head of the Symbiosis Department at the MPI-MM (W3 position)
Professor for Microbial Symbiosis at the University of Bremen, Germany

Academic Positions

Since 2013 Director of the Symbiosis Department at the MPI-MM (W3 position)
Since 2012 Professor for Microbial Symbiosis at the University of Bremen, Germany
Since 2012 Affiliate Professor at MARUM, University of Bremen
2007 - 2013 Head of the Symbiosis Group at the MPI-MM (W2 position)
2002 - 2006 Coordinator of the International Max Planck Research School of Marine Microbiology
2004 - 2005 Invited Visiting Professor at the University of Pierre and Marie Curie, Paris, France (2 months)
2001 - 2006 Research Associate in the Department of Molecular Ecology at the MPI-MM
1998 - 2001 Postdoctoral Fellow at the MPI-MM in the DFG Project: "Evolution of symbioses between chemoautotrophic bacteria and gutless marine worms"
1997 Parental leave
1995 - 1996 Research Assistant at the University of Hamburg in the BMBF project: "Hydrothermal fluid development and material balance in the North Fiji Basin"
1993 - 1995 Postdoctoral Fellow in the laboratory of Dr. Colleen Cavanaugh, Harvard University, MA, USA in the NSF project "Biogeography of chemoautotrophic symbioses in marine oligochaetes"
1990 - 1993 Research Assistant at the University of Hamburg in the EU project 0044: Sulphide- and methane-based ecosystems.

Major Research Interests

Symbioses between invertebrates and bacteria
Biodiversity, ecology and evolution of marine symbioses
Marine molecular ecology

Awards and Honors (selected examples last 10 years)

Excellence Professor Award of the Petersen Foundation, 2020
President of the International Society of Microbial Ecology, since 2020
Plymouth Marine Science Medal Lecture, 2019
Elected member of EMBO (European Molecular Biology Organization), 2018
Elected member of Leopoldina, the German National Academy of Science, 2015
Elected member of the European Academy of Microbiology, 2015
Leibniz Prize of the German Research Foundation (DFG), 2014 (highest German research prize)
European Research Council (ERC) Advanced Grant, 2013
Investigator Award of the Gordon and Betty Moore Foundation Marine Microbiology Initiative, 2013
Elected Fellow of the American Academy of Microbiology, elected in 2013
Chair (2016-2017) and Vice-Chair (2014-2015) of the American Society of Microbiology General Meetings / ASM Microbe
Chair of first Gordon Research Conference Animal-Microbe Symbioses, June 2015
Opening Keynote Speaker, 2014 Keystone Symposium 'Mechanisms and Consequences of Invertebrate – Microbe Interactions'
Opening Keynote Speaker, 2013 BAGECO (12th Symposium on Bacterial Genetics and Ecology)
Divisional Lecturer (Division I), 2013 American Society of Microbiology General Meeting
Opening Plenary Lecturer, 2010 American Society of Microbiology General Meeting

Commissions of Trust (selected examples)

Scientific Advisory Board of the Mediterranean Institute for Advanced Studies (IMEDEA) (since 2021)
Scientific Council of the Stazione Zoologica Anton Dohrn Napoli (since 2020)
Board of Governors of GEOMAR, Helmholtz Centre of Ocean Research, Kiel (since 2018)
Selection Committee Alexander von Humboldt Professorships (since 2018)
Executive Board of International Society of Microbiology (since 2018)
Panel member European Research Council Starting Grants (2018), Consolidator Grants (2021-2022)
Vice Spokesperson and Steering Committee of the DFG Cluster of Excellence 'The Ocean Floor' (since 2018)
Board of Haus der Wissenschaft, Bremen (since 2017)
Advisory Committee of the Hamburg Ministry for Science and Research Council for MINT subjects (2016 - 2018)
Evaluation Committee of Royal Netherlands Institute for Sea Research (NIOZ) (2017)
Chair / Vice-Chair of the American Society of Microbiology General Meeting (2014-2017)
Mentoring for early career female scientists: University of Bremen "plan m Mentoring in Science" (since 2018), Karlsruhe Institute of Technology XMENT (since 2020), University of Greifswald KarriereWegeMentoring (2017), Robert Bosch Foundation FastTrack program (2016), University of Kiel Via:Mento_Ocean (2015, 2021)
Steering Committee of the Symposium of Aquatic Microbial Ecology (SAME) (2012-2018)
Steering Committee of International Cooperation in Ridge-Crest Studies (InterRidge) (2005-2012)
Chair of the Biology Working Group in InterRidge (2005 – 2007)

Steering Committee of Census of Marine Life Project ChEss (Biogeography of Deep-Water Chemosynthetic Ecosystems) (2006-2010)
Steering Committee of European Census of Marine Life Regional Group (2006 - 2008)
Councilor of the International Symbiosis Society (2003-2009)

Commissions of Trust in the Max Planck Society (selected examples)

Max Planck Presidential Committee 'Governance' (since 2021)
Max Planck Alumni Association (since 2021)
Max Planck Presidential Committee 'Tenure Track' (since 2020)
Max Planck Senate Committee 'Leadership Review' (since 2020)
Max Planck Society selection committees for the President, General Secretary, Directors and Research Group Leaders (since 2014)
Max Planck Presidential Committee "Equal Opportunities" (2016-2020)
Max Planck Presidential Committee "Junior Scientists" (2014-2017)
Max Planck Biological-Medical Section Perspectives Committee (since 2020)
Max Planck Biological-Medical Section Selection Committee for Max Planck Research Group Leaders (since 2015)
Max Planck Biological-Medical Section Selection Committee for Lise Meitner Group Leaders (since 2018)

Awards / Stipends

2020 Excellence Professor Award of the Petersen Foundation, Germany
2019 Plymouth Marine Science Medal Lecture, UK
2014 Leibniz Prize of the German Research Foundation (DFG)
2013 European Research Council (ERC) Advanced Grant Award
2013 Investigator Award of the Gordon and Betty Moore Foundation Marine Microbiology Initiative
Since 2010 Awards for Teaching in the MSc Lecture Series of MarMic (International Max Planck Research School for Marine Microbiology)
2009 Gordon Research Conference (GRC) "Hall of Fame" for performance as Chair of the GRC for Applied and Environmental Microbiology in July 2009 (conference ranked in top 10% of all GRC meetings in 2009)
1998 Best talk award at the European Marine Biological Symposium, Wilhelmshaven, Germany. "Bacterial symbioses in gutless marine oligochaetes from sulfide-rich, coral reef sediments".
1989: Annual research bursar of the Marine Biological Association of the U.K., in the laboratory of Dr. Paul Dando; Research: Calvin-Benson cycle enzyme activities in ectosymbionts of the marine oligochaete *Tubificoides benedii*.
1987: NASA Planetary Biology Intern in Laboratory of Dr. Steve Goodwin; Dept. of Microbiology; University of Massachusetts, Amherst; Research: Sulfate-reducing bacteria in an acid bog.
1986: 2 year Ph.D. scholarship from the University of Hamburg

Awards for students and postdocs while members of my lab

2021 PhD student Benedikt Geier: Otto Hahn Medal of the Max Planck Society
2019 PhD student Benedikt Geier: Best Student Presentation Award at the 35th International Society for Chemical Ecology Annual Meeting

- 2019 PhD student Merle Ücker: Prize for best talk at the 24th Graduate Meeting on Evolutionary Biology of the German Zoological Society; Prize for best talk at the Graduate Meeting 'Hybridization' of the German Zoological Society
- 2019 PhD students Benedikt Geier, Maximillian Franke and Målin Tietjen win 1st, 2nd and 3rd poster prizes at the International Max Planck Research School for Marine Microbiology annual retreat
- 2019 PhD student Miguel Angel Gonzalez Porras 1st prize for best talk at the International Max Planck Research School for Marine Microbiology annual retreat
- 2018 PhD student Benedikt Geier: Mass Spectrometry Imaging Award at OurCon VI for best manuscript (<https://www.imabiotech.com/mass-spectrometry-imaging-awards/>)
- 2018 Postdoc Emilia Sogin: Tom Brock Award for best postdoctoral presentation at the 17th International Society for Microbial Ecology Symposium
- 2018 PhD student Maximillian Franke: Best Poster Prize at the 2nd Max Planck PhD Conference for Environmental Microbiology (It MaTer(s))
- 2015 MSc student Miguel Angel Gonzalez Porras: Prize for best thesis defense of class in (International MSc in Marine Biodiversity and Conservation)
- 2014 PhD student Adrien Assié: Poster prize at the Young Researchers in Life Sciences Conference, May 2014 in Paris
- 2014 Postdoc Manuel Kleiner: Friedrich Hirzebruch Prize of the Studienstiftung des deutschen Volkes (German National Academic Foundation)
- 2013 Postdoc Jillian Petersen: Lindeman Award from the American Society for Limnology and Oceanography
- 2011 Postdoc Jillian Petersen: Wolf Vishniac Award for Young Investigators from the International Society for Environmental Biogeochemistry
- 2011 PhD student Dennis Fink: First prize in regional FameLab competition
- 2011 PhD student Dennis Fink: First prize in PodCampus competition 2011
- 2009 PhD student Dennis Fink: Best Student Poster Award at the 4th International Symposium on Chemosynthesis-based Ecosystems
- 2009 PhD student Manuel Kleiner: Poster Award at the Gordon Research Conference for Applied and Environmental Microbiology
- 2007 PhD student Jillian Struck Petersen: Best Student Poster Award at the InterRidge Theoretical Institute for Biogeochemical Interactions at Deep-Sea Vents
- 2007 PhD student Jillian Struck Petersen: Poster Award at the Gordon Research Conference for Applied and Environmental Microbiology
- 2006 PhD student Anna Blazejak: Poster Award at the International Society for Microbial Ecology Meeting
- 2005 PhD student Frank Zielinski: Outstanding Student Paper Award at the American Geophysical Union Fall Meeting
- 2001 PhD student Caroline Muelders: Poster Award at the International Society for Microbial Ecology Meeting

Scientific memberships

- AcademiaNet (elected in 2010)
- American Academy of Microbiology (elected Fellow in 2013)
- American Society of Microbiology
- European Academy of Microbiology (elected Fellow in 2015)
- German Association for General and Applied Microbiology (VAAM)
- Leopoldina, German National Academy of Sciences (elected in 2015)

Invited and Plenary Lectures (selected examples last five years)

Cancellation of most invited/plenary lectures since 3/20 due to COVID-19

- 09/21 Invited speaker at Life Sciences Across the Globe, virtual seminar series of eight life science institutes (EMBL, Janelia, CSHL, etc.)
- 07/21 Plenary speaker at the International Society of Microbial Ecology Latin America virtual meeting
- 11/20 Keynote speaker at the New Zealand Microbiological Society meeting (virtual)
- 08/20 Keynote Speaker at Cold Spring Harbor Laboratory Microbiome meeting (virtual)
- 02/20 Invited Speaker at EMBL, Heidelberg Planetary Biology Seminar Series
- 11/19 Opening Speaker at the 35th Annual Perspectives in Biology Symposium, Wake Forest University, USA
- 11/19 Plymouth Marine Medal Lecture, University of Plymouth, UK
- 06/19 Invited discussion leader at the Gordon Research Conference 'Animal-Microbe Symbiosis', USA
- 02/19 Invited speaker at the CMI International Microbiome Meeting, UCSC, San Diego, USA
- 02/19 Plenary speaker at the Microbes in Norwich Meeting, Norwich UK
- 01/19 Opening Keynote Speaker at the 7th Swiss Microbial Ecology Meeting, Lausanne, Switzerland
- 08/18 Invited Convener/speaker at the 17th International Society for Microbial Ecology Symposium, Leipzig, Germany
- 06/18 Keynote speaker at the Gordon Research Seminar Marine Microbes, Lucca, Italy
- 12/17 Invited speaker at the Memorial Symposium for the 33rd International Prize of Biology (Field: Marine Biology), Tokyo, Japan (as 1 of only 10 invited international researchers, shortlisted for prize)
- 11/17 Invited speaker at the Company of Biologists workshop "Symbiosis in the microbial world", West Sussex, UK
- 08/17 Keynote Speaker at the European Society of Evolutionary Biology, Groningen, Holland
- 07/17 Invited Speaker at the Gordon Research Conference 'Animal-Microbe Symbiosis', USA
- 06/07 Invited Speaker at EMBO / EMBL Symposium 'New Approaches and Concepts in Microbiology', Heidelberg
- 04/17 Distinguished Lecturer in Life Sciences, University of Pennsylvania, Huck Institute
- 03/17 Invited speaker at the Institute of Biology Paris-Seine International Symposium 'Symbiosis in evolution, biology and human health', Paris
- 09/16 Plenary speaker at the German Society for Zoology meeting, Kiel
- 08/16 Invited speaker at the International Society of Microbial Ecology (ISME) meeting, Montreal

Field experience

- 2016 RV Meteor with ROV Quest (M126). Hydrothermal vents on the Mid-Atlantic Ridge between 13° - 15° N (5 weeks). Chief scientist.
- 2014 RV Nautilus with ROV Hercules. Gulf of Mexico (5 days). Principle Investigator (PI): Symbioses in mussels from cold seeps.
- 2011 RV Sonne with ROV Quest (SO216). Manus Basin, West Pacific (5 weeks). PI: Hydrothermal vent symbioses

- 2010 RV Meteor with ROV Quest (M82/3). Northern Mid-Atlantic Ridge (37°N, Menez Gwen hydrothermal vent) (5 weeks). Chief scientist
- 2009 RV Maria S. Merian with ROV Kiel 6000 (MSM10/3). Northern Mid-Atlantic Ridge (15° N, Logatchev hydrothermal vent) (5 weeks). Chief scientist.
- 2008 R/V L'Atalante with ROV Kiel 6000 (replacement of cruise MSM06/2). Hydrothermal vents on the southern Mid-Atlantic Ridge (4-11°S) (5 weeks). PI: Hydrothermal vent symbioses.
- 2006 R/V Meteor with ROV Quest (M68/1). Hydrothermal vents on the southern Mid-Atlantic Ridge (4-11° S) (5 weeks). PI: Hydrothermal vent symbioses.
- 2005 R/V Meteor with ROV Quest (M64/2). Northern Mid-Atlantic Ridge (15° N, Logatchev hydrothermal vent) (5 weeks). PI: Hydrothermal vent symbioses.
- 2002 Institute for Marine Sciences (HYDRA) on Elba, Italy. PI: Ecology of oligochaete symbioses.
- 1999 Caribbean Marine Research Center on Lee Stocking Island, The Bahamas. PI: Collection of gutless oligochaetes.
- 1994 Lizard Island und Heron Island Research Station, Australia. PI: Collection of gutless oligochaetes.
- 1993 Field station of the Smithsonian Institute on Carrie Bow Cay, Belize. PI: Collection of gutless oligochaetes.
- 1992 Bermuda Natural History Museum, Bermuda. PI: Collection of gutless oligochaetes.
- 1988 R/V Challenger. Continental shelf in the Gulf of Biscaya. Symbioses in tube worms.

Funding for Research and Cruises

- 2019-2025 MARUM Cluster of Excellence "The Ocean Floor – Earth's Uncharted Interface" (funded by the German Research Foundation). 3 PhD students, consumables, travel, etc.
- 2016-2019 DFG (Germany Research Foundation) Collaborative Research Center "Origin and Function of Metaorganisms". 1 PhD student
- 2014-2021 Leibniz Prize of the German Research Foundation (2.5 M for 7 years)
- 2014-2019 European Research Council Advanced Grant (2.5 M€ for 5 years)
- 2013-2019 Gordon and Betty Moore Foundation Marine Microbial Initiative Investigator Award (~ US\$ 2M for 5 years)
- 2012-2018 MARUM Cluster of Excellence "The Ocean in the Earth System" (funded by the German Research Foundation): Geosphere – Biosphere Interactions. 1 Postdoc, 1 PhD student, consumables, travel, etc.
- 2012-2014 EU Marie Curie Intra-European Fellowship for Dr. Harald Gruber. Title: Evolution and ecophysiology of *Cand. Riegeria galateiae* - the thiotrophic alphaproteobacterial symbiont in *Paracatenula galateia* flatworms. 1 Postdoc, consumables, travel, etc.
- 2011 Community Sequencing Program of the DOE Joint Genome Institute (USA) "Understanding novel pathways for energy and carbon use in bacterial symbionts of gutless marine worms" for the sequencing of 20 symbiont genomes from gutless marine oligochaetes.
- 2010-2014 EU Marie Curie Initial Training Network Symbiomics: Molecular ecology and evolution of bacterial symbionts. Coordinator. 14 PhD and 1 Postdoc position for all partners, consumables, travel, management, etc.
- 2010 Research cruise with the RV Meteor to the Menez Gwen hydrothermal vent field on the Mid-Atlantic Ridge, with ROV Quest (Marum)

- 2010 Research cruise with the RV Poseidon to the Menez Gwen hydrothermal vent field on the Mid-Atlantic Ridge, with ROV Cherokee and AUV Bremen (Marum)
- 2007-2012 MARUM Cluster of Excellence "The Ocean in the Earth System" (funded by the German Research Foundation): Geosphere – Biosphere Interactions. 1 Postdoc, consumables, travel, etc.
- 2003-2009 RIDGE Priority Program of the German Research Foundation: Geobiological coupling between hydrothermal vent fluids and symbiotic primary producers at spreading axes. 1 PhD student, 1 technician, consumables, travel, etc.
- 2009 Research cruise with the RV Merian to the Logatchev hydrothermal vent field on the Mid-Atlantic Ridge with ROV and AUV (SPP 1144 cruise).
- 2009 Genoscope, France: Metagenomic analysis of mussel symbionts.
- 2005-2009 EU Marie Curie Early Stage Training in Marine Microbiology (MarMic). 1 PhD student, consumables, travel, etc.
- 2004-2008 EU Marie Curie Research Training Network MOMARNET: Monitoring deep sea floor hydrothermal environments on the Mid-Atlantic Ridge. 1 PhD student, consumables, travel, etc.
- 2004-2006 EU Marie Curie Intra-European Fellowship for Dr. Florence Pradillon. Title: Larvae In Situ Tracking: detection and identification of early-life-stages of marine organisms using in situ hybridisation with oligonucleotide probes. 1 Postdoc, consumables, travel, etc.
- 2005 Community Sequencing Program of the DOE Joint Genome Institute (USA): Metagenomic analysis of bacterial symbionts in a gutless marine oligochaete.

Outreach and media activities (selected examples, most activities since 2020 canceled due to the pandemic)

- Urania Berlin, 'Charme ohne Darm', July 2021, <https://www.urania.de/charme-ohne-darm>
 ASM 'Women in Microbiology' book, <https://www.asmscience.org/content/book/10.1128/9781555819545.chap7>
- Radio Deutschlandfunk, April 2019, Zwischentöne, 1.5 hour interview, https://www.deutschlandfunk.de/musik-und-fragen-zur-person-die-meeresbiologin-nicole.1782.de.html?dram:article_id=442972
- Elbphilharmonie 'Music & Science' talk, with Hamburg Philharmonic State Orchestra, February 2018 (<https://www.elbphilharmonie.de/en/whats-on/hamburg-philharmonic-state-orchestra-musik-und-wissenschaft-music-science/9188>)
- TV 3SAT 'Scobel', studio guest, February 2018 (<http://www.3sat.de/page/?source=/scobel/sendungen/196136/index.html>)
- Ocean Day at the University of Bremen. I founded this annual outreach event by marine researchers for Bremen high-school students (since 2018)
- TV ARD 'W wie Wissen', April 2017 (<http://www.daserste.de/information/wissen-kultur/w-wie-wissen/supermuschel-100.html>)
- Video blog from research expedition with RV Meteor with ROV Quest (M126). Hydrothermal vents on the Mid-Atlantic Ridge between 13° - 15° N (5 weeks). Chief scientist. (http://www.mpi-bremen.de/en/Research_cruise_visits_deep-sea_hot_vents_6.html)
- Invited talk and round table discussion at Max Planck Society Länderforum in Bremen, October 2016
- Comment piece for Nature: Dubilier N, McFall-Ngai M, Zhao L. 2015. Create a global microbiome effort. Nature 526: 631-634
- TheScientist, Profile of research career, 2015 (<http://www.the-scientist.com/?articles.view/articleNo/43337/title/Sold-on-Symbiosis/>)
- 6th Science Slam Bremen, guest speaker, October 2015. (<https://www.youtube.com/watch?v=ppW4CzvRFGA>)

- TV ARD alpha 'Campus Talks', July 2015 (<http://www.br.de/fernsehen/ard-alpha/sendungen/campus-talks/campus-talks-dubilier-102.html>)
- TV ARD 'Planet Wissen' one hour live interview, 2015 (<http://www.planet-wissen.de/sendungen/pwsegeheimnisvolletiefsee100.html>)
- Invited lecture at Rotary Club Hamburg, April 2015
- Plenary speaker Darwin Day, University of Kiel (for ca. 1200 high school children), November 2015
- Invited lecture at Rector's Circle of the University of Bremen, November 2015
- Invited lecture at Caesarium, Bonn, November 2015
- Essay for the German Research Foundation Magazine 'Forschung', 2014 (http://www.dfg.de/sites/flipbook/forschung/for_14_02/#/24/)
- Acceptance speech for Leibniz Prize, 2014 (invited by DFG to give an acceptance speech on behalf of all prize winners):
http://www.dfg.de/download/pdf/geofoerderte_projekte/preistraeger/gwl-preis/2014/dankesrede_dubilier.pdf
- Invited lecture in the Dresden "Wissenschaft im Rathaus" lecture series for the general public, December 2014
- Invited lecture at the Carl Friedrich von Siemens Stiftung, November 2014
- Interview AcademiaNet, 2014 (<http://www.spektrum.de/alias/interview/wir-leben-in-goldenen-zeiten-fuer-die-marine-mikrobiologie/1253408>)
- IdeenExpo Hannover, 2013. Research demonstrations and live interview with Ranga Yogeshwar in his show "Wissen LIVE"
- American Academy of Microbiology Interview 2013 (<http://academy.asm.org/index.php/news-views/interviews-with-fellows/675-nicole-dubilier>)
- Featured scientist in undergraduate textbook 'Microbiology: An Evolving Science' (Slonczewski J and Foster JW, Publisher: W. W. Norton).
- Guest blog in Scientific American 2012 (<http://blogs.scientificamerican.com/guest-blog/2012/04/18/empirically-dancing-your-way-to-the-top-how-nicole-dubilier-does-it/>)
- ARTE TV documentary film "Leben am Limit – Geheimnisse der Tiefsee" on deep-sea research and cruises, Premiere: Sept 2, 2011
- TWIM (This Week in Microbiology) interview, May 2011 (<http://www.virology.ws/2011/06/03/twim-8-live-in-nola/>)
- World Congress of Science and Factual Producers, Dec. 2010, Dresden. Featured scientist in Session 'The Pitch'
- Text and video blog of research cruise with the RV Meteor in Hamburger Abendblatt (<http://wissenschafts-blog.abendblatt.de/>)
- Max Planck Forum in Berlin, Expeditionen – das grosse Abenteuer: "Heisse Quellen in der Tiefsee: Oasen des Lebens", Dec. 2009
- GLOBE (Global Learning and Observations to Benefit the Environment) featured scientist for the 2009 FLEXE (From Local to Extreme Environments) forum

Editorial Board

- Applied and Environmental Microbiology (2010 – 2014)
- npj Biofilms and Microbiomes (since 2016)
- Environmental Microbiology (since 2011)
- FEMS Microbial Ecology (since 2014)
- Marine Genomics (2012 - 2017)
- mBio (since 2013)
- Review Commons, Advisory Board

Reviewer Activity (selected examples)

Institutes and funding agencies: European Research Council (ERC), German Research Foundation (DFG), National Science Foundation (USA), FWF Austrian Science Fund, CNRS (France), French National Research Agency (ANR), Smithsonian Institute (USA)

Journals: Nature, Nature Microbiology, Nature Reviews Microbiology, Proceedings of the National Academy of Science, PLoS Biology, Current Biology, Microbiology, ISME Journal, Applied and Environmental Microbiology, Environmental Microbiology, Systematic and Applied Microbiology, FEMS Microbiology Reviews, FEMS Microbiology Ecology, Aquatic Microbial Ecology, Marine Ecology Progress Series, Marine Biology, Marine Ecology, Marine Environmental Research, Palaeogeography Paleoclimatology Palaeoecology, American Zoology, Invertebrate Zoology

Conference Organisation

- 2017 Co-Chair (with Margaret McFall-Ngai) of the CIFAR / GBMF funded workshop "Symbiotic Interactions in the Oceans", Hawaii, USA
- since 2016 Local organizing committee of the International Society of Microbial Ecology (ISME) 2018 meeting in Leipzig, Germany
- since 2016 Scientific committee of the 6th International Symposium on Chemosynthesis-Based Ecosystems (Woods Hole, USA)
- since 2014 Chair (2016-2017) and Vice-Chair (2014-2015) of the American Society of Microbiology General Meetings / ASM Microbe
- 2015 Chair of the Gordon Research Conference (GRC) for Animal – Microbe Symbioses (newly established GRC, proposal by ND accepted by GRC Organization in 2014)
- since 2013 Organizing committee of the Symposium for Aquatic Microbial Ecology (SAME)
- 2011 Convener of 2 sessions ('Evolution of Diversity: From Genes to Populations' and 'Symbiosis') at the 2011 General Meeting of the American Society of Microbiology, New Orleans, USA
- 2009 Chair of the Gordon Research Conference (GRC) for Applied and Environmental Microbiology, MA, USA (ranked in top 10% of all GRCs in 2009)
- 2007 Vice chair of the Gordon Research Conference for Applied and Environmental Microbiology, MA, USA.
- 2005 Organizing committee of the "Third International Symposium on Hydrothermal Vent and Seep Biology". La Jolla, California, USA.
- 2003 Organizer of the session "Symbiosis and Syntrophy in Extreme Environments" at the 2003 Aquatic Sciences Meeting "Extreme Environments on Earth and Beyond" of the American Society of Limnology and Oceanography. Salt Lake City, USA.

International Collaborators (selected)

Iliana Baums (Penn State University, USA): Deep-sea corals
 Monika Bright (University of Vienna, Austria): Symbiont transmission
 Christer Erséus (University of Göteborg, Schweden): Gutless oligochaetes
 Peter Girguis (Harvard University, USA): In situ analysis of dissolved gases
 Julie Huber (MBL, USA): Microbial ecology of hydrothermal vents

Samantha Joye (Univ. Georgia Athens, USA): Vent and seep ecosystems
Manuel Kleíner (North Carolina State University, USA): Proteomics
Margaret McFall-Ngai (University of Hawaii, USA): Marine symbioses
Victoria Orphan (California Institute of Technology, USA): Methane-oxidizing bacteria
Jillian Petersen (University of Vienna, Austria): Evolution of Symbioses
Tanja Woyke (Joint Genome Institute): Metagenomics

Teaching Experience (brief version, selected examples)

International Max Planck Research School (IMPRS) of Marine Microbiology / University of Bremen

Speaker of the IMPRS since 2019

Lecture series at MSc level: "Symbioses", "Marine Viruses" yearly since 2003

Practical course at MSc level: "Marine Symbioses" yearly since 2003

Seminar at PhD level: "Scientific Writing and Speaking" every 2 years since 2003

Coordinator of the IMPRS from 2003 – 2007. Responsible for developing concept and curriculum for the school, writing proposals for funding, successful in receiving funding from the Max Planck Society (2.5 M€) and the EU (Marie Curie Research Training Network, 1.3 M€), recruitment of students and staff, establishment of the MSc and PhD programs.

University of Bremen, Department of Geosciences

Lecture series at BSc level: "Geobiology" (SS 2011)

Lecture series at MSc level: "Astrobiology" (SS 2011)

European Campus of Excellence Summer School Host-Microbe Symbioses, Gulbenkian Institute Portugal, August 2015 (1 week)

Woods Hole MBL Microbial Diversity Summer Course

Guest lecturer in 2009, 2011, 2016, 2019

EU Symbiomics Training Workshop "Ecology of Marine Symbioses", Elba, Italy (10 d, 2012 and 2014)

EU Marie Curie Research Training Network course "Hydrothermal environments at mid-ocean ridges: biodiversity and geological / geophysical context", Azores, Portugal (2 d, 2005)

University of Hamburg

Lecture (Hauptstudium): "Marine Benthic Habitats" (2000)

Seminar (Hauptstudium): "Molecular Biology of Symbioses" (1997)

Practical course (Grundstudium): "Basic Zoology" (1995, 1996)

MSc Students

Patric Bourceau (2019) "Combining mass spectrometry, chemoinformatics and bioinformatics to elucidate the metabolism of unusual phosphorous compounds in host symbiont systems". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Manuel Liebeke

Svenja Diester (2019) "Symbiont digestion in the gutless oligochaete *Olavius algarvensis*". Carl von Ossietzky University of Oldenburg. Co-supervisor with Alex Gruhl

Marius Poulain (2019) "Functional and comparative genomic analyses of the Delta4-proteobacterial symbionts of gutless oligochaetes". Université Paris Sud. Co-supervisor with Anna Mankowski

Caroline Zeidler (2019) " Bioplastic-eating animals: Polyhydroxyalkanoate-degrading enzymes in a chemosymbiotic worm". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Maggie Sogin

- Alaina Weinheimer (2018) "Investigating the virome associated with the symbiosis between deep-sea *Bathymodiolus* mussels and their chemosynthetic microbial partners". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Matthew Sullivan
- Tina Enders (2017) "Role of carbon monoxide in the biogeochemistry of *Posidonia oceanica* seagrass peat". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Anne-Christine Kreutzmann
- Maximilian Franke (2017) "Symbiont colonization in early developmental stages of the deep-sea mussel *Bathymodiolus puteoserpentis*". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Nikolaus Leisch
- Moritz Janda (2017) "Mass spectrometry imaging based metabolomics of host-microbe interactions in marine invertebrates". University of Bremen. Co-supervisor with Manuel Liebeke
- Anna Mankowski (2017) "Comparative and functional genomics of deltaproteobacterial symbionts of gutless oligochaetes". University of Bremen. Co-supervisor with Juliane Wippler
- Pierre Methou (2016) "Expression of *Olavius algarvensis* respiratory pigments revealed through mRNA whole-mount in situ hybridization". Master Sciences de l'Univers, Environnement, Ecologie Spécialité : EcoPhysiologie et EcoToxicologie. Co-supervisor with Alex Gruhl
- Merle Ücker (2017) "Understanding microbial symbioses in bathymodiolin hybrid host species using metagenomics". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Lizabeth Sayavedra
- Dolma Michellod (2016) "Metabolic analyses of symbioses between chemoautotrophic bacteria and marine invertebrates". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Manuel Liebeke
- Miriam Brandt (2015) "Characterization and comparative study of the chemosynthetic symbiosis in gutless marine oligochaetes from Belize and Bermuda". University of Bremen.
- Miguel Angel Gonzalez Porras (2015) "Probing the complexity of a deep-sea symbiosis: Establishing geneFISH as a technique to image symbiont strain-specific differences in metabolic potential". International MSc in Marine Biodiversity and Conservation. MSc program of consortium of 6 European universities.
- Benedikt Geier (2015) "A correlative approach for combining multimodal imaging techniques in a 3D scenario". External student from the LMU Munich. Co-supervisor with Manuel Liebeke
- Anna Kemper (2015) "Symbiont metabolic potential and host symbiont interactions in the lucinid chemosynthetic symbiosis from Elba, Italy". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Jillian Petersen
- Rahel Yemanaberhan (2015) "Carbon incorporation and transfer in marine symbiotic worms". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Anne-Christine Kreutzmann
- Rebecca Ansorge (2014) "Strain diversity and genome evolution in chemoautotrophic symbionts of *Bathymodiolus* mussels". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Jillian Petersen
- Oliver Jäckle (2014) "Experimental molecular and biochemical characterization of the *Paracatenula* symbiosis". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Harald Gruber-Vodicka

- Kwee Boon Brandon Seah (2013) "Bacterial ectosymbionts of the ciliate *Kentrophoros*". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Harald Gruber-Vodicka
- Miriam Sadowski (2013) "Molecular characterization of ectosymbiotic bacteria from nematodes in a shallow water system". International Max Planck Research School for Marine Microbiology. University of Bremen
- Laura Gallego Valle (2012) "Microdiversity in host-associated and free-living symbionts of *Bathymodiolus* mussels from Mid-Atlantic Ridge". International Max Planck Research School for Marine Microbiology. University of Bremen.
- Lizbeth Sayavedra Camacho (2012) "Comparative genomics of symbiotic and free-living chemoautotrophic bacteria". International Max Planck Research School for Marine Microbiology. University of Bremen. Co-supervisor with Jillian Petersen
- Juliane Wippler (2011) "Analysis of mobile DNA in endosymbionts of the gutless marine oligochaete worm *Olavius algarvensis*". International Max Planck Research School for Marine Microbiology. University of Bremen.
- Judith Zimmermann (2010) "Molecular characterization of a vestimentiferan tubeworm and its endosymbiotic bacteria from a hydrothermal vent in the Mediterranean Sea". University of Bremen.
- Dennis Fink (2008) "Distribution, abundance and productivity of endosymbionts in the deep-sea mussel *Bathymodiolus*". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Karina Röse (2008) "Symbiosis between bacteria and bathymodioline mussels at hydrothermal vent and cold seep sites". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Luciana Raggi (2007) "Molecular studies of two different bacterial symbioses in invertebrates: diversity and biogeography". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Jillian Petersen-Struck (2006) "Molecular studies of deep-sea invertebrate symbioses: characterisation, geobiological coupling, and biogeography". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Nancy Brewig (2006) "Molecular biological characterization of the symbionts from the gutless marine oligochaete *Inanidrilus exumae*". University of Hamburg.
- Amelia Rotaru (2005) "Genomic analysis of the endosymbiotic communities of a gutless marine worm (*Olavius algarvensis*)". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Mirjam Perner (2003) "Biogeochemical and microbiological characterisation of marine sediments in Elba - a contribution to an ecosystematic analysis of oligochaetes with bacterial symbionts". University of Hamburg.
- Christina Zaluski (2003) "Molecular biological characterisation of bacterial symbionts in the marine gutless oligochaete *Inandrilus leukodermatus*". University of Hamburg.
- Claudia Bergin (2002) "Characterisation of stable carbon isotopes in tissues and RNA of mussels with endosymbiotic bacteria". University of Bremen.
- Anna Blazejak (2001) "Molecular characterisation of bacteria associated with marine oligochaetes (Annelida)". Technical University Berlin.
- Steffen Kolb (1999) "Abundances and vertical distribution of sulfate-reducing and chemolithotrophic sulfur-oxidizing bacteria in sandy Wadden Sea sediments". University of Bremen.
- Caroline Rühland (1999) "Molecular characterization of bacteria associated with marine oligochaetes (Annelida)". University of Hamburg.

Arnd Prilip (1999) "Characterisation of ectosymbionts of marine nematodes from the genus *Leptonemella* and free-living sulfur-oxidizing bacteria with microbiological and molecular methods". University of Bremen.

PhD Students

- Dolma Michellod (2021) "Investigating the lipid profile of animal-microbe symbioses". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Manuel Liebeke
- Målin Tietjen (2021) "Physiology and ecology of deep-sea *Bathymodiolus* symbioses". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Harald Gruber-Vodicka
- Merle Ücker (2021) "Metagenomic analyses of a deep-sea mussel symbiosis". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Miguel Ángel González Porras (2020) "Molecular biology of the bacterial intranuclear parasite *Ca. Endonucleobacter*". Co-supervisor with Nikolaus Leisch
- Benedikt Geier (2020) "Correlative mass spectrometry imaging of animal – microbe symbioses". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Manuel Liebeke
- Rebecca Ansorge (2019) "Strain diversity and evolution in endosymbionts of *Bathymodiolus* mussels". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Jillian Petersen
- Oliver Jäckle (2018) "Evolution and physiology of the *Paracatenula* symbiosis". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Harald Gruber-Vodicka
- Kwee Boon Brandon Seah (2017) "The bacterial ectosymbionts of the ciliate *Kentrophoros*". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Harald Gruber-Vodicka
- Adrien Assié (2016) "Deep Se(a)quencing: A study of deep-sea ectosymbioses using next-generation sequencing. International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Jillian Petersen
- Lizbeth Sayavedra (2016) "Host-symbiont interactions and metabolism of chemosynthetic symbiosis in deep-sea *Bathymodiolus* mussels". International Max Planck Research School for Marine Microbiology, University of Bremen. Co-supervisor with Jillian Petersen
- Mario Schimak (2016) "Transmission of bacterial symbionts in the gutless oligochaete *Olavius algarvensis*." International Max Planck Research School for Marine Microbiology, University of Bremen.
- Judith Zimmermann (2015) "Diversity, specificity and evolutionary history of marine invertebrate symbioses and functions of the sulfur-oxidizing symbionts". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Manuel Kleiner (2012) "Metabolism and evolutionary ecology of chemosynthetic symbionts from marine invertebrates". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Cecilia Wentrup (2012) "Acquisition and Activity of Bacterial Symbionts in Marine Invertebrates". Fachbereich Biologie/Chemie, University of Bremen
- Dennis Fink (2011) "Dynamics of Symbiont Abundance in Bathymodiolin Deep-Sea Symbioses". International Max Planck Research School for Marine Microbiology, University of Bremen.

- Caroline Verna (2010) "Phylogeny and Diversity of Symbionts from Whale Fall Invertebrates". International Max Planck Research School for Marine Microbiology, University of Bremen and University of Pierre and Marie Curie, Paris
- Caroline Ruehland (2010) "Characterization of Bacterial Ecto- and Endosymbionts of Oligochaete Worms from Marine Sediments: Phylogeny and Metabolic Potential". Fachbereich Biologie/Chemie, University of Bremen
- Luciana Raggi (2010) "Bacterial – Invertebrate Symbioses: From an Asphalt Cold Seep to Shallow Waters". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Jillian Petersen-Struck (2009) "Biogeography of bacterial symbionts from hydrothermal vent shrimp and mussels". International Max Planck Research School for Marine Microbiology, University of Bremen.
- Claudia Bergin (2009) "Molecular physiology of bacterial symbionts in gutless marine oligochaetes". Fachbereich Biologie/Chemie, University of Bremen.
- Frank Zielinski (2008) "Geobiological coupling of hydrothermal vent fluids with endosymbiotic primary producers of *Bathymodiolus* mussels from hydrothermal vents on the Mid-Atlantic Ridge". Fachbereich Biologie/Chemie, University of Bremen.
- Niculina Musat (2006) "Molecular characterization of symbiotic associations between chemoautotrophic sulfur-oxidizing microorganisms and nematodes in shallow marine sediments". Fachbereich Biologie/Chemie, University of Bremen.
- Sébastien Duperron (2005) "Bacterial symbioses in mytilid bivalves associated with cold seeps and hydrothermal vents: diversity, nutritional role, and influence of the environment". University of Paris 6, France. Joint PhD with Myriam Sibuet (IFREMER, France)
- Anna Blazejak (2005) "Phylogenetic and functional characterization of symbiotic bacteria in gutless marine worms (Annelida, Oligochaeta)". Fachbereich Biologie/Chemie, University of Bremen.

Postdoctoral Fellows

- Laetitia Wilkins (since 2020) Evolutionary ecology of chemosynthetic symbioses
- Eileen Kröber (since 2020) Microbial metabolism of organosulfur compounds
- Yui Sato (since 2017) Speciation in gutless marine oligochaetes and their symbiotic bacteria
- Nikolaus Leisch (since 2015) Ultrastructural imaging of *Bathymodiolus* symbioses
- Manuel Liebeke (postdoc 2013 - 2018, since 2018 Research Group Leader) Metabolomics and mass spectrometry imaging of bacterial symbionts
- Harald Gruber-Vodicka (since 2012) Evolution and ecophysiology of symbioses in marine flatworms, EU Marie Curie Intra-European Fellowship from 2012-2014
- Emilia Sogin (2016-2020) Metabolomic analyses of the gutless oligochaete symbiosis
- Alexander Gruhl (2015-2021) Ultrastructural analyses of symbiont transmission in gutless oligochaetes
- Maxim Rubin Blum (2014-2017) Ecology and physiology of *Bathymodiolus* symbioses
- Anne-Christine Kreutzmann (2014-2017) Physiology of chemosynthetic symbionts
- Chakkiath Paul Antony (2013-2016) Comparative genomics and physiology of symbiotic methane oxidizers, Humboldt Postdoctoral Fellowship
- Manuel Kleiner (2013-2014) Proteogenomics of gutless oligochaete symbionts
- Jillian Petersen (2009-2015) Metagenomic analyses of marine symbionts
- Florence Pradillon (2004-2006) Larvae in situ tracking: detection and identification of early-life-stages of marine organisms using in situ hybridisation with oligonucleotide probes, EU Marie Curie Intra-European Fellowship
- Annelie Pernthaler (2004-2005) In situ identification of functional genes in symbiotic bacteria

Student Defense Committees (international only, selected)

Aarhus University, Denmark: Marie B. Lund (PhD 2009)

University of Pierre and Marie Curie, Paris, France: Anne-Laure Sauvadet (PhD 2010),
Caroline Schmidt (PhD 2008), Sébastien Halary (PhD 2009), Mathieu Pernice (PhD 2006)

University of Vienna, Austria: Harald Gruber (PhD 2012), Bettina Pflugfelder (PhD 2007)

List of publications (key papers in bold)

<https://scholar.google.com/citations?user=vAXs9hwAAAAJ&hl=en&oi=ao>

Students and postdocs that contributed to papers while in my lab are highlighted with an asterisk (*)

To support early career researchers that have trained in my lab, I give them senior authorship where warranted (shown below with two asterisks (**)) after their name). I also promote their careers by declining, where warranted, co-authorship, despite having provided the funding for the research and contributed intellectually with ideas and suggestions (see publication list of my department here: <https://www.mpi-bremen.de/en/Publications-16.html>).

Franke M*, Geier B*, HammelJU, **Dubilier N**, Leisch N**. 2021. Coming together- symbiont acquisition and early development in deep-sea bathymodioline mussels. *Proc. R. Soc. B* 288: 20211044. <https://doi.org/10.1098/rspb.2021.1044>

Sogin EM*, Kleiner M, Borowski C*, Gruber-Vodicka HR*, **Dubilier N**. 2021. Life in the dark: Phylogenetic and physiological diversity of chemosynthetic symbioses. *Annual Review of Microbiology* 75. doi.org/10.1146/annurev-micro-051021-123130

Ücker M*, Ansoerge R*, Sato Y*, Sayavedra L*, Breuning C, **Dubilier N**. 2021. Deep-sea mussels from a hybrid zone on the Mid-Atlantic Ridge host genetically indistinguishable symbionts. *ISME Journal*. <https://doi.org/10.1038/s41396-021-00927-9>

Assié A*, Leisch N*, Meier DV, Gruber-Vodicka H*, Tegetmeyer HE, Meyerdierks A, Kleiner M, Hinzke T, Joye S, Saxton M, **Dubilier N**, Petersen JM**. 2020. Horizontal acquisition of a patchwork Calvin cycle by symbiotic and free-living Campylobacterota (formerly Epsilonproteobacteria). *ISME Journal* 14: 104-122. [doi: 10.1038/s41396-019-0508-7](https://doi.org/10.1038/s41396-019-0508-7)

Geier B*, Sogin EM*, Michellod D*, Janda M*, Kompauer M, Spengler B, **Dubilier N**, Liebeke M**. 2020. Spatial metabolomics of in situ host-microbe interactions at the micrometre scale. *Nature Microbiology* 5: 498-510. [doi: 10.1038/s41564-019-0664-6](https://doi.org/10.1038/s41564-019-0664-6)

Sato Y*, Wippler J*, Wentrup C*, Woyke T, **Dubilier N**, Kleiner M**. 2020. High-quality draft genome sequences of the uncultured Delta3 endosymbiont (Deltaproteobacteria) assembled from metagenomes of the gutless marine worm *Olavius algarvensis*. *Microbiology Resource Announcements* 9, e00704-20. [doi: 10.1128/MRA.00704-20](https://doi.org/10.1128/MRA.00704-20)

Sato Y*, Wippler J*, Wentrup C*, **Dubilier N**, Kleiner M**. 2020. High-quality draft genome sequences of two deltaproteobacterial endosymbionts, Delta1a and Delta1b, from the uncultured SVA0081 clade, assembled from metagenomes of the gutless marine worm *Olavius algarvensis*. *Microbiology Resource Announcements* 9, e00276-20. [doi: 10.1128/MRA.00276-20](https://doi.org/10.1128/MRA.00276-20)

Sogin EM*, Leisch N*, **Dubilier N**. 2020. Chemosynthetic symbioses. *Current Biology* 30:R1137–R1142. [doi:10.1016/j.cub.2020.07.050](https://doi.org/10.1016/j.cub.2020.07.050)

Vohsen SA, Anderson KE, Gade AM, Gruber-Vodicka HR*, Dannenberg RP, Osman EO, **Dubilier N**, Fisher CR, Baums IB. 2020 Deep-sea corals provide new insight into the

- ecology, evolution, and the role of plastids in widespread apicomplexan symbionts of anthozoans. *Microbiome* **8**, 34 (2020). <https://doi.org/10.1186/s40168-020-00798-w>
- Ansorge R*, Romano S, Sayavedra L*, Gonzalez-Porras MA*, Kupczok A, Tegetmeyer HE, Dubilier N, Petersen JM** 2019. Functional diversity enables multiple symbiont strains to coexist in deep-sea mussels. *Nature Microbiology* **4**: 2487-2497. doi: 10.1038/s41564-019-0572-9.**
- Geier B*, Franke M*, Ruthensteiner B, González Porras MA*, Gruhl A*, Wörmer L, Moosmann J, Hammel JU, **Dubilier N**, Leisch N*, Liebeke M**. 2019. Correlative 3D anatomy and spatial chemistry in animal-microbe symbioses – Developing sample preparation for phase-contrast synchrotron radiation based micro-computed tomography and mass spectrometry imaging. *Proceedings of SPIE, Developments in X-Ray Tomography XII* 11113, 1111306, doi:10.1117/12.253065
- Gruber-Vodicka H*, Leisch N*, Kleiner M, Hinzke T, Liebeke M*, McFall-Ngai M, Hadfield M, Dubilier N. 2019. Two intracellular and cell-type specific bacterial symbionts in the placozoan *Trichoplax* H2. *Nature Microbiology* **4**: 1465-1474. doi: 10.1038/s41564-019-0475-9**
- Romero Picazo D, Dagan T, Ansorge R*, Petersen JM, **Dubilier N.** & Kupczok, A. 2019. Horizontally transmitted symbiont populations in deep-sea mussels are genetically isolated. *The ISME Journal* **13**: 2954-2968. doi: 10.1038/s41396-019-0475-z
- Rubin-Blum M*, Antony CP*, Sayavedra L*, Martinez-Perez C, Birgel D, Peckmann J, Wu YC, Cardenas P, MacDonald I, Marcon Y, Sahling H, Hentschel U, **Dubilier N.** 2019. Fueled by methane: deep-sea sponges from asphalt seeps gain their nutrition from methane-oxidizing symbionts. *ISME Journal* **13**: 1209-1225. doi:10.1038/s41396-019-0346-7
- Rubin-Blum M*, **Dubilier N**, Kleiner M. 2019. Genetic evidence for two carbon fixation pathways (the Calvin-Benson-Bassham cycle and the reverse tricarboxylic acid cycle) in symbiotic and free-living bacteria. *mSphere* **4**: e00394-18. doi: 10.1128/mSphere.00394-18
- Seah BKB*, Antony CP*, Huettel B, Zarzycki J, von Borzyskowski LS, Erb TJ, Kouris A, Kleiner M, Liebeke M*, **Dubilier N**, Gruber-Vodicka H**. 2019. Sulfur-oxidizing symbionts without canonical genes for autotrophic CO₂ fixation. *mBio* **10**: e01112-19. doi: 10.1128/mBio.01112-19
- Sogin EM*, Puskás E*, **Dubilier N**, Liebeke M**. 2019. Marine metabolomics: A method for nontargeted measurement of metabolites in seawater by gas chromatography - mass spectrometry. *mSystems* **4**. doi:10.1128/mSystems.00638-19
- Bang C, Dagan T, Deines P, **Dubilier N**, Duschl WJ, Fraune S, Hentschel U, Hirt H, Hülter N, Lachnit T, Picazo D, Pita L, Pogoreutz C, Rådecker N, Saad MM, Schmitz RA, Schulenburg H, Voolstra CR, Weiland-Bräuer N, Ziegler M, Bosch TCG. 2018. Metaorganisms in extreme environments: do microbes play a role in organismal adaptation? *Zoology* **127**: 1-19. doi: <https://doi.org/10.1016/j.zool.2018.02.004>
- Bergin C*, Wentrup C*, Brewig N*, Blazejak A*, Erséus C, Giere O, Schmid M, de Wit P, **Dubilier N.** 2018. Acquisition of a novel sulfur-oxidizing symbiont in the gutless marine worm *Inanidrilus exumae*. *Applied and Environmental Microbiology* **84**: e02267-17. doi:10.1128/AEM.02267-17
- Dubilier N.** 2017. High tide for marine microbes. *Cell* **169**: 771. <https://doi.org/10.1016/j.cell.2017.05.009> (Invited 'Voices' article)
- Kreutzmann AC* & **Dubilier N.** 2017. Dunkle Energie: Symbiosen zwischen Tieren und chemosynthetischen Bakterien. In: *Faszination Meeresforschung*. Eds. G. Hempel, K. Bischof, W. Hagen. Springer Berlin Heidelberg: 231-244.
- Ponnudurai R, Kleiner M, Sayavedra L*, Petersen JM*, Moche M, Otto A, Becher D, Takeuchi T, Satoh N, **Dubilier N**, Schweder T, Markert S. 2017. Metabolic and

- physiological interdependencies in the *Bathymodiolus azoricus* symbiosis. ISME J. 11: 463-477. doi: 10.1038/ismej.2016.124.
- Rubin-Blum M*, Antony CP*, Borowski C*, Sayavedra L*, Pape T, Sahling H, Bohrmann G, Kleiner M, Redmond MC, Valentine DL, Dubilier N. 2017. Short-chain alkanes fuel mussel and sponge *Cycloclasticus* symbionts from deep-sea gas and oil seeps. Nature Microbiology 2: 17093. doi: 10.1038/nmicrobiol.2017.93**
- Seah BKB*, Schwaha T, Volland J-M, Huettel B, **Dubilier N**, Gruber-Vodicka HR**. 2017. Specificity in diversity: Single origin of a wide-spread ciliate-bacteria symbiosis. Proc. R. Soc. B. 284: 20170764. <http://dx.doi.org/10.1098/rspb.2017.0764>
- Tavormina PL, Kellermann MY, Antony CP*, Tocheva E, Dalleska N, Jensen AJ, Valentine DL, Hinrichs K-U, Jensen G, **Dubilier N**, Orphan VJ. 2017. Starvation and recovery in the deep-sea methanotroph *Methyloprofundus sedimenti*. Molecular Microbiology 103: 242-252. doi: 10.1111/mmi.13553
- Assie A*, Borowski C*, van der Heijden K*, Raggi L*, Geier B*, Leisch N*, Schimak MP*, **Dubilier N**, Petersen JP**. 2016. A specific and widespread association between deep-sea *Bathymodiolus* mussels and a novel family of Epsilonproteobacteria. Environ. Microbiol. Reports. doi:10.1111/1758-2229.12442.
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- Wippler J*, Kleiner M*, Lott C*, Gruhl A*, Abraham PE, Giannone RJ, Young JC, Hettich RL, **Dubilier N**. 2016. Transcriptomic and proteomic insights into innate immunity and adaptations to a symbiotic lifestyle in the gutless marine worm *Olavius algarvensis*. BMC Genomics 17:942. doi: 10.1186/s12864-016-3293-y
- Zimmermann J*, Wentrup C*, Sadowski M*, Blazejak A*, Gruber-Vodicka H*, Kleiner M*, Ott J, Cronholm B, De Wit P, Erséus C, **Dubilier N**. 2016. Closely coupled evolutionary history of ecto-and endosymbionts from two distantly-related animal phyla. Molecular Ecology 25: 3203-3223. doi: 10.1111/mec.13554
- Dubilier N**, McFall-Ngai M, Zhao L. 2015. Create a global microbiome effort. Nature 526: 631-634 (Invited Comment article)
- Kleiner M*, Wentrup C*, Holler T, Lavik G, Harder J, Lott C*, Littmann S, Kuypers MMM, **Dubilier N**. 2015. Use of carbon monoxide and hydrogen by a bacteria – animal symbiosis from seagrass sediments. Environ. Microbiol. 17: 5023- 5035. doi:10.1111/1462-2920.12912
- Sayavedra L*, Kleiner M*, Ponnudurai R, Wetzel S*, Pelletier E, Barbe V, Shoguchi E, Satoh N, Reusch TBH, Rosenstiel P, Schilhabel MB, Becher D, Schweder T, Markert S, **Dubilier N**, Petersen JM**. 2015. Abundant toxin-related genes in the genomes of beneficial symbionts from deep-sea hydrothermal vent mussels. eLife 2015;10.7554/eLife.07966. doi: <http://dx.doi.org/10.7554/eLife.0796>
- Beinart RA, Nyholm SV, **Dubilier N**, Girguis PR. 2014. Intracellular Oceanospirillales inhabit the gills of the hydrothermal vent snail *Alviniconcha* with chemosynthetic, γ -Proteobacterial symbionts. Environ. Microbiol. Reports 6: 656-664. doi:10.1111/1758-2229.12183
- Jan C, Petersen JM*, Werner J, Teeling H, Huang S, Glöckner FO, Golyshina OV, **Dubilier N**, Golyshin PN, Jebbar M, Cambon-Bonavita M-A. 2014. The gill chamber epibiosis

- of deep-sea shrimp *Rimicaris exoculata*: an in-depth metagenomic investigation and discovery of Zetaproteobacteria. *Environ. Microbiol.* 16: 2723-2728. doi: 10.1111/1462-2920.12406
- Petersen JM*, **Dubilier N.** 2014. Gene swapping in the dead zone: Viruses can swap DNA between bacteria that live in regions of the oceans with little or no oxygen. *eLife* 3: e04600. DOI: <http://dx.doi.org/10.7554/eLife.04600> (Non peer-reviewed)
- Russell JA, **Dubilier N,** Rudgers JA. 2014. Nature's microbiome. *Mol. Ecol.* 23: 1225-1237. (Non peer-reviewed)
- Wentrup C*, Wendeberg A*, Schimak M*, Borowski C*, **Dubilier N.** 2014. Forever competent: Deep-sea bivalves are colonized by their chemosynthetic symbionts throughout their lifetime. *Environ. Microbiol.* 16: 3699–3713. doi:10.1111/1462-2920.12597
- Zimmermann J*, Lott C*, Weber M*, Ramette A, Bright M, **Dubilier N,** Petersen JM**. 2014. Dual symbiosis with co-occurring sulfur-oxidizing symbionts in vestimentiferan tubeworms from a Mediterranean hydrothermal vent. *Environ. Microbiol.* 16: 3658-3656. doi: 10.1111/1462-2920.12427. Featured on cover of journal.
- Kleiner M*, Young JC, Shah M, VerBerkmoes NC, Dubilier N. 2013. Metaproteomics reveals abundant transposase expression in mutualistic endosymbionts. mBio 4:3, doi:10.1128/mBio.00223-13**
- McFall-Ngai M, Hadfield MG, Bosch T, Carey H, Domazet-Loso T, Douglas A, **Dubilier N,** Eberl G, Fukami T, Gilbert SF, Hentschel U, King N, Kjelleberg S, Knoll AH, Kremer N, Mazmanian SK, Metcalf JL, Neelson K, Pierce NE, Rawls J, Reid A, Ruby EG, Rumpho M, Sanders J, Tautz D, Wernegreen J. 2013. Animals in a bacterial world: a new imperative for the life sciences. *Proc. Natl. Acad. Sci. USA* 110: 3229-3236. doi:10.1073/pnas.1218525110
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- Raggi L*, Schubotz F, Hinrichs K-U, **Dubilier N,** Petersen JM**. 2013. Bacterial symbionts of *Bathymodiolus* mussels and *Escarpia* tubeworms from Chapopote, an asphalt seep in the southern Gulf of Mexico. *Environ. Microbiol.* 15: 1969–1987, doi: 10.1111/1462-2920.12051
- Kleiner M*, Wentrup C*, Lott C*, Teeling, H, Wetzel S*, Young J, Chang Y-J, Shah M, VerBerkmoes NC, Zarzycki J, Fuchs G, Markert S, Hempel K, Voigt B, Becher D, Liebeke M, Lalk M, Albrecht D, Hecker M, Schweder T, Dubilier N. 2012. Metaproteomics of a gutless marine worm and its symbiotic microbial community reveal unusual pathways for carbon and energy use. Proc. Natl. Acad. Sci. USA. 109: E1173-E1182. doi: 10.1073/pnas.1121198109**
- Gros O, Elisabeth N H, Gustave SDD, Caro A, **Dubilier N.** 2012. Plasticity of symbiont acquisition throughout the life cycle of the shallow-water tropical lucinid *Codakia orbiculata* (Mollusca: Bivalvia). *Environ. Microbiol.* 14, 1584-1595, doi:10.1111/j.1462-2920.2012.02748.x
- Kellermann MY, Schubotz F, Elvert M, Lipp JS, Birgel D, Prieto-Mollar X, **Dubilier N,** Hinrichs K-U. 2012. Symbiont-host relationships in chemosynthetic mussels: A comprehensive lipid biomarker study. *Organic Geochemistry* 43, 112-124. doi:10.1016/j.orggeochem.2011.10.005
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