

Martin T. Jahn

CURRICULUM VITAE

Helmholtz Centre for Infection Research
Bacterial Infection Ecology
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RESEARCH EXPERIENCE

Research Group Leader **10/2024-** Helmholtz Centre for Infection Research
Bacterial Infection Ecology

HFSP Postdoctoral Fellowship **2020-2024** University of Oxford, UK
"Mapping the biogeography of the gut microbiome: from spatial ecology to disease resistance" with Prof. Kevin Foster

Visiting Scientist **04/2018** University of Lausanne, CH
Correlative metabolic imaging at the Laboratory for biochemistry with Prof. Anders Meibom

Doctoral Fellow **2015-2019** University of Kiel, GER
Work at the interface of microbial ecology, virology, and immunology with Prof. Ute Hentschel

Visiting Scientist **2013** University of East Anglia, UK
Molecular microbiology establishing a throughput screen for microalgae with Prof. Thomas Mock

Internship & Bachelor thesis **2012** University of Würzburg, GER
*"Immunological analysis of guttation fluid of *Bacillus thuringiensis* maize for the presence of CryIAb toxin" with Dr. Stephan Härtel*

ERASMUS Fellowship **2011** University of Glasgow, UK
*Mapping the spatial ecology of *Borrelia burgdorferi* sensu lato across a fragmented landscape in relation to host reservoirs with Prof. Roman Biek*

Student Assistant **2011** University of Würzburg, GER
*Maintaining *Danio rerio* colonies as laboratory animals with Dr. Anja Hirmer*

EDUCATION

Ph.D. Thesis *summa cum laude* **2015-2019** University of Kiel, GER
"Physiology, syntrophy & viral interplay in the marine sponge holobiont" with Ute Hentschel

M.Sc. with distinction **2012-2014** University of Würzburg, GER
Foci Microbiology, Ecology & Bioinformatics.

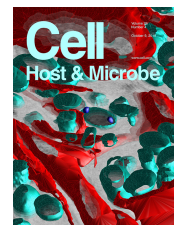
GRANTS, HONORS, AWARDS & FELLOWSHIP

Priority Programme: Illuminating Gene Functions in the Human Gut [263,000 €]	2025-2028
Microbiome" Helmholtz Health Impulse Fund [10,000€]	2024
Gordon Conference: Animal-Microbe-Symbioses, Best Seminar Award, Italy	2023
The ISME Journal 2022 Best Paper Award	2022

Outstanding PhD-thesis Award Prof. Dr. Werner Petersen Foundation [2,500€]	2020
Human Frontiers Long Term Fellowship, HFSP, Strasbourg [total: 260,000€]	2020
DFG Walter Benjamin-Programme Fellowship; [total: 74,000€] awarded, declined	2020
Young Investigator Award of the CRC1182 Origin and Function of Metaorganisms[15,000€]	2017
Poster prize Gordon Research Conference: Animal-Microbe-Symbioses, Mount Snow, USA [Marple syrup]	2017
Poster prize EMBL-Conference: From 3D Light to 3D Electron Microscopy, Heidelberg	2016
Excellence Initiative PhD-Fellowship of the Graduate School of Life Sciences (GSLs), University of Würzburg [total: 67,000€]	2015

PUBLICATIONS

- Bakkeren, E., Piskovsky, V., Lee, M.N.Y., **Jahn, M.T.**, Foster KR 2025, Strain displacement in microbiomes via ecological competition. *Nature Microbiology* doi.org/10.1038/s41564-025-02162-w
- Spragge F, Bakkeren E, **Jahn, M.T.**, Araujo EBN, Pearson CF, Wang X, Pankhurst L, Cunrath O, Foster KR 2023 Microbiome diversity protects against pathogens by nutrient blocking. *Science*. DOI: [10.1126/science.adj3502](https://doi.org/10.1126/science.adj3502)
- Zheng X., **Jahn M.T.**, Sun M., Friman, V.P., Balcazar J.L., Wang J., Shi Y., Gong X., Hu F., Y.G Zhu (2022). Organochlorine contamination enriches virus-encoded metabolism and pesticide degradation associated auxiliary genes in soil microbiomes. *ISME J*, 16 (5), 1397-1408; doi.org/10.1038/s41396-022-01188-w [*selected journals' best paper of the year]
- Jahn, M.T.**, Lachnit, T., Markert, S.M., C. Stigloher, L. Pita, M. Ribes, B. E. Dutilh., U. Hentschel (2021). Lifestyle of sponge symbiont phages by host prediction and correlative microscopy. *ISME J* 15, 2001–2011; [doi: 10.1038/s41396-021-00900-6](https://doi.org/10.1038/s41396-021-00900-6)
- Stengel, S.T., Fazio, A., Lipinski, S, **Jahn M.T.**, Aden K., Ito G., Wottawa F., Kuiper J.W.P., Coleman O.I., Tran F., Bordoni D., Bernardes J.P., Jentzsch M., Luzius A., Bierwirth S., Messner B., Henning A., Welz L., Kakavand N., Falk-Paulsen M., Imm S., Hinrichsen F., Zilbauer M., Schreiber S., Kaser A., Blumberg R., Haller D, Rosenstiel P. (2020). Activating Transcription Factor 6 Mediates Inflammatory Signals in Intestinal Epithelial Cells Upon Endoplasmic Reticulum Stress. *Gastroenterology*; doi [10.1053/j.gastro.2020.06.088](https://doi.org/10.1053/j.gastro.2020.06.088)
- Rix L., Ribes M., Coma R., **Jahn M.T.**, de Goeij J.M., van Oevelen D., Escrig S., Meibom A., Hentschel U. (2020) Heterotrophy in the earliest gut: a single-cell view of heterotrophic carbon and nitrogen assimilation in sponge-microbe symbioses. *ISMEJ*; doi: [10.1038/s41396-020-0706-3](https://doi.org/10.1038/s41396-020-0706-3)
- Jahn M.T.**, Arkhipova K. Markert S.M., Stigloher C., Lachnit T., Pita L., Kupczok A., Ribes M., Stengel S.T., Rosenstiel P., Dutilh B.E., Hentschel U. (2019). A Phage Protein Aids Bacterial Symbionts in Eukaryote Immune Evasion. *Cell Host & Microbe*; [doi: 10.1016/j.chom.2019.08.019](https://doi.org/10.1016/j.chom.2019.08.019) [Cover Story: Cell Host & Microbe Vol 26 Issue 4]
- Rausch, P., Rühlemann, M., Hermes, B. M., Doms, S., Dagan, T., Dierking, K., Domin, H., Fraune, S., von Frieling, J., Hentschel, U., Heinsen, F.-A., Höppner, M., **Jahn, M. T.**, Jaspers, C., Kissoyan, K. A. B., Langfeldt, D., Rehman, A., Reusch, T. B. H., Roeder, T., Schmitz, R. A., Schulenburg, H., Soluch, R., Sommer, F., Stukenbrock, E., Weiland-Bräuer, N., Rosenstiel, P., Franke, A., Bosch, T. and Baines, J. F. (2019). Comparative analysis of amplicon and metagenomic sequencing methods



reveals key features in the evolution of animal metaorganisms. *Microbiome* 7(1): 133; doi: [10.1186/s40168-019-0743-1](https://doi.org/10.1186/s40168-019-0743-1)

9. Hildebrand F, Moitinho-Silva L, Blasche S, **Jahn M.T.**, Gossmann T.I., Heuerta-Cepas J, Hercog R, Luetge M, Bahram M, Pryszlak A, Alves R.J., Waszak S.M., Zhu A, Ye L, Costea P.I., Aalvink S, Belzer C, Forslund S.K., Sunagawa S, Hentschel U, Merten C, Patil K.R., Benes V, Bork P (2019). Antibiotics-induced monodominance of a novel gut bacterial order. *Gut*. doi: [10.1136/gutjnl-2018-317715](https://doi.org/10.1136/gutjnl-2018-317715)
10. Bayer K, **Jahn M.T.**, Slaby B.M., Moitinho-Silva L and Hentschel U (2018). Marine Sponges as Chloroflexi Hot Spots: Genomic Insights and High-Resolution Visualization of an Abundant and Diverse Symbiotic Clade. *mSystems* 3:e00150-18. doi: [10.1128/mSystems.00150-18](https://doi.org/10.1128/mSystems.00150-18)
11. Millins C, Dickinson E. R., Isakovic P, Gilbert L, Wojciechowska A, Paterson V, Tao F, **Jahn M.T.**, Kilbride E, Birtles R, Johnson R, Biek R (2018). Landscape structure affects the prevalence and distribution of a tick-borne zoonotic pathogen. *Parasit Vectors* 11(1): 621; doi: [1186/s13071-018-3200-2](https://doi.org/10.1186/s13071-018-3200-2)
12. Moitinho-Silva L, Díez-Vives C, Batani G, Esteves A.I.S., **Jahn M.T.**, Thomas T (2017) Integrated metabolism in sponge-microbe symbiosis revealed by genome-centered metatranscriptomics. *ISME J*; doi: [10.1038/ismej.2017.25](https://doi.org/10.1038/ismej.2017.25)
13. **Jahn M.T.**, Markert S.M., Ryu T, Ravasi T, Stigloher C, Hentschel U, Moitinho-Silva (2016) Shedding light on cell compartmentation in the candidate phylum Poribacteria by high resolution visualisation and transcriptional profiling. *Sci. Rep.* 6, 35860; doi: [10.1038/srep35860](https://doi.org/10.1038/srep35860)
14. Horn H, Slaby B, **Jahn M.T.**, Bayer K, Moitinho-Silva L, Förster F, Abdelmohsen U.R., Hentschel U (2016) An enrichment of CRISPR and other defense-related features in marine sponge-associated microbial metagenomes. *Front. Microbiol.* 7:1751; doi: [10.3389/fmicb.2016.01751](https://doi.org/10.3389/fmicb.2016.01751)
15. **Jahn M.T.**, Schmidt K., Mock, T. (2014) A novel cost effective and high-throughput isolation and identification method for marine microalgae. *Plant Methods* 10:26; doi: [10.1186/1746-4811-10-26](https://doi.org/10.1186/1746-4811-10-26)

Peer-Reviewed Book Chapters

1. Schmittmann L, Jahn M.T, Pita L, Hentschel U (2020) Decoding Cellular Dialogues in the Holobiont, 49-63, Cellular Dialogues in the Holobiont, 49-63 doi: [1201/9780429277375-4](https://doi.org/10.1007/978-94-024-1612-1_7)
2. Slaby B.M., Franke A, Rix L, Pita L, Bayer K, **Jahn M.T.**, Hentschel U (2019) Marine Sponge Holobionts in Health and Disease. In: Li Z, editor. Symbiotic Microbiomes of Coral Reefs Sponges and Corals. Dordrecht: Springer Netherlands. p.81-104. https://link.springer.com/chapter/10.1007/978-94-024-1612-1_7

Other outlets

MT Jahn, R Krishna Kumar, Nanaerobic imaging breathes new life into gut microbiota microscopy, Nature Reviews Microbiology 19 (4), 224- doi: [10.1038/s41579-021-00523-w](https://doi.org/10.1038/s41579-021-00523-w)

SELECTED POSTERS AND TALKS

15. 22-23 Sep 2025, Invited Oral presentation, Spatial Microbiomes Workshop, BGI Center, Shenzhen China
14. 31 Mar 2025, Invited Oral presentation, Basel Biocenter, Basel, Switzerland
13. 18-20 Sep 2024, Invited Oral presentation, NOR-KLEB-NET / KLEB-GAP annual meeting, Norwegian *Klebsiella pneumoniae* network, Norway

12. 10-13 Jun 2024, Oral presentation, SymbNET International Conference on Host-Microbe Symbiosis, Portugal
11. 17-23 Jun 2023, Oral presentation, Gordon Conference: Animal-Microbe-Symbioses, 2023, Italy, **Best Seminar Award**
10. 4-19 Aug 2022, Poster, Mapping the biogeography of the gut microbiome: from spatial ecology to disease resistance, 18th Int. Symposium on Microbial Ecology
9. 20-24 Jun 2021, Oral presentation, Lifestyle of Sponge Symbiont Phages by Host Prediction & Correlative Microscopy, ASM & FEMS World Microbe Forum
8. 26-30 Apr 2021, Oral presentation, Elucidating the lifestyle of sponge symbiont phages by host prediction & correlative microscopy, Microbiology Society,
7. Jun 2019, Invited oral presentation, High resolution visualization & transcriptional profiling of bacteria; Micro-Seminars, Utrecht University, 2019
6. 14 - 21 Jun, 2019, Poster, Investigating spatial relationships in host- associated microbes with correlative light and electron microscopy Gordon Research Conference, Animal-Microbe-Symbioses, Mt Snow, VT, USA, **Poster Price**
5. 12 - 17 Aug, 2018, Oral presentation, Exploring viral dark matter in marine sponges, ISME17- 17th Int. Symposium Microbial Ecology, Leipzig, GER
4. 10 - 16 Jun, 2017, Poster, Investigating spatial relationships of host-associated microbes using correlative light & electron microscopy, Gordon Research Conference: Animal-Microbe-Symbioses, Mount Snow, VT, USA, **Poster Price**
3. 5 - 8 Mar, 2017, Oral presentation, Investigating environmental bacteria by high resolution microscopy and transcriptional profiling: A case study with Poribacteria, Microbiology and Infection, Würzburg, Germany
2. 13 - 16 Mar, 2016, Poster, Shedding Light on the Candidate Phylum Poribacteria by Fluorescence in situ Hybridization Correlative Light & Electron Microscopy (FISH-CLEM), EMBL-Conference: From 3D Light to 3D Electron Microscopy, **Poster Price**
1. 3 - 4 Jun, 2015, Invited oral presentation, Transcriptional profiling provides evidence for cell compartmentation in poribacterial sponge symbionts, 2nd Planctomycetes-Verrucomicrobia-Chlamydiae Superphylum: New model organisms, Sevilla, Spain

ADVANCED TRAINING (SELECTION)

2023	Information Security and Data Privacy Course, University of Oxford
2023	Research and Human Tissue legislation course, Medical Research Council, UK
2022	FELASA Certificate for carrying out procedures on animals, (Certificate ID: 030/10/2022-032), University of Oxford
2020	Biology Graduate Teacher Training certificate, University of Oxford
2018	Management, Conflict strategies, Leadership tools, University of Kiel
2017	de.NBI CeBiTec Nanopore Sequencing Workshop , Bochum
2016	Advanced Imaging Processing & Analysis, University of Wuerzburg
2015	Good Scientific Practice, University of Wuerzburg

TEACHING EXPERIENCE & MENTORING (SELECTION)

2024	Supervised Milan Sobota's PhD student rotation (Oxford University)
2022-2024	Advanced Ecology and Evolution - Microbiome class (ID: 12759, 85546), Oxford University. <i>Designed & led a class on the microbiome and host-microbe interactions.</i>
2021	Experimental Evolution and Data Analysis (MT2021), Oxford University. <i>Supervised a student microbiology lab and trained in data analysis strategies.</i>

2017 - 2018 **Imaging and Microbial Ecology Course** (MNF_bioc_201) Kiel University. *Designed imaging experiments for students and supervised their execution.*

2019-present Mentoring S. Bhattacharya, Arpit Mago, Zheng Xiaoxuan in career questions

2023 Supervised Jacob Wright's PhD student rotation (Oxford University)

2020-2024 Co-supervise PhD student Leon Steiner (University of Kiel)

2017 - 2018 Employed assistant Florian Henkies

CONTRIBUTIONS TO SCIENTIFIC COMMUNITY

2025	junior group leaders representative
2020-2024	Equality, Diversity & Inclusivity Committee Member (Biology Department, University of Oxford)
2023	Co-Organiser in the Programme Committee 10th FEMS Congress of European Microbiologists– Hamburg, Germany, 9-12 July 2023 with > 1,800 participants
2017	Organiser Young Investigator Research Day, University of Kiel
2018-2019	GEOMAR Computing- Committee (representing 1000 employees)
Societies:	FEMS, ISME
Reviewer for:	ISME Journal, Nature Microbiology, Nature Communications, PNAS Trends in Microbiology, Genome Biology and Evolution, ASM, PLOS ONE