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EDUCATION

2014 (May 4th) PhD, University of Copenhagen, Denmark (UCPH)
2010 (Aug 26th) Master of Science, UCPH
2008 (Jan 23rd) Bachelors of Science, Aarhus University, Denmark

SCIENTIFIC FOCUS AREAS

Overall, I research how bacteria interact, the molecular biology behind interactions, and how these social interactions evolve and affect the ecology of bacteria. Basically, the molecular biology, ecology, and evolution of conflict, manipulation, sharing, and dependencies among bacteria.

I am particularly interested in the relationship between bacteria and their molecular symbionts, the mobile genetic elements (MGEs). We know that MGEs are important facilitators of horizontal gene transfer which, for example, has led to the critical increase of antibiotic resistance among infectious bacteria.

I study how MGEs interact with host genomes, in addition to how such interactions effect the social behavior of the host bacterium. I strive to answer these questions by investigating bacteria at the single cell level because population heterogeneity is likely an inherent ecological driver in these systems.

I address the above by hypothesis driven experimental research and have specialized in the application of single cells techniques including bacterial single cell transcriptomics, flow cytometry/fluorescence-activated cell sorting, develop molecular tools, and genetically engineer bacteria.

POSITIONS

2019-Tenure Tract Assistant Professor, Dept. of Biology, UCPH, DK
2016-18 Assistant Professor, Dept. of Biology, UCPH, DK
2013-16 Postdoc fellow, Dept. of Biology, UCPH, DK

RESEARCH LEADERSHIP/MANAGEMENT

2019-Research group leader of 5-10 persons (Principal Investigator)
2018-Bacterial flow cytometry/FACS facility, Sect. of Microbiology, UCPH (Manager, super-user)
2021-24 Strategic Research Committee, Dept. of Biology, UCPH (Member, Chair)
2023- Research Cluster Microbiology, Dept. of Biology, UCPH (Steering group)
2023 Responsible Conduct of Research for Academic Staff, UCPH (Participant)
2022-23 Leading Research program (Participant)
2020-21 Teaching and Learning in Higher Education program (Participant)

FUNDING

2023 Villum Foundation (PI, 1.0 mio DKK)
2022 Carlsberg Foundation Research Infrastructure (Co-writer, 7 mio DKK)
2020 Independent Research Fund Denmark (IP, 2,9 mio DKK)
2019 Villum Foundation (PI, 1,8 mio DKK)
2017 Lundbeck Foundation (PI, 2,1 mio DKK)
2013 Independent Research Fund Denmark (Co-applicant, 5,7 mio DKK)
2012 Carlsberg Foundation Research Infrastructure (Co-writer, 1 mio DKK)

ACADEMIC CITIZENSHIP

2023-Occupational Health and Safety Manager, Sect. of Microbiology, UCPH (Manager)
2023-Laboratory Responsible, Sect. of Microbiology, UCPH (Manager)

SUPERVISION AND TEACHING

Supervised >25 BSc students, >15 MSc students, 12 PhD students, 4 postdocs
Current teaching: Advanced Bacteriology 1; Advanced Bacteriology 2 (Course Responsible); Evolutionary Medicine; Microbial Biotechnology; Theory of Science for Biologists

REVIEWER, GRANT EVALUATIONS, CONFERENCE ORGANIZATION

2023 Session chair, Conference organizer: 16th Symposium on bacterial genetics and ecology (BAGECO 2023), Copenhagen & 1st Microbiology cluster symposium 2023, Copenhagen
2020-22 Reviewer of research grant proposals: Luxembourg National Research Fund & UK Research and Innovation Fund
2012 Ad hoc reviewer, e.g. Nat Communications, The ISME journal, mBio, Journal of Advanced Research, Biotechnology and Bioengineering

RECENT OUTREACH

2022 Podcast "Lyden af Videnskab", Sofie H. Schausen
2021 News Article "Forskere fra KU afsløre bakteriers evne til at lagre resistensgener, Ingeniøren
2021 Behind the paper "Can biofilms retain genetic information in the absence of selection", Nature Microbiology Community

BIBLIOMETRICS (as of June, 2023, Google Scholar)

39 peer-reviewed papers (1 book chapter)

H-index: 18

Citations: 2087

Published papers as first author: 8; as senior author: 5

COLLABORATORS

Lars Dietrich, University of Columbia, USA; Jan Roelof van der Meer, University of Lausanne, SH; Anna Kuchina, Inst. Systems Biology, USA; George Seeling, University of Washington, USA; Barth Smets, Technical University of Denmark, DK; Yifeng Zhang, Technical University of Denmark, DK; Tine R. Licht, Technical University of Denmark, Søren J. Sørensen, UCPH; Mette Burmølle, UCPH.