



Akbar Espailat (postdoc)

akesfe@biosustain.dtu.dk

Investigates the evolutionary dynamics towards persistency in clinical *Pseudomonas aeruginosa* lineages isolated longitudinally from patients. Comparisons of the bacterial genomes and their expression profiles with the chemical landscapes in the cell culture models used for bacterial colonization.



Anne Loch (Integrated Master/PhD Student)

annelo@biosustain.dtu.dk

Uses exo-metabolomic analysis to search for trends in the within-patient evolution of *P. aeruginosa* during chronic airway infections and investigating whether these trends are patient specific or specific for the *P. aeruginosa* lineage.



Antonella Colque (postdoc)

antcol@biosustain.dtu.dk

Determines the molecular mechanisms involved in bacterial adaptation, both at early and late chronic stages of infection, utilizing cystic fibrosis airways as a model. Application of new technologies to monitor high-resolution differential gene expression in bacteria and tissue cells.



Bjarke Haldrup Pedersen (PhD student)

bjhape@biosustain.dtu.dk

Focuses on the metabolic rewiring during within-patient evolution of *Pseudomonas aeruginosa* airway infections using metabolomic and proteomic analysis. Determination of the role of mutations in the key metabolic regulator Pyruvate Dehydrogenase in facilitating persistent infections by protecting the pathogen from oxidative stress.



Filipa B. Simões (postdoc)

filisim@dtu.dk

Employs Air-Liquid-Interphase cell cultures for characterization of the interactions between *Pseudomonas aeruginosa* and the human airway epithelium. Differentiated airway epithelial cells are exposed to a selection of *P. aeruginosa* clinical isolates from infected patients representing different levels of adaptation.



Hanna Müller-Esparza (postdoc)

hacome@biosustain.dtu.dk

‘Accessory Genome Accountability in Persistent *P. aeruginosa* infections’ is an EU-funded project, which focuses on probing the role of the accessory genome of *Pseudomonas aeruginosa* in the development of persistent infections. The project utilizes different types of CRISPR-Cas technologies.



Helle Krogh Johansen (professor, chief physician, PI)

hkj@biosustain.dtu.dk

helle.krogh.johansen@regionh.dk

Head of ‘Persistent bacterial infections, PERFECTION’ – a Challenge grant from the Novo Nordisk Foundation (2020-2025) (Center of excellence) focusing on translational biomedical research in relation to persistent bacterial infections.



Ifigeneia Kyrkou (postdoc)

ifikyr@biosustain.dtu.dk

Combines genomics and *in silico* approaches to answer complex questions in phage biology. Phages are viruses of bacteria and the most abundant entity both on the planet and within the human body, but their role in health and disease is still understudied.



Janus Anders Juul Haagensen (researcher)

jajh@biosustain.dtu.dk

Designs and develops optimal micro-fluidic model systems for cell line culturing and bacterial biofilm infections. Activities include antimicrobial treatment of infections in the model systems including PK/PD, microscopy of cell cultures and biofilm infections before and after treatment, data analysis, and image quantification.



Lise Goltermann (postdoc)

lisgol@biosustain.dtu.dk

Discoveries and characterization of antibiotic resistance mechanisms in *Pseudomonas aeruginosa*, in particular those involving mutations in ribosomal protein genes, and the consequential changes in bacterial physiology.



Mads Lausen (postdoc)

madsln@biosustain.dtu.dk

Investigates how the immune system contributes to the disease phenotype in cystic fibrosis (CF) patients. Using in-depth phenotypical and functional characterization of immune cell populations in CF patients coupled with clinical metadata, immunological parameters that contribute to infection establishment, persistency, and different disease progression are characterized.



Maria Pals Bendixen (MD, PhD student)

mapabe@biosustain.dtu.dk

Collects information about the novel CFTR modulator drugs for CF patients targeting the CFTR protein complex and partially restoring the CFTR function, leading to a significantly improved lung function in cystic fibrosis (CF) patients. Determination of the effect of the modulators on *Pseudomonas aeruginosa* properties through a variety of phenotypic analyses, whole genome sequencing data and metabolomics.



Ruggero La Rosa (senior researcher)

rugros@biosustain.dtu.dk

Investigates how bacteria control the ability to occupy different niches and how they optimize their physiology in response to the environment. Emphasis on how bacteria optimize their physiology in cases of infection with specific focus on metabolism and gene regulation, determining how bacteria fine-tune their physiology to tolerate stresses and antibiotics.



Signe Lolle (postdoc)

siglol@biosustain.dtu.dk

Develops *in vitro* differentiated airway epithelial cell model systems in order to study host-microbe interactions during early stages of airway infections. Monitoring how the cell cultures differentiate and self-organize into 3D pseudostratified epithelia useful for characterization of the early colonization processes in persistent infections.



Søren Molin (professor, Group Leader, PI)

sm@bio.dtu.dk

Head of the Infection Microbiology Group at DTU Biosustain and responsible for the development of the fundamental biological research activities to be translated into medical applications in the collaboration projects together with Professor Helle Krogh Johansen.