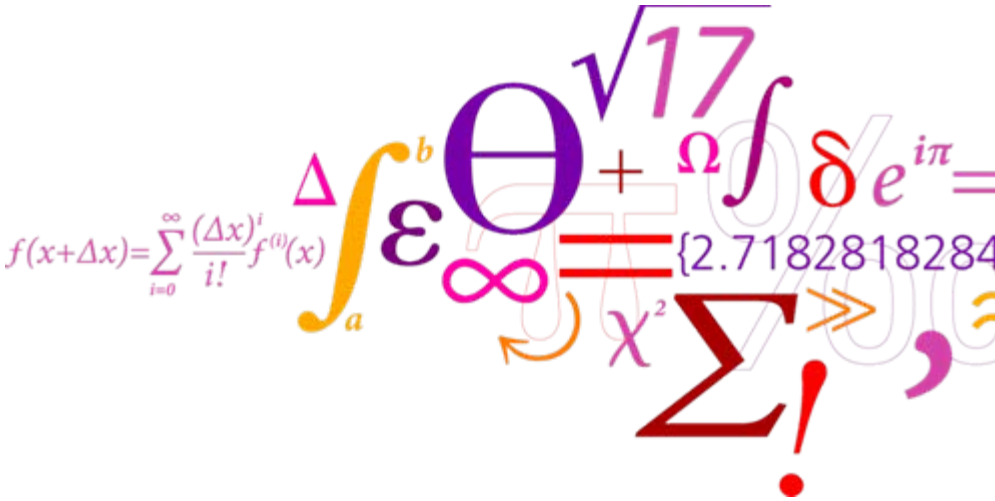
Biofilm projects at CSM, DTU

A brief list of current and planned projects



DTU Systems Biology
Department of Systems Biology

Research Topics

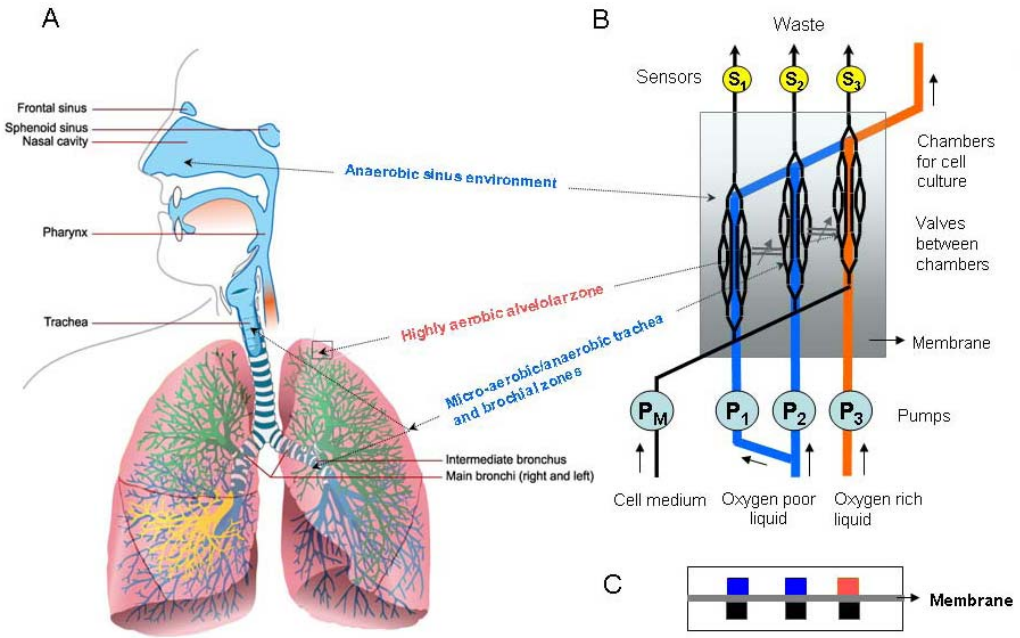
- Biofilms in Cystic Fibrosis Lungs
- Structure/Function Relationships (tolerance, growth activity, gene expression, diversity generation)
- Impact of physical/spatial factors (temperature, osmotic conditions, dimensions of the micro environment)
- Antibiotics

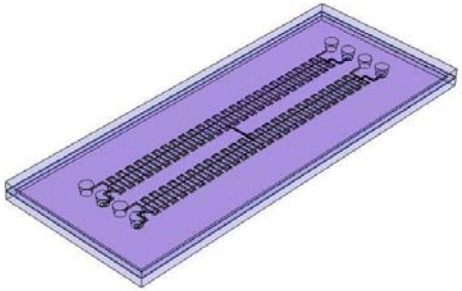
Projects

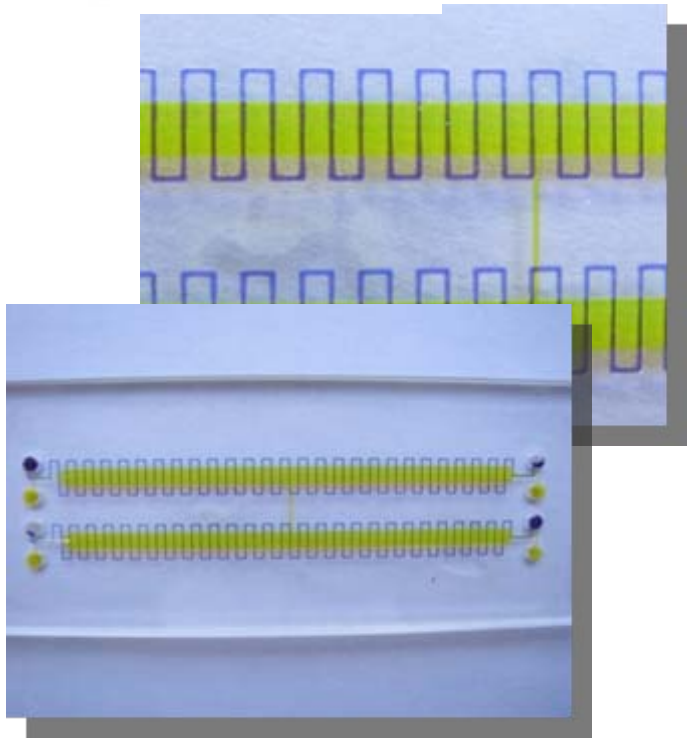
- **Martin W. Nielsen** (Ph.D. student): CF lung model biofilms, microfluidics (with DTU-Nanotech)
- **Sara Dühring** (Ph.D student): *Staphylococcus epidermidis* biofilms, adhesion mutants. AFM analysis.
- **Yang Liu** (Ph.D. student): Effects of β-peptoide antimicrobial peptides on biofilms (with KU)
- **Inna Dashevsky** (Master student): Micro-biofilms, HTP optimisation, metabolic analysis (HPLC)
- **Rune Lyngklip** (Master student): Anti-microbial peptides and biofilms (with commercial partner, Lytix Biopharma)

- **Liang Yang** (External Ph.D. student, superisor Tim Tolker-Nielsen, KU): Structure/function of *Pseudomonas aeruginosa* biofilms
- **Morten Harmsen** (External Ph.D. student, supervisor Susanne Knöchel, KU): *Listeria monocytogenes* biofilms, role of eDNA

One example: Artificial lungs







Technologies

- Flow systems
- Robotics:
  - Colony picker
  - Liquid handling robot
- Confocal microscope
- Atomic Force Microscope
- Biolog Omnilog 3