

**Swedish Microfluidics in Life Science conference 2025**

June 16 - 17

Belfragesalen

Klinikgatan 32, Lund ([link to google maps](#))

# Program



NanoLund

Centre for Nanoscience | Lund University



Engineering Health

# Monday, 16 June

**10:30** Registration and Coffee

**11:00** Welcome Address

## Session 1: Chair Håkan Jönsson

### Keynote Speaker 1

#### **11:10 Two Photon Polymerization for Structured and Dynamic Microfluidic Systems**

Christine Selhuber-Unkel, Heidelberg University, Germany

### Oral Presentations

#### **11:50 Three Organs-on-Chip Platforms with TEER read-out**

Sofia Johansson, Uppsala University

#### **12:05 Passive Viscoelastic Fluidic Components**

Enrico Turato, Lund University

### Exhibitor Flash Talks

#### **12:20 BergmanLabora – Life Science Research**

Oliver Garna, Bergman Labora

#### **12:25 Multipurpose Microfluidic**

Henrieke Meijer, Micronit

### Poster & industrial exhibition

**12:30 Lunch Break sponsored by  
BergmanLabora**



## Session 2: Chair Björn Hammarström

### Keynote Speaker 2

#### **13:30 Cells Under Stress – Deformability Cytometry for High-Throughput Phenotyping**

Shada Hofemeier Abu Hattum, Max Planck Institute for the Science of Light, Erlangen

## Oral Presentations

### **14:10 Multimodal acoustofluidic control: towards manipulating single cells**

Alexander Edthofer, Lund University

### **14:25 A Practical Method for Generating Small-Intestine-on-a-Chip Devices Through Viscous Finger Patterning Technique**

Sergio Davila Martinez, Lund University

## Pitch Presentations 1

### **14:40 Nickel Monitoring Using a Distance-Based Paper Analytical Device**

Enahoro Asein, Stockholm University

### **Microfluidic Separation of Polyploid Cancer Cells**

Jason Beech, Lund University

### **Unraveling Breast Cancer Heterogeneity: Microfluidic Sorting and Bioassay-Based Functional Analysis**

Esra Yilmaz, Lund University

### **Quantitative Analysis of Dynamic Biofilm Structures via Time-Resolved Droplet Microfluidics and Artificial Intelligence**

Daniela Pérez Guerrero, University of Gothenburg

### **Identification and Segmentation of Fungal Soil-Borne Plant Pathogens Using Microfluidic Soil Models and Deep Learning Image Analysis**

Erik Karlsson, Lund University

### **Race me to breakfast: dispersal speed of soil bacteria into artificial soil spaces**

Ada Behncké Serra, Lund University

### **Investigation of Communication Between Single Cells Using Microfluidic-Based Electroporation**

Yupeng Yang, Lund University

### **An in vivo mimetic Liver-Lobule-Chip (LLoC) for stem cell maturation, and zonation of hepatocyte-like cells**

Charlotte Hamngren Blomqvist, University of Gothenburg

### **Improved Nanochannel Microscopy for Single Extracellular Vesicle Analysis**

Viktoria de Carvalho, Chalmers University of Technology

**Synchronisation of Calcium Oscillations in Pancreatic  $\beta$ -Cells Using Microfluidics and Fluorescence Microscopy**

Elisa Ortiz Rivero, University of Gothenburg

**Ultra Compact Spectrophotometer for Flow Analysis**

Veiko Rütter, Tallinn University of Technology

**Enhanced optical biosensing using semiconductor nanowires**

Noah Al-Khulaifi, Lund University

**Digested double emulsions manufactured by microfluidics enhance permeability of encapsulated peptide**

Hannah Pohlitz, Uppsala University

**Poster & industrial exhibition**

15:25 Fika sponsored by Micronit



**Session 3: Chair Hanbang Zou**

**Oral Presentations**

**16:10 A versatile microfluidic platform for mimicking liver zonation in vitro**

Reza Mahdavi, Gothenburg University

**16:25 Detection of soilborne fungal and oomycete plant pathogens through the use of microfluidic SoilChips and deep learning**

Julia Forsbacka, Lund University

**16:40 Towards the generation of extracellular matrix protein microcapsules using droplet-based microfluidics**

Sadaf Pashapour, Heidelberg University

**16:55 Automated Isolation and Concentration of Bacteria from Blood Samples for Rapid Sepsis Diagnosis**

Mohammad Osaid, KTH Royal Institute of Technology

**17:10 Elasto-Inertial Spiral Microfluidics for Size-based Bacteria Separation for Sepsis Diagnostics**

Kenia Chávez Ramos, KTH Royal Institute of Technology

**19:00 Conference Dinner**

Bryggan Kitchen & Café, Formstråket 13, 223 62 Lund ([link to google maps](#))

# Tuesday, 17 June

## Session 4: Chair Thierry Baasch

### Keynote Speaker 3

**09:00 Integrating Microfluidics and Light Sheet Illumination for Whole-Cell Multi-Target 3D Single-Molecule Super-Resolution Imaging**  
Anna-Karin Gustavsson, RICE University, Houston

### Pitch Presentations 2

**09:40 A Paper-on-a-Roll Platform Integrating Paper-Based Analytical Devices for Automated Water Monitoring**  
Enahoro Asein, Stockholm University

**AI-Assisted Soil Microorganism Analysis In Soil Chips**  
Hanbang Zou, Lund University

**A Tale of Waves and Light: Formation Mechanism of Supported Lipid Bilayer Highly Curved Lightguiding Nanowires**  
Julia Valderas Gutiérrez, Lund University

**Optical Fibers for Cancer Cell Detection and Capture**  
João Carlos Varela, KTH Royal Institute of Technology

**Single molecules and how to find them (on nanowires)**  
Rubina Davtyan, Lund University

**Uncovering Metal Induced Collateral Resistance in Bacteria Using a Droplet-Based Microfluidic System**  
David Gonzalez, Tallinn University of Technology

**Whole Blood Acoustophoresis Maintains Platelet Function Without Significant Activation**  
Amal Nath, Lund University

**Bacterial Strain Typing Using Optical DNA Mapping**  
Radhika Nambannor Kunnath, Chalmers University of Technology

**Enhanced Chemical Reaction Rate via Mixing with Viscoelastic Waves at Low Reynolds Numbers**  
Enrico Turato, Lund University

**Nanoelectroporation: a potential new delivery method for epigenetic editing**

Frida Ekstrand, Lund University

**Shake it till you make it: Bulk and digital seeding amplification assay for early Parkinson's disease diagnosis**

Karolina Matulewska-Sobczuk, Lund University

**Immune niche-on-a-chip enabled by in situ high-resolution 3D printing**

Simon Sayer, UpNano

**Moving from Spheres to Soft Bacteria: Shape and Softness Alter particles**

Elham Akbari, Lund University

**The Formation of Cell Clusters in Flow**

Jason Beech, Lund University

**Poster & industrial exhibition**

10:25 Fika sponsored by



Zeiss

**Session 5: Chair Elisa Ortiz Rivero**

**Oral Presentations**

**11:10 High-Throughput In Situ Photolithographic Synthesis of Nucleic Acids on Microarrays for Aptamer Screening and Digital Data Storage**

Tadija Kekic, Lund University

**11:25 IntesTiny: Microfluidic device for the investigation of nanoparticle biotransformation in the gastrointestinal tract**

Yael Suarez, Uppsala University

**11:40 Label-free droplet image analysis with Cellprofiler**

Dániel Kácsor, Tallinn University of Technology

**Poster & industrial exhibition**

**11:55 Networking Lunch – industrial exhibition**

## **Session 6: Chair Sofia Johansson**

### **Keynote Speaker 3**

#### **12:55 Bacteria–Immune System Interactions for Innovative Vaccine Development**

Di Tang, Lund University, Sweden

### **Oral Presentations**

#### **13:35 Parallel 3D Microtumour Generation by Continuously Adapting Ultrasound**

Björn Hammarström, KTH Royal Institute of Technology

#### **13:50 Utilizing nanochannel microscopy for charge measurements of single extracellular vesicles**

Elin Persson, Chalmers University of Technology

#### **14:05 Combining paper-based microfluidics with electroanalysis for on-site manganese detection**

Enahoro Asein, Stockholm University

#### **14:20 Award Ceremony and Concluding Remarks**

#### **14:30 Conference adjourns**