Program Group Retreat of the Soft Matter Lab

Date: 18 October 2024
Place: Wallenberg Conference Center
Time: 9-17

9:00 - 9:15	**Welcome**
9:15 - 10:00	**Session 1**
10:00 - 10:30	Morning Fika
10:30 - 11:15	**Session 2**
11:15 - 11:30	Short break
11:30 - 12:15	**Session 3**
12:15 - 12:30	**Group Picture**
12:30 - 14:00	Lunch break
14:00 - 14:45	**Session 4**
14:45 - 15:15	Fika
15:15 - 16:00	**Session 5**
16:00 - 17:00	**Closing Remarks**

Afterwork > 17:00
Optional.

Session 1

- **Yuxin Guo**: Brain Connectome Analysis Using Deep Learning Techniques
- **Fredrik Skäberg**: 3D Rotation Recovery and Tomographic Reconstruction of Biological Objects
- **Jason Lewis**: Simulating Intelligent Active Matter
- **Linnea Landstedt**: Analysis of kidney cells exposed to shear stress in a microfluidic system
- **Benjamin Midvedt**: Modality agnostic, optical nanoparticle sizing using contrastive learning

Session 2

- **Elisa Ortiz Rivero**: Probe-free tracking of intracellular insulin granules by off-axis holographic microscopy
- **Vide Ramsten**: Physical Neural Networks with Robots
- **Martin Selin**: Autonomous optical tweezers
- **Daniela Pérez Guerrero**: Biofilm Formation Analysis via Time-Resolved Droplet Microfluidics and Artificial Intelligence

Session 3

- **Janko Vrcek**: Investigating the dynamics of protein condensates via computer simulations and theory
- **Gan Wang**: Microfabrication techniques application: from passive particle manipulation to active microswimmer, micromachine and microfluidic control
- **Antonio Ciarlo**: Mean Back Relaxation with inertial effects
- **Mirja Granfors**: Global graph features unveiled by unsupervised geometric deep learning

Session 4

- **Norma Caridad Palmero Cruz**: Study of communication between the microbiome and neuronal activity using the zebrafish as a model
- **Yuchao He**: Particle tracking with Lodestar and MAGIK
- **Nienke Coelingh**: The role of selected chromatin remodelling factors in protein homeostasis upon stress
- **Aarón Domenzain del castillo Cerecer**: Simplifying Particle Tracking: An Accessible Guide for Experimental Researchers
- **Linde Viaene**: Single-molecule microscopy and the start of image analysis

Session 5

- **Jesus Pineda**: Geometric deep learning unravels nanostructures in single-molecule localization microscopy
- **Mingqi Peng**: holographic microscopy for age- and disease-associated protein aggregates
- **Laura Natali**: Variational autoencoder in a swarm of robots
- **Hang Zhao**: Brain connectome and deep learning