



# SOFT Microscopy Centre –

Meeting for Microscopy Network autumn 2024 – the 5th of December 2024

Location: RISE Agriculture and Food, Frans Perssons väg 6, Göteborg

## Theme: Nuclear Magnetic Resonance (NMR), AI and image analysis

### PROGRAM

- 09.00 – 09.30** Coffee and registration
- 09.30 – 09.40** Welcome to the microscopy network meeting  
*Niklas Lorén, Torben Nilsson Pingel, Eva Olsson, Mats Stading*
- 09.40 – 10.10** Materials analysis and characterization using solid-state NMR spectroscopy enhanced by dynamic nuclear polarization  
*Lars Evenäs, Chalmers University of Technology*
- 10.15 – 10.45** Synergies between nuclear magnetic resonance and microscopic based techniques  
*Diana Bernin, Chalmers University of Technology*
- 10.50 – 11.25** Magnetic Resonance Imaging (MRI) of soft matter and biological tissues  
*Daniel Topgaard, Lund University*
- 11.30 – 12.30** Lunch
- 12.30 – 13.00** Introduction to AI techniques and image analysis  
*Aleksis Pirinen, RISE*
- 13.05 – 13.35** Determining the local atomic structure of 2D materials using machine learning enhanced convergent beam electron diffraction  
*Andrew Yankovich, Chalmers University of Technology*
- 13.40 – 14.10** What to think about when setting up your first AI project?  
*Aleksis Pirinen, RISE*
- 14.15 – 14.35** Photos, micrographs and AI – a photographer’s view  
*Mats Stading, RISE, and Miyu Takahashi, University of Tokyo*
- 14.35 – 15.00** Coffee break
- 15.00 – 15.15** Demonstration of AI softwares and scripts
- 15.20 – 16.20** Hands-on image analysis examples
- 16.25** Concluding remarks
- 16.30** End of meeting