Symposium program

8:45 **Welcome & Registration**

9:00 **Opening remarks by organizers**

Session I: Advanced microscopy tools for single protein observation (chair: Thanat Chookajorn)

9:15 **Lars-Anders Carlson** (Umeå University, Sweden)

"What cryo-electron tomography can teach us about positive-sense RNA virus replication?"

9:45 **Ricardo Henriques** (Instituto Gulbenkian de Ciência, Portugal)

"Open technologies in the quest for nanoscale live-cell imaging"

10:15 **Coffee break**

Short talks: Electron & Optical Microscopy (chair: Lauri Pulkkinen)

10:30 Orane Guillaume-Gentil: *"Fluidic force microscopy for studying host cell dynamics and communication in virus infection"*

10:45 Özer Erguvan: *"Ultra-structural characterization of cell adhesion in plant"*

11:00 Himanshu Sharma: *"Ribosome clustering and surface layer reorganization in the microsporidian host-invasion apparatus"*

11:15 Stefanie Willekens: *"3D Fluorescence Imaging for visualization and quantification of neurotropic viral infections"*

Session II: Biophysics tools for biological systems (chair: Hudson Pace)

11:30 **Magnus Andersson** (Umeå University, Sweden)

"Biomechanical Characterization of Protein Nanofibers using Laser Optical Tweezers"

12:00 **Peter Hinterdorfer** (Johannes Kepler University Linz, Austria)

"Avidity amplification of SARS-Cov-2 spike variants explored with high-speed AFM and single-molecule force spectroscopy"

12:30 **Lunch**

Session III: Bioinformatics and computational tools (chair: Hadrien Gourlé)

13:30 **Laura Carroll** (Umeå University, Sweden)

"There's ANTHRAX in my soup!?! Bacterial species delineation in the genomic era"

14:00 **Adolfo Poma** (Institure of Fundamental Technological Research - PAN, Poland)
"Nanomechanics of Protein Complexes by GōMARTINI Simulations"

Short talks: Biophysical Tools & Computational Biology (chair: Stephane Verger)

14:30 Hanna Isaksson: *"Adaptive evolutionary trajectories from unicellularity to differentiated multicellularity and back again"*

14:45 Adrien Heymans: *"Combining cross-section images and modeling tools to create high-resolution root system hydraulic atlases"*

15:00 Sunanda Chhetry: *"Investigating the Maturation of CRISPR RNA in an atypical CRISPR-Cas System"*

15:15 Priyojit Das*: "Alteration of the structural properties of the chromosome X during inactivation: a polymer simulation-based approach"*

15:30 **Poster session over coffee break**

16:15 **Open discussion:** *"Available physical and computational tools in biology at Umeå University"* with invited speakers and local facility managers

16:45 **Closing remarks**