

Titel:

Advancing Image Analysis through Assisted and Autonomous Segmentation in Life Sciences

Abstract:

Imaging and image analysis are fundamental components of medical and biological research, providing insights into cellular processes.

Microscopic techniques, such as transmission electron microscopy (TEM), offer unparalleled visualization of intricate structures and sub-cellular organelles, shedding light on cellular dynamics and organization.

Despite the vast amount of data generated by these techniques, their utility is constrained by the time and effort required for subsequent analyses.

In this seminar we focus on advancing ultrastructural segmentation of myocytes using TEM data through cutting-edge deep learning models.

The presentation includes state-of-the-art models for image segmentation, along with methods for assisted image segmentation, fine-tuning, and automation, promising to enhance the efficiency and precision of ultrastructural analyses in biological research.