

# Seminar Speaker Series

in the framework of Interreg V-A project CAPSID

presents

## Dr. Florian Schur

Institute of Science and Technology, Austria

# From Viruses to Cells

Toward high-resolution cellular structural biology using cryo-electron tomography

**28.5.2020 at 14:00**

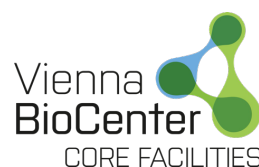
Online virtual talk via Zoom

[Join this talk here](#)



Zoom meeting details will be e-mailed to you.

Organized by:



## TITLE

# FROM VIRUSES TO CELLS - TOWARD HIGH-RESOLUTION STRUCTURAL CELL BIOLOGY USING CRYO-ELECTRON TOMOGRAPHY

## ANNOTATION

Structural plasticity and movement play fundamental roles in life, from the level of whole organisms down to cells, viruses and individual molecules. The Schur group uses advanced cryo-electron microscopy and image processing methods to study the structure and function of protein complexes in situ, where they can adopt different conformations or are continuously remodeled. The Schur group focuses on the dynamic actin cytoskeleton, the key player in the ability of cells to move. Actin-mediated cell migration is important in physiological events as embryonic development or wound healing, but deregulation of these processes leads to pathologies including tumor cell metastasis and pathogen infection. The team thus aims to understand the underlying structural principles that control these complex mechanisms. In addition, they are studying complex and irregular viruses, including retroviruses and selected DNA-viruses, where the latter are also important model organisms to understand actin-mediated pathogen propulsion. Viruses are useful tools for electron microscopy method development, but deciphering their structure is also crucial for understanding features of the viral lifecycle, as assembly and infection

## REFERENCES

[1] Dick RA, Xu C, Morado DR, Kravchuk V, Ricana CL, Lyddon TD, Broad AM, Feathers JR, Johnson MC, Vogt VM, Perilla JR, Briggs JAG, Schur FK. 2020. Structures of immature EIAV Gag lattices reveal a conserved role for IP6 in lentivirus assembly. *PLOS Pathogens*. 16(1), e1008277.

[2] Schur FK. 2019. Toward high-resolution in situ structural biology with cryo-electron tomography and subtomogram averaging. *Current Opinion in Structural Biology*. 58(10), 1–9.

Organized by:

