

Regular Wednesday IMG seminar



Ondřej Ballek

Laboratory of Immunobiology

“An intimate dance of two: revealing membrane morphology in early immunological synapse”

T cells are central to how the immune system recognizes and responds to threats, yet the physical organization of their surface during activation is not fully understood. In this lecture, we use advanced imaging techniques to explore how T cells interact with antigen-presenting cells. Using high-pressure freezing combined with TEM and FIB-SEM microscopy, we show that, at the contact site, known as the immunological synapse, the cell membrane forms a highly dynamic and complex structure, increasing its surface area through fine protrusions. This architecture creates an optimal environment for signaling and antigen recognition. These findings provide new insight into the earliest steps of immune activation and highlight how cell structure supports immune function.

The seminar will be held

on Wednesday 13 May 2026 at 15:00

in the Milan Hašek Auditorium at IMG

(Institute of Molecular Genetics of the Czech Academy of Sciences, Vídeňská 1083, Prague 4)
