
Regular Wednesday IMG seminar



Marie Zelená, M.Sc.

Laboratory of Cell Motility

“Every stick has two ends – Using high resolution imaging to characterize both ends of the eukaryotic flagellum”

The eukaryotic flagellum is important for cell motility. The microtubule-based axoneme generating the flagellar beating has been extensively studied. However, additional structures are associated with the proximal and distal end of the flagellum, with their composition and processes of their formation being poorly understood.

To gain an insight into these structures we have studied them in the protozoan parasite *Trypanosoma brucei*, which is experimentally highly tractable. First, we focused on the flagellar pocket around the proximal end of the flagellum, which is the exclusive site for endocytosis and exocytosis of the parasite. Using expansion microscopy we were able to define discrete stages of the flagellar pocket division and formation of the flagellar pocket collar, which seals the pocket. Second, we took advantage of our knowledge of the flagellum distal-end proteome and combined it with expansion microscopy and cryo-electron tomography to characterize the enigmatic microtubule plugs at the distal end of the flagellum.

Our work elucidates aspects of the flagellar biology of an important parasite. Moreover, given the conserved nature of the organelle, our results have also implications for flagella across eukaryotes.

The seminar will be held

on Wednesday 4th December 2024 at 15:00

in the Milan Hašek Auditorium at IMG

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