

PhD student position – Cell-to-cell transfer of influenza A virus in cell culture and organoids

The Department of Infectious Diseases, Virology at the University Hospital Heidelberg, Germany offers [positions for PhD students](#) working on [Cell-to-cell transfer of influenza A virus in cell culture and organoids](#) in the group of Prof. Dr. Hans-Georg Kräusslich and within the framework of the DFG-funded collaborative research center 1129 (<https://www.sfb1129.de/>).

Type A influenza viruses (IAV) bud from the apical surface of polarized epithelial cells. Different IAV strains exhibit spherical or filamentous morphology with clinical specimens mostly being filamentous. IAV enters its target cell mostly via clathrin-mediated endocytosis, but also by macropinocytosis. This is followed by fusion from acidic endosomes. Several host factors, including proteins and membrane sphingolipids, have been implicated in supporting and restricting IAV infection, but their mechanisms of action are only partly known, and the route of entry for filamentous IAV is largely unexplored. This project will apply state-of-the-art confocal and super-resolution microscopy as well as correlative light and electron microscopy (CLEM) to gain a better understanding on IAV entry and spread. Besides established cell culture systems for IAV, this work will also include infection of primary respiratory cells and of 3D lung organoids of human origin. This will be complemented by collaborations on structural analyses of IAV using cryo-EM and on physico-chemical parameters of the endocytic cell-virus machinery.

We offer interesting, interdisciplinary research topics with biomedical relevance in an interactive scientific environment, including collaborations with national and international partners, at an internationally competitive level.

Applicants should have a Master degree (biology, biochemistry, biophysics or molecular medicine) and should be interested in addressing basic questions in virology using different methods. A good background in standard molecular biological methods is expected. We are specifically looking for candidates with a background in cell biology, fluorescence imaging and image analysis, biochemistry, or biophysics.

We are looking forward to meet candidates motivated by true scientific curiosity, who enjoy working independently, but also love to interact, discuss and collaborate with scientists from different disciplines and nations. Successful candidates have the possibility to apply for the HBIGS International Graduate School to fully benefit from the excellent scientific training of this program.

Positions are open immediately; deadline for applications is **July 15th, 2019**.

[Address applications \(motivation letter, CV, academic records, letters or contact details from two referees\) as single pdf-document to: \[martina.nierle@med.uni-heidelberg.de\]\(mailto:martina.nierle@med.uni-heidelberg.de\)](#)