Job posting

Type of position

☒ scientific
☐ administrative

Target group

☒ graduates
☐ post docs
☐ other

Title

2 PhD positions (f/m/d) - Cryo-EM image processing at the ERC-3 in the field of structural biology of the Forschungszentrum Jülich

Institution

The Forschungszentrum Jülich GmbH (FZJ) conducts interdisciplinary research in the fields of health, energy and the environment, and information, based on the key competencies of physics and supercomputing. With around 5800 employees (2018), it is one of the largest research institutions in Europe.

Position

CoViPa (Corona Virus Pathogenesis) is a newly funded, internationally competitive and interdisciplinary network funded by the Helmholtz Association for the duration of 4 years starting on 1st of August 2021. The main focus of the network is to gain knowledge about the virological and immunological drivers of COVID-19 pathogenesis and the parameters of immune protection.

The candidates will work on critical virus-host interactions that most likely account for the direct cytopathogenic effect of SARS-CoV-2 and other coronaviruses. As our main tool we will employ advanced imaging methods, including cryo-EM, correlative light and electron microscopy/tomography (CLEM), live cell imaging and super-resolution microscopy as well as associated image processing.

Detailed project descriptions: https://covipa.dkfz.de

Responsibilities

1. The candidate will be using and developing cryo-EM image processing methods to determine the 3D structures of biological macromolecules. We expect to use novel imaging approaches and apply computational methods of pattern recognition, artificial intelligence and deep learning to improve 3D reconstruction and density map interpretation methods. Familiarity with the Unix operating system is required and prior knowledge in programming will be a plus.
2. The candidate will be working on high-resolution cryo-EM structure determination of in situ cellular samples using correlative light and electron microscopy approaches.
**Requirements**

1. The successful candidate should have a master degree in bioinformatics, biophysics or related field.
2. The successful candidate should have a master degree in biochemistry/cell biology, biophysics or related field.

**Application procedure (deadline etc.)**

! Deadline: 2\textsuperscript{nd} of July 2021 !

Submission of written applications to the CoViPa Office (covipa-bw@dkfz-heidelberg.de)

The applications will be forwarded to Prof. Dr. Carsten Sachse

**Contact**

CoViPa Office

covipa-bw@dkfz-heidelberg.de