



The Max Planck Institute for Multidisciplinary Sciences is a leading international research institute of exceptional scientific breadth. With more than 40 research groups and some 1,000 employees from over 50 nations, it is the largest institute of the Max Planck Society.

The Department of *Theoretical and Computational Biophysics* headed by Helmut Grubmüller is inviting applications for a

PhD Student or Postdoc (f/m/d)

for the project

Theory and Algorithms for Structure Determination from Single Molecule X-Ray Scattering Images

Project description

Single molecule X-ray scattering experiments with free electron lasers offer a new route to the structure determination of biomolecules. In addition, they hold the potential to not only determine the molecular structure, but also its dynamics. However, computing the structure from such data poses a highly complex mathematical problem, and new theoretical methods and algorithms are required. The main goal of this particular research project is to develop Bayesian methods to determine molecular structures and dynamics. It also offers the opportunity to work with data from the European XFEL facility at DESY and, depending on the interests of the applicant, many possible connections to other research areas like, for example, molecular dynamics or machine learning.

Project website: <https://www.mpinat.mpg.de/628848/SM-Ultrafast-XRay-Diffraction>

Your profile

- Strong skills in theoretical and computational physics or probability theory
- Great interest in interdisciplinary research and collaboration with experimental groups

PhD students hold (or expect to complete soon) a Masters or equivalent degree in physics, mathematics or any related field; correspondingly, postdocs hold a PhD or equivalent degree in the above mentioned fields.

What we offer

- State of the art on-site compute facilities
- Competitive research in an inspiring, world-class environment
- A wide range of offers to help you balance work and family life: on-campus kindergarten places including vacation care, parent-child offices, etc.
- Further training opportunities and free in-house language courses

The group language is English, so no German language skills are required – but it is a great opportunity for you to learn German!

Position details

PhD students will have the opportunity to participate in one of several available PhD programs, with three years funding, in collaboration with the University of Göttingen. Masters students aiming at a fast track PhD are also welcome. The Postdoc position is limited to two years with a possibility of extension.



Payment and benefits are based on the German Public Service Payscale (TVöD Bund) guidelines. The starting date is flexible.

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and, therefore, encourages applications from such qualified individuals. The Max Planck Society strives for diversity and gender equality and welcomes applications from all backgrounds.

Application

Applications will be reviewed on a rolling basis until the position is filled.

Please submit your application including a cover letter (explaining background and motivation), a CV and transcripts (translated to English or German, if applicable) preferably via e-mail and as a single PDF file to:

ausschreibung27-23@mpinat.mpg.de

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Information pursuant to Article 13 DS-GVO on the collection and processing of personal data during the application process can be found on our website below the respective job advertisement.