The **Thorn Laboratory** at the **University of Würzburg** (Germany) is recruiting a

Postdoctoral Researcher (m/f/d)
In crystallographic data analysis and methods development

Structures of biomolecules, such as the DNA double helix or protein drug targets, are usually solved with single-crystal diffraction data. However, these data are often flawed. We are looking to recruit a researcher to tackle this problem: You will undertake research in the group of Dr. Andrea Thorn to create new automatic and visual diagnostics for diffraction experiments, employing statistical data analysis and machine learning. This will enable us to improve measurements and processing of diffraction data, to establish major error sources and define new best practices for macromolecular diffraction experiments. For this project, collaboration was set up with four of the major diffraction facilities in Europe: the BESSY synchrotron in Berlin, the European Spallation Source (ESS) in Lund, the ESRF in Grenoble as well as the European XFEL in Hamburg. You will visit these facilities regularly to develop and implement new diagnostics in close collaboration with the scientists there and publish your results in peer-reviewed journals.

What we offer

We offer a 30-month full- or part-time position at the Rudolf-Virchow Center (RVZ) of the University Würzburg, the birthplace of X-rays, with a competitive TV-L salary; your position is funded by the German Federal Ministry of Education and Research (BMBF) as part of the [AUSPEX project](). This exciting project will allow you to define new quality standards in macromolecular structure determination and to establish a network in the European crystallographic community. Our group is well-connected and AUSPEX is part of the CCP4 suite for macromolecular crystallography.
The RVZ is an excellent place to develop yourself further and a range of training and development opportunities will be available to you, including career support.
You will have access to both national and public-service pension schemes (VBL), health care, and 30 days of holiday entitlement in addition to 13 annual public holidays in Bavaria. The JMU Welcome Center supports international candidates in finding accommodation as well as administrative matters - and the University also offers support for researchers with children, including flexible work hours and a kindergarten.

Your qualification profile

You should have a doctoral degree in a physical, computational, chemical or other relevant subject or be due to complete your doctoral studies within 3 months of applying. You should be able to develop your own ideas, and have the necessary skills to successfully drive and complete a research project, both working independently and as part of a team. We are looking for someone with a good working knowledge of Linux, Python and C++. You should be good at data analysis, ideally including experience with the statistical package R, image analysis and machine learning. You should already have experience with crystallography or be willing to learn both its theoretical basis as well as its practical application on the job.

Due to the collaborative nature of this project, you should be a good communicator; an excellent command of English is a prerequisite. You will be expected to present your work both at in-house and international meetings, and to contribute to teaching.

Female scientists are particularly encouraged to apply. Disabled applicants will be preferentially considered in case of equivalent qualification.

Applications should be sent by e-mail as one single pdf-document including: cover letter, curriculum vitae (including any software projects you contributed to, a detailed list of programming and data analysis qualifications, crystallographic skills (if any), teaching experience and academic track-record), diplomas/certificates and 3 addresses of referees **by October 13th, 2019** to **andrea.thorn@uni-wuerzburg.de**.

If you have any further questions, please do not hesitate to contact us!

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Lap page: **www.uni-wuerzburg.de/rvz/forschung/assoziierte-forschungsgruppen/ag-thorn/**