Within the interdisciplinary research project MOSLA (MOlecular Storage for Long-time Archives), the **Faculty of Mathematics and Computer Science** - Bioinformatics Group, Prof. Dr. Dominik Heider, offers one position as

Research Assistant
(PhD student)

The position is offered for a period of 3 years, if no former times of qualification must be considered. The starting date is January 1st 2020. The positions are part-time (**65 % of regular working hours**) with salary and benefits commensurate with a public service position in the state Hesse, Germany (TV-H E 13, 65 %).

The candidate will be responsible for the development of bioinformatics software, novel algorithms, and visualizations to depict the effect of weighing in reading frame and genomic patterns in the decoding of information stored in biological molecules or chemical compounds. The desired end result is to visualize the qualitative and quantitative improvement of decoding when using different encoding/decoding strategies. The successful candidate will examine possible patterns that range from naturally occurring sequences to repeats, or functional patterns (secondary structure), and define successful strategies of encoding/decoding. In turn, these may be used as quality control checks once PCR amplification and sequencing have been completed. A foundational aspect of this project is the creation of adapted representations and algorithms to account for different encoding/decoding strategies. Her/His efforts include but are not limited to developing novel algorithms, implementing a visualization framework, and maintaining a documentation and a code base to benefit both the community and the research project.

In the research project MOSLA, the University of Marburg and the University of Giessen will jointly develop novel approaches and solutions for long-time archives based on molecular and chemical storage systems. Besides the technical solutions of data storage, they will also research in (de-)coding of information for long-time storage, which will be achieved by a combination of genetic and chemical information encoding. The project is funded by the Hessian Ministry for Science and Arts.

The positions are limited to a time period deemed adequate for the completion of a doctoral degree. As part of the assigned duties, there will be ample opportunity to conduct the independent scientific research necessary for the completion of a doctorate. The limitation complies to § 2, 1 WissZeitVG.

We expect the candidate to have a Master in bioinformatics, computer science, data science, physics or a similar field, good programming skills, and the willingness to work in an interdisciplinary collaborative project together with partners from different areas. Disposition to own scientific qualification (e.g. a doctorate project in the area bioinformatics) is expected.

We actively support the professional development of junior researchers, e.g., by the offers of Marburg Research Academy (MARA), the International Office, and the Human Resources Development Office.

We support women and strongly encourage them to apply. In areas where women are underrepresented, female applicants will be preferred in case of equal qualifications. Applicants with children are welcome – Philipps-University is certified as a family-friendly university. A reduction of working time is possible. Applicants with a disability as described in SGB IX (§ 2 Abs. 2, 3) will be preferred in case of equal qualifications. Application and interview costs cannot be refunded.

Application documents are to be submitted as one pdf-file to the Department of Mathematics and Computer Science, moslajob@synmikro.uni-marburg.de until October 25th 2019, quoting the reference number fb12-0023-MOSLA-wmz-2019.