



The IMB ([www.imb.de](http://www.imb.de)) is a research centre on the campus of **Mainz University, Germany**. It is generously funded by the Boehringer Ingelheim Foundation and the state of Rhineland-Palatinate. Our research focuses on the *biology of the cell nucleus* and ranges from the molecular level to systems and computational approaches. Researchers at IMB are supported by strong core facilities that offer state-of-the-art services in bioinformatics, cytometry, genomics, microscopy, proteomics, and protein production.

The group of **Katja Luck** is looking for a MSc. student (start date as soon as possible).

Proteins interact with each other and with other cellular components to mediate cellular function and organization. Perturbation of these interactions by environmental insults or mutations can cause disease. The amino acids that mediate the binding between two interacting proteins are referred to as the interaction interface. Our understanding of the different types of interaction interfaces between proteins is still very limited owed to difficulties in the experimental and computational characterization of protein interaction interfaces. Advances in the identification of protein interaction interfaces would greatly help in the characterization of genetic variants. The Luck lab aims to develop novel computational and experimental methods to identify protein interaction interfaces and to use that information to characterize genetic variants.

#### **MSc. project: Developing cross-linking for the detection of protein interaction sites**

The MSc student will develop strategies for the detection of protein interaction interfaces on a medium-throughput scale using cross-linking mass spectrometry. To this end, the candidate will perform molecular cloning, protein interaction, protein blotting, and protein cross-linking experiments in human cell culture. The candidate will furthermore be involved in the analysis and interpretation of mass spectrometric data to identify the position of cross-linked sites. We are looking for a student with a strong interest in studying protein function and the detection and characterization of protein-protein interactions. If you are a strong team player who likes to work in an international environment with dedication to and excitement for science, then please get in touch with us.

**Please send your application (CV, short motivation letter, contact information for references) to [k.luck@imb-mainz.de](mailto:k.luck@imb-mainz.de).**

#### **References**

- Luck K., Kim DK., Lambourne L., Spirohn K., ..., Hill D.E., Vidal M., Roth F.P., Calderwood M.A. (2020). A reference map of the human binary protein interactome. *Nature*, *580*, 402-408.
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- Sinz A. (2018) Cross-Linking/Mass Spectrometry for Studying Protein Structures and Protein-Protein Interactions: Where Are We Now and Where Should We Go from Here? *Angew. Chem. Int. Ed.*, *57*, 6390-6396.
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