**Student Assistant (“Studentische Hilfskraft”) job offer in Computational Biophysics at Heidelberg University**

The Molecular Biomechanics (MBM) group at Heidelberg University and the Heidelberg Institute for Theoretical Studies (HITS) and member of the 3D matter made to order (3DMM2O) excellence cluster is looking for a highly motivated student (m/f/d) with background in biophysics/physics/biochemistry/molecular biotechnology or related areas (advanced BSc or MSc level) who is interested in working on a computational project entitled:

*Energetics of permeation of photo-resists across biological membranes elucidated through molecular dynamics simulations*

The possibility of printing 3-dimensional arbitrarily-shaped architectures inside biological cells and their inner compartments is an extremely promising technology. A key question that emerged from this idea is how the inks needed for 3D printing, i.e. photo-resist molecules, are going to be brought inside the cell. To attain this, these molecules must cross the cell membrane, of amphipathic nature due to the constituting lipid bilayer. This project will elucidate the energetic cost of membrane permeation for the type of photo-resists that are conventionally used in 3D printing and identify the effect the membrane lipid composition has on the permeation process, by using state-of-the-art molecular dynamics simulations and related computer simulation techniques.

This project is part of the 3DMM2O cluster. During this project you will be trained on cutting-edge computational biophysics methods, at the interface of materials science and biology, and will tightly interact with the other members of the group and with experimental collaborators within the 3DMM2O cluster. You will work at the Heidelberg University and will have the possibility of visiting HITS.

Start date: **as soon as possible**

Job modality: **student assistant (“studentische Hilfskraft”)**

Dedication and duration: **40 h/month, during 2022.**

You should be motivated to take part in carrying atomistic computer simulations of biological membrane systems. Prior knowledge in programming (e.g. python/R/C/C++), shell scripting, numerical analysis, molecular dynamics simulations, or molecular modelling is desired.

Interested? Apply now! Please send by email with your motivation for the project, CV and transcripts to Dr. Camilo Aponte-Santamaría (mx150@uni-heidelberg.de).