



## Science and Engineering Research Program 2020 Project Proposal

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**institute:** Institute for Multiphase Processes

**project title:** Characterization of natural cryoprotective agents

### project description:

The focus of our research group is on the state-of-the-art cryopreservation of human cells and tissues as well as tissue-engineered constructs which is inseparable part of cold chain management in regenerative medicine therapy. The challenge is to make this process less toxic using nature-inspired approaches. In this proposed student work, thermal properties of selected natural antifreeze proteins, ice-nucleating agents and their mixtures will be characterized using differential scanning calorimetry and cryomicroscopy for future applications in cell preservation.

**required skills:** General knowledge in physics and biology

**contact/ supervisor:** Mutsenko Vitalii, Dr. rer. nat., mutsenko@imp.uni-hannover.de, Prof. Prof. hc Dr.-Ing. Birgit Glasmacher, M.Sc.

Please return to Kristina Schmidt or Uta Knoche till 15th of November.