PhD positions in Mechanical Metamaterials

(deadline for applications: 30.06.2022)

Envisaged start date: 01.09.2022.

MetaLab Research Group and the Cluster of Excellence *liv***Mat**S open up to two PhD positions for the project associated with fabrication, characterization and statistical analysis of mechanical metamaterials. Candidates with background in mechanical engineering, materials science, statistics or similar fields are welcome to apply.

Please contact me directly via viacheslav.slesarenko@livmats.uni-freiburg.de to inquire about project details. Application procedure and the list of required documents can be found at https://www.livmats.uni-freiburg.de/en/career/call-for-applications.

MetaLab Research Group (https://slesarenko-lab.com)

Our research group focuses on developing new materials capable of responding to external stimuli by altering their properties in a predictable manner on demand. We are interested in current topics of reconfigurable mechanical metamaterials and bio-inspired materials, as well as fundamental issues of failure, instability, and wave propagation in materials. We engineer new materials and metamaterials by harnessing sophisticated structure-property relationships, while machine learning assists us in this task. We perform experimental, numerical, and theoretical studies, actively engaging in interdisciplinary collaborations with other research teams.

Cluster of Excellence *liv*MatS (https://livmats.uni-freiburg.de)

The Cluster of Excellence *liv***Mat**S develops completely novel, bioinspired materials systems that adapt autonomously to various environments and harvest clean energy from their surroundings. The intention of these purely technical – yet in a behavioral sense quasi-living – materials systems is to meet the demands of humans with regard to pioneering environmental and energy technologies. The societal relevance of autonomous systems and their sustainability will thus play an important role in their development. The research program of *liv***Mat**S is characterized by highly interdisciplinary collaboration between researchers from a broad range of fields including engineering, chemistry, physics, biology, psychology, the humanities, and sustainability sciences.

Qualification Profile

The applicant should demonstrate a willingness to pursue interdisciplinary research that bridges mechanical engineering and materials science. The potential Ph.D. candidates are expected to have a master's degree in mechanical engineering, materials science, statistics, robotics, or similar fields. The knowledge of solid mechanics and experience with finite element analysis are very welcomed, while additional engineering skills would be advantageous. Excellent communication skills in English and good presentation skills are essential requirements.

Dr. Viacheslav Slesarenko, PI

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