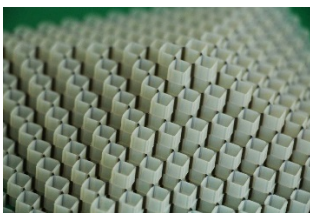
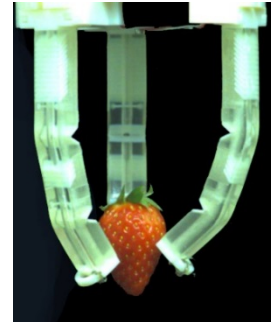


MetaLab Research Group is looking for talented students (HiWi, BSc and MSc)



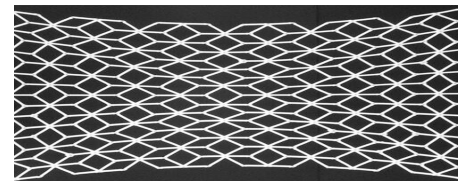
Our research group focuses on developing new materials capable of responding to external stimuli by altering their properties in a predictable manner. We are interested in current topics of **reconfigurable mechanical metamaterials and bio-inspired materials**, as well as fundamental issues of failure, 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.



We are looking for talented students at every stage of their academic career. The experimental base available at the Cluster of Excellence *livMatS* enables us to offer research projects ranging from the assessment of fatigue behavior in mechanical metamaterials to the design of bioinspired wheels.

Below is an **incomplete** list of projects that can be carried out in our group. You can find a **complete list** with a detailed **one-page description** of each individual project on the website of our laboratory

<https://slesarenko-lab.com/student-projects>



1. Mechanical metamaterials with programmable stiffness (HiWi, BSc, MSc)
2. Fatigue in energy-harvesting mechanical metamaterials (HiWi, BSc, MSc)
3. Mechanical metamaterials to perform logical computations (HiWi, MSc)
4. How do permanent magnets collide? (HiWi, BSc, MSc)
5. Magnetic interaction in Physics and Game Engines for self-assembling systems* (HiWi, BSc, MSc)
6. Limitations of various 3D printing techniques* (HiWi, BSc, MSc)
7. Characterization of soft digital materials for Polyjet 3D-printing* (HiWi, BSc, MSc)
8. Tessellated reconfigurable elastic metamaterial for vibration control (HiWi, BSc, MSc)
9. Inflatable scales for snake robot locomotion (HiWi, BSc, MSc)
10. Bioinspired 3D printed wheel with a variable friction coefficient (HiWi, BSc, MSc)
11. Achieving the symmetry of properties in the bioinspired composites (HiWi, BSc)

Please feel free to contact us if you have any questions.

Dr. Viacheslav Slesarenko, PI

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Living, Adaptive and Energy-autonomous Materials Systems