



Universität
Basel

Research Project

Development of nanoscale acoustic tweezers for mechanobiology application

Third-party funded project

Project title Development of nanoscale acoustic tweezers for mechanobiology application

Principal Investigator(s) [Lim, Roderick](#) ; [Tsujino, Soichiro](#) ;

Organisation / Research unit

Departement Biozentrum / Nanobiology Argovia (Lim)

Department

Project start 01.01.2021

Probable end 31.12.2024

Status Active

Mechanobiology addresses the crosstalk between the mechanical function of cells and the biochemical reactions that drive them. Some key examples include the separation of sister chromatids by the spindle apparatus during cell division, reorganization of the cytoskeleton in somatic cells under mechanical stress, and transformation of fibroblasts into stem-cell like states due to physical confinement. Yet, in spite of being fundamental to cells, intracellular forces remain poorly resolved. This is due in part to a lack of non-invasive methods that facilitate such measurements. In this project, we will develop nanoscale acoustic tweezers (ATZs) for non-invasive intracellular manipulation. ATZs will be applied to study the impact of mechanical deformation of intra-cellular organelles in-situ; for example, the cell nucleus.

Financed by

Foundations and Associations

Add publication

Add documents

Specify cooperation partners