Universität Basel

Research Project

Rapid Sensing of Cancer

Third-party funded project

Project title Rapid Sensing of Cancer
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Organisation / Research unit
Departement Physik / Nanomechanik (Meyer)
Department
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The aim is to develop rapid diagnostic tools for cancer. Highly parallelized mechanical sensors are used to investigate biopsy samples in a fast and reliable way. A large number of force vs. distance curves is acquired on the biopsy sample to get enough statistics for a representative value of the elasticity (Young's modulus) of the cells under investigation. This process is highly automated, which will make the application by the medical doctor easier compared to the optical analysis of histologic specimens. The required time for this type of diagnosis will be reduced from 3 hours to minutes. Therefore, the medical doctor will receive the information promptly and will be able to decide about the therapy. In addition to the elasticity mapping, rapid biomarker tests will be developed to complement the information about the status of the tumor. Two case studies will be done in collaboration with collaborators from hospitals. 1. Diagnosis of breast cancer 2. Diagnosis of melanoma cancer.

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