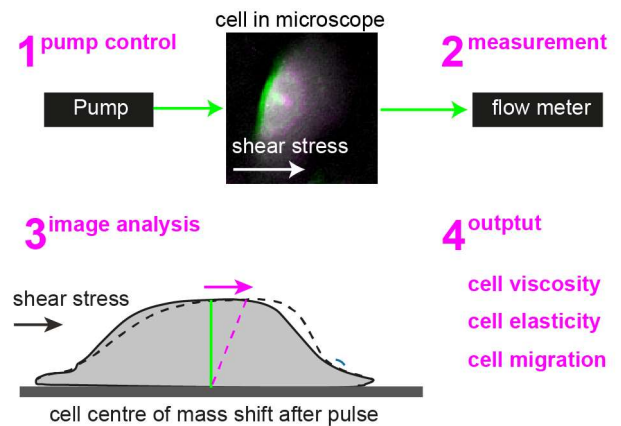


A rapid robust technique to quantify the invasiveness of cancer cells based on their physical properties

Our project aims to develop a rapid and robust technique to quantify the invasiveness of cancer cells based on their physical properties using quantitative phase imaging. The technique will allow for direct measurement of migration and deformability of living cells, leading to more accurate diagnosis and improved stratification of therapeutic response. Our solution is unique in its ease of operation and measurement robustness, with the ability to extract multiple cell data simultaneously. Key output of the project will be the development of software to enable the quantification of cell mechanical properties using an expanded QPI microscope system.



Project Leader

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Application

- Rapid and robust quantification of cancer cell invasiveness
- Direct measurement of cell migration and deformability
- Cell data extraction for cancer aggressiveness and diagnostic applications
- Potential application in drug discovery

Competitive Advantage

- Higher measurement robustness and ease of use compared to existing assays
- Simultaneous extraction of multiple cell data for comprehensive analysis
- Possibility of correlative fluorescence staining for comparison with flow cytometry
- Potential for clinical laboratory use and drug discovery applications

Needs

- Expertise in microfluidics, software development, and cell biology
- Potential business partners in quantitative phase imaging, such as Telight or Nanolive
- Assistance with mediating communication with industrial partners
- Networking opportunities for future collaborations and funding opportunities.

Market Assessment

- The proposed technique fills a gap in the market for a commercially available device to measure cell elasticity and viscosity with high robustness and ease of use, suitable for clinical settings.
- The potential end-users include clinical laboratories, research institutions, and biotechnology companies in the field of drug discovery.
- The project has potential collaboration opportunities with Telight company, the manufacturer of the QPI microscope, which may facilitate technology transfer

IP Status

- project is building on a previous grant project and publication, and any relevant IP protection and patentability assessments will be considered and addressed accordingly.