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## Experimental setup for optical observation of ultrasound-assisted cell manipulation

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# Experimental setup for optical observation of ultrasound-assisted cell manipulation



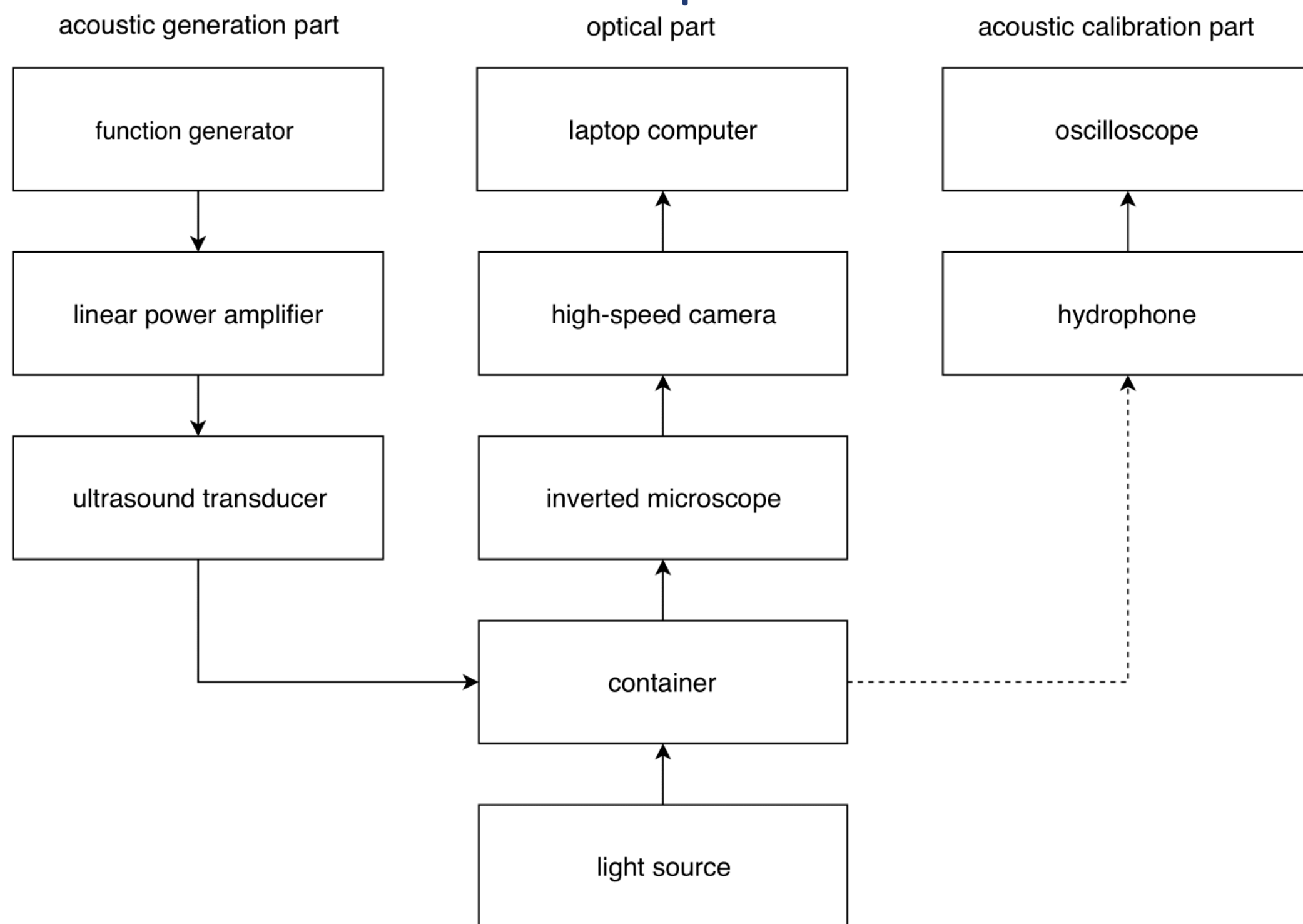
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SCHOOL OF  
**ELECTRICAL AND  
INFORMATION  
ENGINEERING**

## Setup



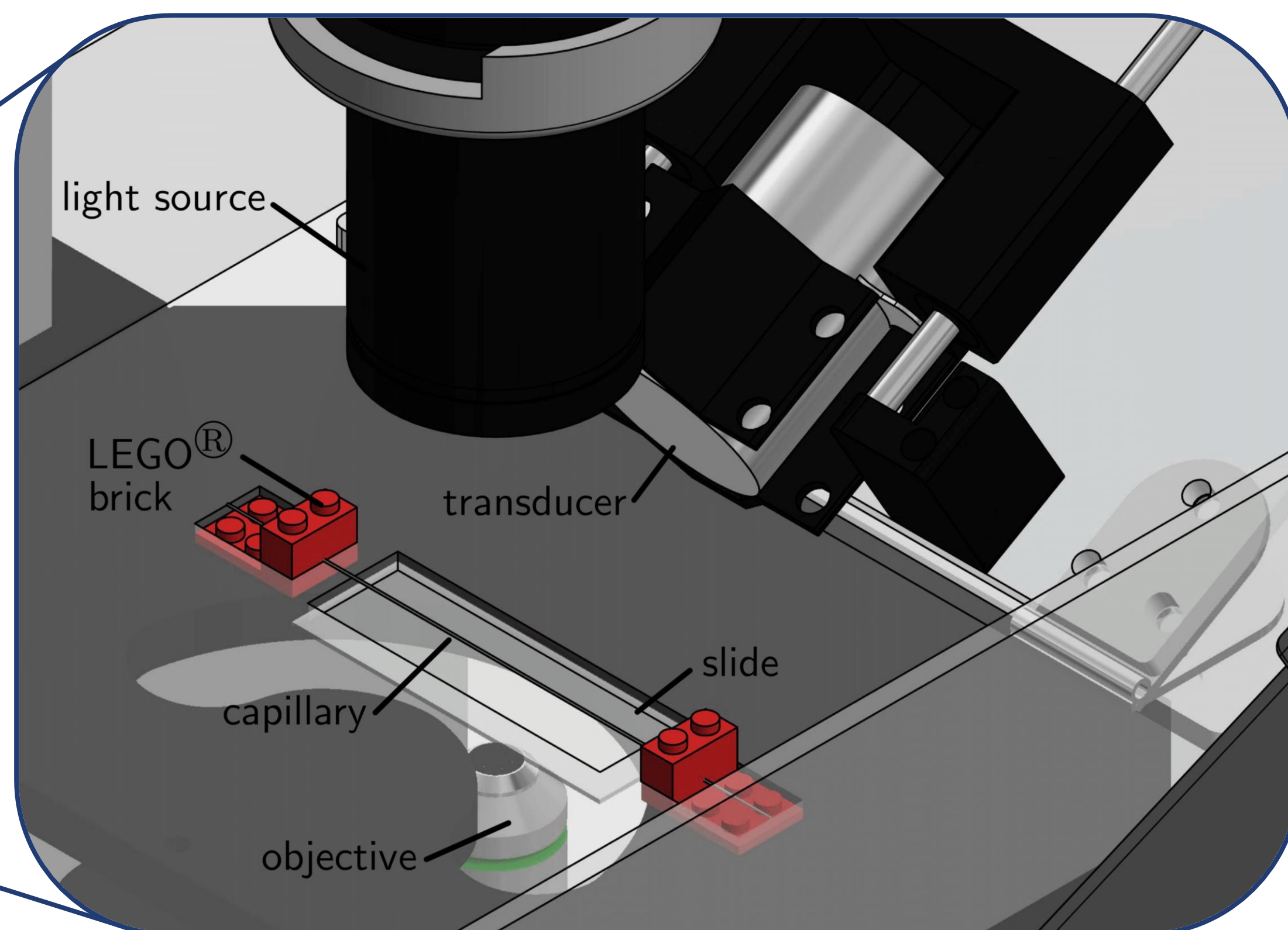
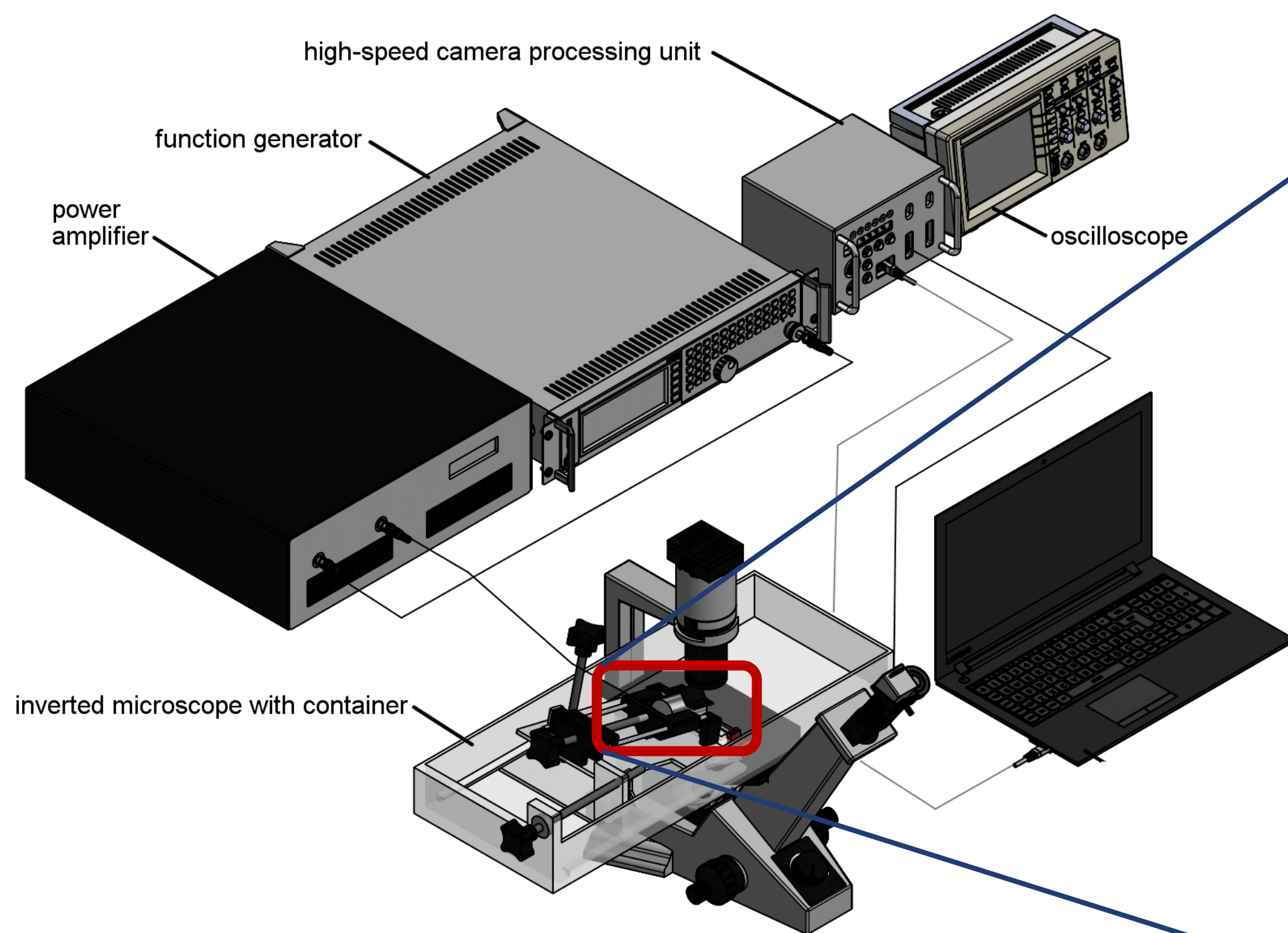
## Goal

To optically observe the interactions of cells and other micromaterials with ultrasound.

Living cells can be manipulated in sound fields. This study shows the design of an experimental setup for simultaneous ultrasonic cell manipulation and high-speed observation. With this setup an ultrasound transducer can be positioned at a variable distance and angle from the optical region of interest. Our preliminary result confirms that micromaterials can be forced to translate and accumulate in an ultrasound field.

## Applications

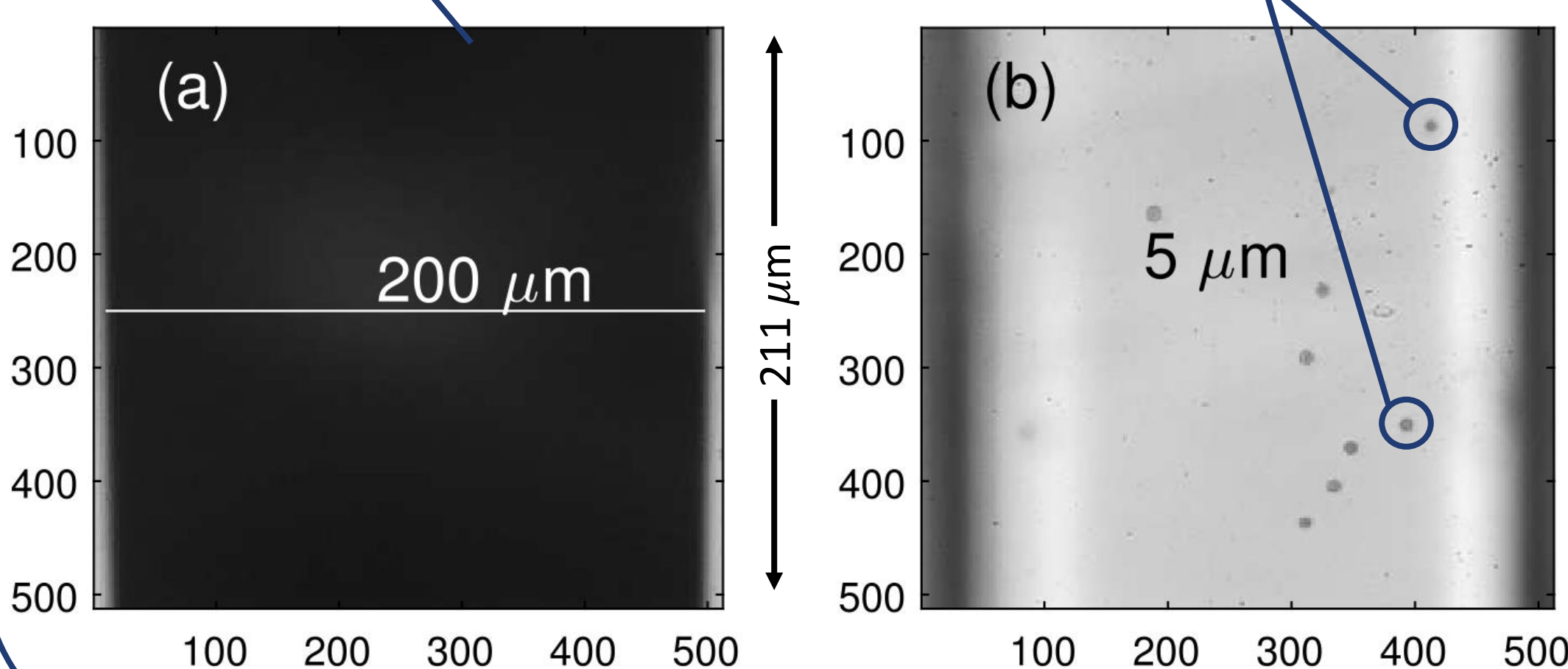
Cell separation, cell eradication, parasite detection.



## Calibration

Ink

Quantison™



## Sonication

Antibubble cluster @ 5.9 MHz, 0.3 MPa.

