

MicroSquisher: Micro-scale tension-compression test system





Product Description

The MicroSquisher is designed to carry out tension and compression studies on specimens ranging in size from 50 μ m to 2mm. Peak forces can range from 1 μ N to 50mN and force resolutions as fine as 50nN are possible. Force and displacement-control tests are possible.

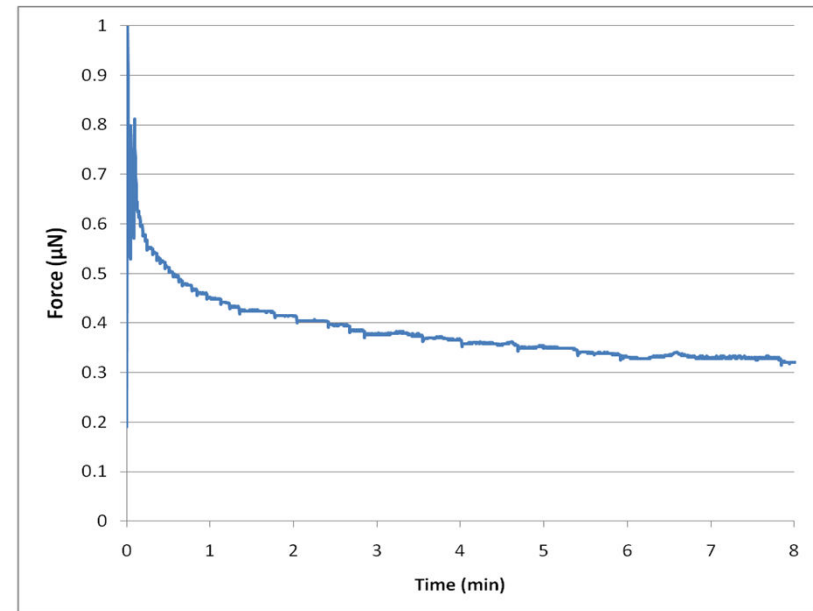
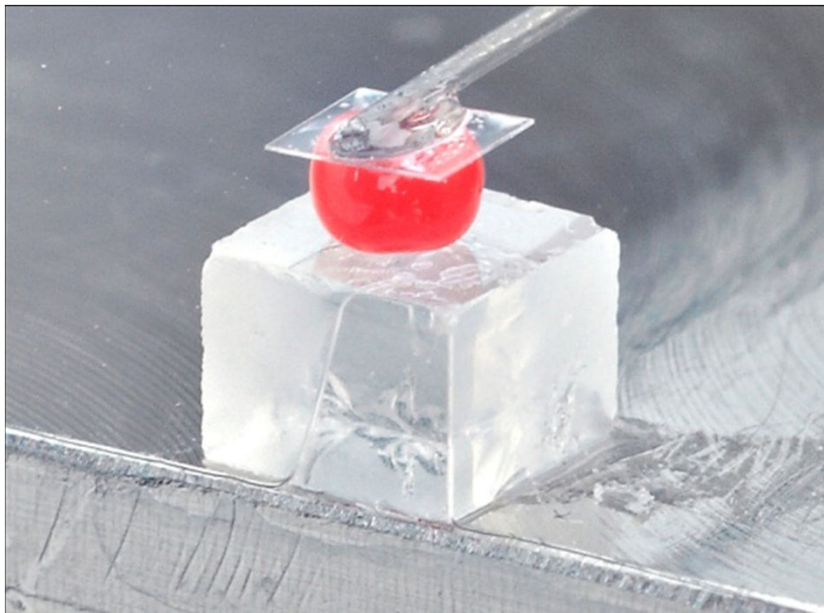
The specimen can be tested in ambient air or in a temperature-controlled fluid bath. An integrated camera system allows synchronized imaging at up to 5Hz.





Micro-Scale Material Characterization

The MicroSquisher can be used to determine the stress-strain properties of a variety of materials including tissue samples, scaffolds, cell aggregates and hydrogel microspheres.





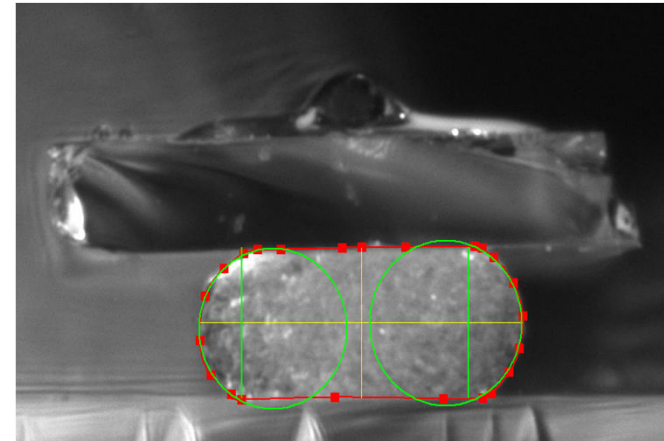
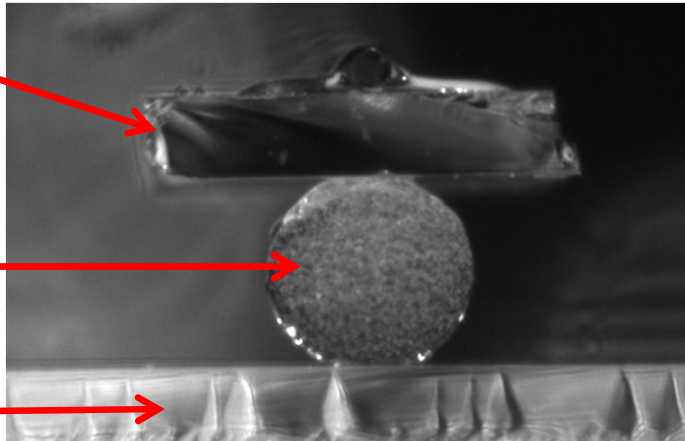
An Example: Cell Aggregate Compression Testing

Interfacial and surface tensions play an important role in the organization of cells within aggregates. Using force-displacement data and image/geometric analysis software that comes with the MicroSquisher, these properties can be obtained.

glass plate

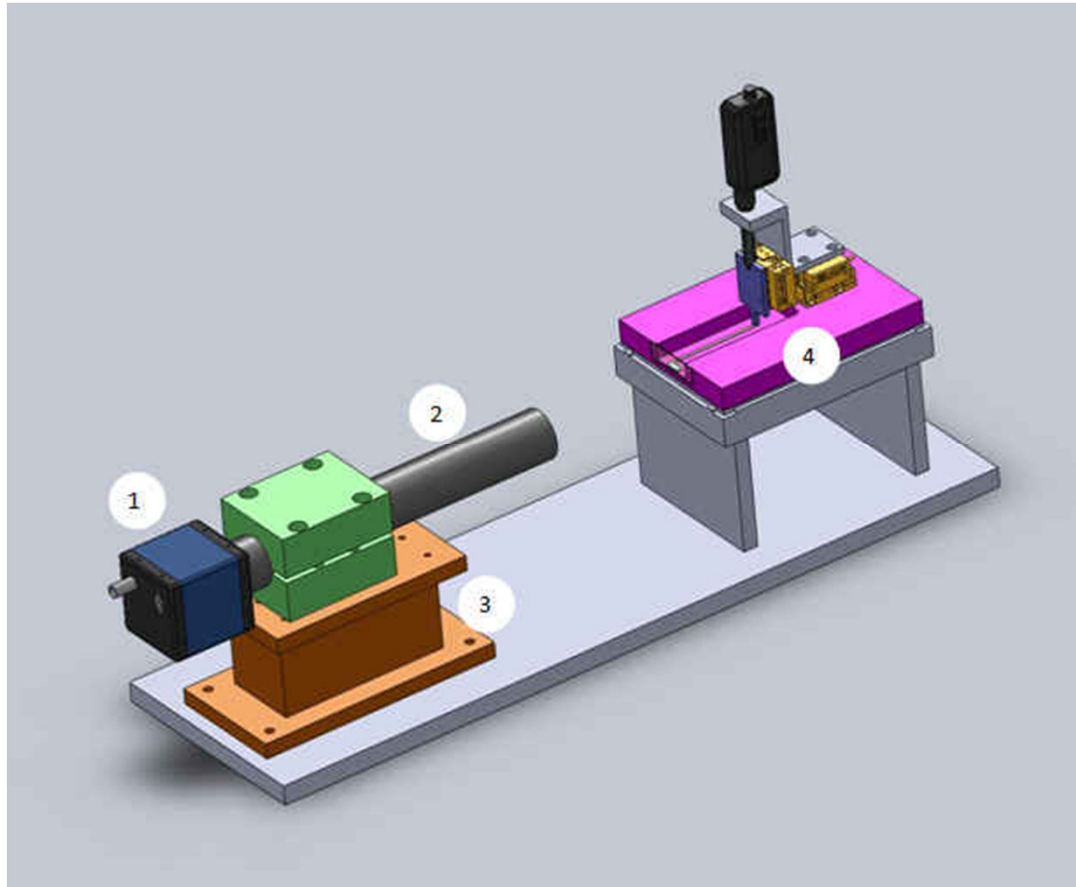
cell aggregate
(250 μm
diameter)

glass plate





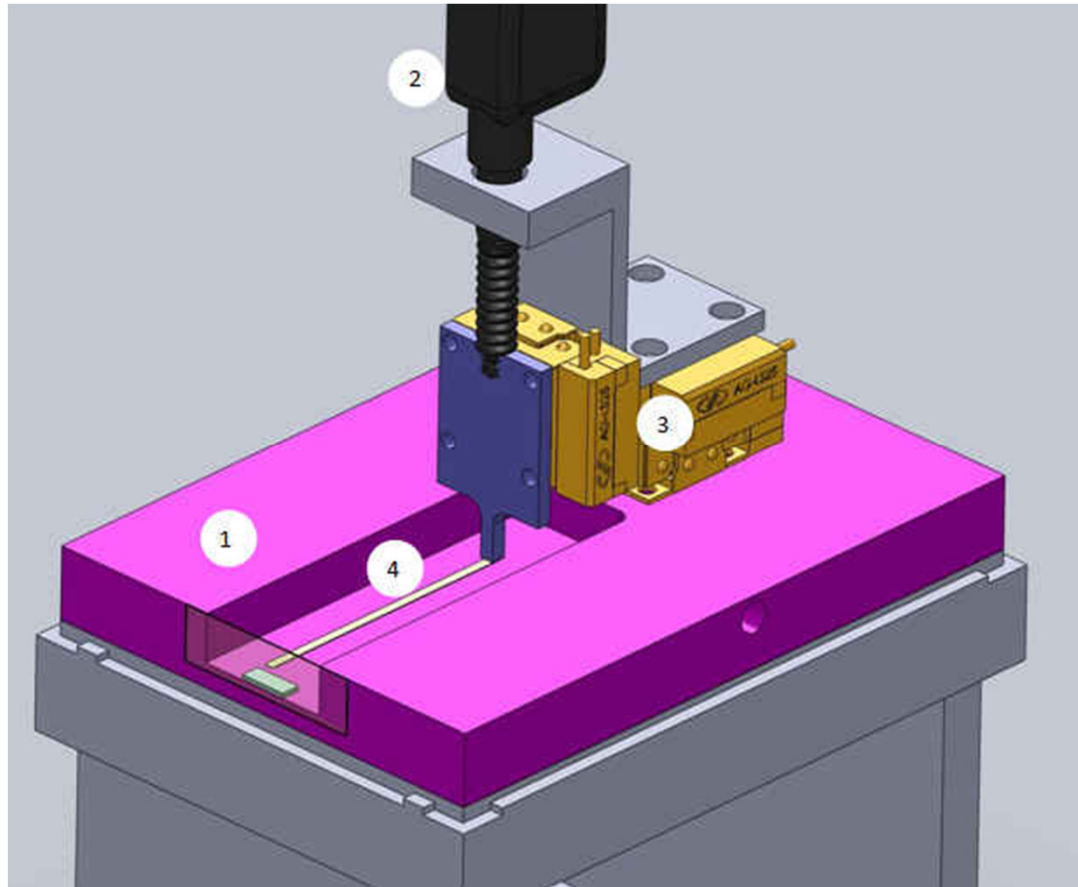
System Overview Part 1



1. Camera (1280 X 960 pixel USB connected)
2. Zoom Lens System (0.3 – 4.2mm Field of View)
3. Horizontal and Vertical Position Stage (manual imaging adjustment)
4. Test Chamber (see next figure for details)



System Overview Part 2



1. Temperature-Controlled Fluid Chamber
2. Position Sensor for Vertical Stage (0.1 μ m resolution)
3. 3-Axis Piezo Motor Positioning System (0.05 μ m incremental motion)
4. Cantilever Beam with Attached Upper Platen



**Please contact us if
you would like more
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