

# Technical COLLOQUIUM

**Date:** Thursday February 21, 2013

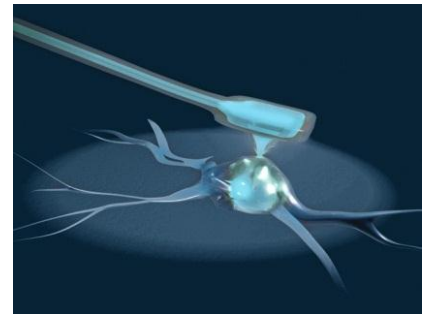
**Program:** FluidFM Technology

**Speakers:** Tomaso Zambelli (ETH Zurich, CH)  
Michael Gabi (Cytosurge, CH)

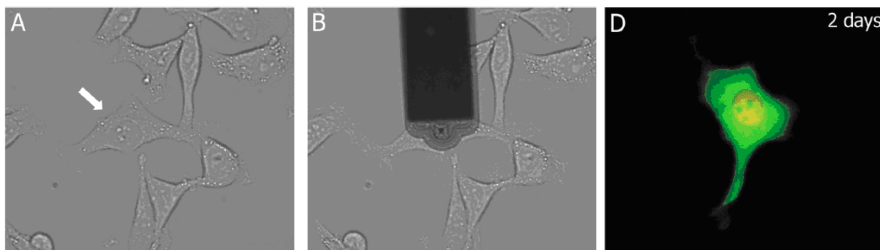
Every third Thursday of the month MESA+ Institute for Nanotechnology organizes a technical colloquium. The aim of the technical colloquia is to convey expertise and know how of the various equipment and technology within NanoLab.

FluidFM is a technology that combines a force controlled nano-manipulator (AFM technology) via a hollow cantilever with micro-fluidics. The hollow cantilevers with a tiny opening at the tip can be used for many applications in the fields of micro- nanotechnology, biology, physics, chemistry and material science:

- Spatial manipulation of individual viable cells, bacteria and viruses with force control
- Adhesion force measurements of/on living cells
- Intracellular, intranuclear injection with force control
- Delivery of any liquid (Spotting of proteins, release of neurotransmitter)
- Electrochemistry
- Electrospraying
- Lithography tool (Spotting)
- Extraction/Collection of local liquid or gas samples
- Other...



Guillaume-Gentil, Orane, et al. "Force-Controlled Fluidic Injection into Single Cell Nuclei." Small (2012).



Transfection of HeLa cell with pmaxGFP; the phase contrast images show the cell before (A) and during (B) injection. The fluorescence image shows the cell 2 days after injection.

**Start: 15:45 - 16.15 hrs.**  
**Discussions/drinks: 16:15 - 17:30 hrs.**

Future MESA+ colloquia events 2013:

You are kindly invited to attend the MESA+ Technical Colloquium. After the colloquium you can have a drink and take part in informal discussions.

MESA+ is one of the largest nanotechnology research institutes in the world, delivering competitive and successful high quality research. It unites scientific disciplines, and builds fruitful international cooperation to excel in science and education. MESA+ has created a perfect habitat for start-ups in the micro- and nano-industry to become established and then mature.

The institute employs 525 people of whom 300 are PhD candidates or postdocs. With its Nano-Lab facilities the institute holds 1250 m<sup>2</sup> of cleanroom space and state of the art research equipment. MESA+ has been the breeding place for more than 45 high-tech start-ups to date.  
[www.utwente.nl/mesaplus](http://www.utwente.nl/mesaplus)

# MESA+

INSTITUTE FOR NANOTECHNOLOGY