

bioAFMlab meeting notes**From:** "Oosterkamp, Tjerk" <oosterkamp@physics.leidenuniv.nl>**To:** Federica Galli <qalli@physics.leidenuniv.nl>, aartsma@physics.leidenuniv.nl, katan@physics.leidenuniv.nl, es@physics.leidenuniv.nl, rijsewijk@physics.leidenuniv.nl, magis@physics.leidenuniv.nl, noort@physics.leidenuniv.nl, Heeres@Physics.LeidenUniv.nl, stan@physics.leidenuniv.nl, frese@physics.leidenuniv.nl, patil@physics.leidenuniv.nl, k.wagner@chem.leidenuniv.nl, bahatyrova@physics.leidenuniv.nl, liuln@physics.leidenuniv.nl, beker@physics.leidenuniv.nl, loo@physics.leidenuniv.nl, a.korobko@chem.leidenuniv.nl, "Jager, M. de" <Jager@Physics.LeidenUniv.nl>, Jan-Willem Beenakker <jw@beenakker.com>, "Yuana, Y. (ONCO)" <Y.Yuana@lumc.nl>, f.wiertz@chem.leidenuniv.nl, zhang@physics.leidenuniv.nl, beekman@physics.leidenuniv.nl, kelly@physics.leidenuniv.nl, komissarov@physics.leidenuniv.nl, he@physics.leidenuniv.nl, d.georgieva@chem.leidenuniv.nl, kamran@physics.leidenuniv.nl, Ashcroft@physics.leidenuniv.nl, Ivanovska@physics.leidenuniv.nl, "Oosterkamp, Tjerk" <oosterkamp@physics.leidenuniv.nl>**Date:** 2007-11-20 20:46

Present: Irena Ivanovska, Federica, Razvan, Anne France, Brian, Allard, Werner, Tjerk

Irena will hear in December whether she is getting a VENI grant on the subject of AFM on stem cells.

Tjerk will contact Samir Etaki about dismantling his set-up.

Werner hopes Raymond will soon have time to build the new low noise amplifier ($0.4 \text{ nV}/\sqrt{\text{Hz}}$), for the piezoresistive cantilevers, which will have a larger bandwidth (hopefully 1 MHz) than the current one (the one we have now has 170 kHz).

Brian has analyzed force curves on the aortic tissue.

He now has a fast data-acquisition card running in parallel to the force distance curves that the MI takes. That gives him more points per force distance curve, which improves the statistics. The indentation with the ball like tips is more non-linear than with a sharp tip

The scanner of the MI may be broken. The electronic workshop is looking at it. If necessary we can ship it back because it is still under warranty.

Razvan will ask Louis Pacheco for the next version of the software.

Allard finished his thesis.

The 100 MS/s DAC card is broken. Allard will be returning it. Yesterday Allard helped to do AFM on a MEMS device with Merlijn and Ilse.

Anne France is supervising the SVR4 praktikum to improve the noise of the electrochemistry set-up.

Razvan did conductive AFM in air.

Commercial gold tips lose their conductivity quite quickly (radius of curvature .

Soon he will get some sample diamond tips, but they are 1500 euros

for 10 pieces and still have a radius of curvature of 40 nm.

Silicon, titanium (or MoGe) and then gold

or Silicon Chromium Platinum

If you only do spectroscopy it is workable, but if you also do imaging you quickly lose electrical contact.

With a nanotube tip from Anne France he could take IV curves for several days.