



NanoBits Workshop

Exchangeable and Customizable Scanning Probe Tips

Barcelona, Tuesday 18 June 2013

www.nanobits-project.eu

Venue: Hotel Diagonal Zero
Conference Room Africa

Plaza Llevant, s/n, 08019 Barcelona, Spain
www.hoteldiagonalzero.com



The atomic force microscope (AFM) has become a standard and wide spread instrument for characterizing nanoscale devices and can be found in most of today's research and development areas. The NanoBits project provides exchangeable and customizable scanning probe tips that can be attached to standard AFM cantilevers offering an unprecedented freedom in adapting the shape and size of the tips to the surface topology of the specific application.

NanoBits themselves are 2-4 um long and 120-150 nm thin flakes of heterogeneous materials fabricated in different approaches. These novel tips will allow for characterizing three dimensional high-aspect ratio and sidewall structures of critical dimensions such as nanooptical photonic components and semiconductor architectures which is a bottle-neck in reaching more efficient manufacturing techniques. It is thus an enabling approach for almost all future nanoscale applications.

Consortium:



Oldenburg, Germany

Technical University of Denmark



Copenhagen, Denmark



Thun, Switzerland

Materials Science & Technology



Jena, Germany



Erlangen, Germany



Nanotechnology for Life Science

Berlin, Germany

Schedule:

Time	Topic	Presenter
14:30 h	Welcome of Participants; networking	
14.45 h	Overview: The NanoBits project	Dr. Albert Sill OFFIS e.V., Germany
15.15 h	Cantilever Development for Exchangeable and Customizable Scanning Probe Tips for 3-D AFM	Dr. Oliver Krause NanoWorld Services GmbH, Germany
15.45 h	BREAK	
16.00 h	Design and Fabrication of NanoBits	Dr. Alexey Savenko DTU Nanotech, Denmark
16.30 h	Assembly of NanoBits; 3D Scanning Modes	Malte Bartenwerfer OFFIS e. V., Germany
17.00 h	BREAK	
17.15 h	Tip-Enhanced Raman Spectroscopy with NanoBits: New Opportunities for Materials Characterization at the Nanoscale	Dr. Victor LeNader EMPA, Switzerland
17.45 h	High Performance Optical Micro and Nanostructures	Maria Oliva Fraunhofer IOF, Germany
18.15 h	END	