

## JRP NEW05 MechProNO

### Traceable measurement of mechanical properties of nano-objects

#### 3<sup>rd</sup> Project Meeting

BAM, Unter den Eichen 87, Berlin, Building/Haus 1, Room 252

#### Agenda

##### 15<sup>th</sup> October 2013

- 14:00 Welcome, roll call/participants, adoption of the agenda (*Uwe Brand, PTB*)
- 14:05 **WP1** Testing materials and the preparation of nano-objects (*Uwe Brand*): contributions from S. Gao (*PTB*), Nicole Wollschläger (*BAM*) and Petra Fiala (*REG TUD*)
- 15:00 **REG TUD** (*Petra Fiala*): Preparation of nanoparticles
- 15:45 Coffee break
- 16:00 **WP2** Instrument set-up and calibration (*Hannu Husu, MIKES*): Traceability of force of AFM, Calibration of tip properties, Set up of AFM instrumentation, Setup of AFM to measure under different humidity conditions
- 17:00 **WP3** Physical modelling of objects and measurements (*Jan Martinek, CMI*): Finite Element Modelling (FEM) of nano-objects on substrates, Finite Element Modelling (FEM) of indentation in nanopillars and nanorods and bending of nanobeams, Theoretical modelling of tethering of nano-objects by embedding, Molecular Dynamics of nanoparticles and nanowires, Large scale molecular dynamics calculations, Comparison of Molecular Dynamic Calculations and Finite Element Modelling
- 18:00 End of first day
- 18:15 Walk (30 minutes) to the restaurant
- 19:00 Dinner at the restaurant **Fabecks** (Altensteinstr. 42, 14195 Berlin)

##### 16<sup>th</sup> October 2013

- 09:00 **WP4** Methods and measurements (**BAM**): Dimensional measurements on structured samples and small objects by AFM to identify effects due to adhesion, Measurement on unstructured samples and nanopillars, Measurement on samples with nano-particles fixed or embedded in a layer, Measurements on structured nanoscale objects by AFM, Measurement on real nano-objects on flat substrates and variation of humidity, Measurement on real nanowires on flat and structured samples prepared by FIB under different humidity conditions, Comparison of experimental and numerical results
- 10:00 **REG UH** (*Bernhard Reischl*): NEW05-REG 2
- 11:00 **WP5** Creating Impact (**NPL**): Case Study, Knowledge Transfer, Training and Dissemination, Exploitation
- 11:30 **WP6** Management and coordination (**PTB**): Date and place of next meeting, next report, Website
- 12:00 Lab Tour (Lab Österle, Lab Griepentrog)
- 13:00 End of meeting

### **Hotels near to BAM**

- Residenz 2000 Aparthotel: Unter den Eichen 96, 12205 Berlin, Tel.: + 49 (0) 30 - 810 56 253  
E-Mail: [info@residenz-2000.de](mailto:info@residenz-2000.de), single room: 69 €, breakfast: 10,50 €
- Hotel Ravenna, Grunewaldstraße 8-9 12165 Berlin, Tel.: 030 790910, [ravenna-hotel.de](http://ravenna-hotel.de), single room: 52 €
- Best Western: Albrechtstr. 2, 12165 Berlin, Tel: ++49 (0) 30-790050,  
[info@steglitz.bestwestern.de](mailto:info@steglitz.bestwestern.de) , single room: 93 €