

AFM Technology Seminar with Live Demonstrations

Dimension FastScan Bio™ and BioScope Catalyst™



March 21-22, 2013 | Purdue University, Birck Nanotechnology Ctr
1205 W. State Street, West Lafayette, IN 47907

Bruker Nano Surfaces in collaboration with **Purdue University** is proud to announce a technology presentation of our new Dimension FastScan™ and BioScope Catalyst™ AFM systems. During this 2-day workshop, we will present the latest technological advances for increased data collection.

Presenters will be Dr. Ian Armstrong, Senior Applications Engineer and Dr. James Shaw, Life Science Applications Scientist – a total of 30+ years of AFM experience between them. Do not miss this informative seminar with live demonstration.

Customers are encouraged to bring samples for analysis. Please contact Chris Getz at chris.getz@bruker-nano.com to schedule a time for your analysis or for any questions concerning this workshop.

RSVP ONLINE: www.bruker.com/BNS-NA_workshops

Agenda

Birck Nanotechnology Ctr, Rm 2001 (presentations); Birck atrium (instrument demonstrations)

MARCH 21

9:00 - 10:00AM Scheduled customer sample collection and registration

10:00–11:00AM **Applications of PeakForce Tapping™ Mode in High-Resolution Imaging, Nanomechanical and Nanoelectrical Measurements** – Ian Armstrong, Senior Applications Engineer — PeakForce Tapping™ is a new and innovative imaging mode unique to Bruker AFMs. In this imaging mode, the piezo oscillates the probe at a fixed frequency (~ 1 kHz) and uses the peak cantilever deflection (peak force) for the feedback signal to map the surface. Several benefits of this mode include direct force control while maintaining intermittent contact with the sample and the ease of use in fluid imaging. This has proven to be a high resolution technique where atomic resolution imaging has been demonstrated. In addition, nanomechanical mapping can be conducted to provide quantitative mapping of sample modulus and adhesion properties. Lastly, by extending PeakForce imaging to traditional conductive AFM (TUNA) or Kelvin Probe techniques, it provides nano-electrical characterization of materials that have been challenging to measure in contact-mode based methods and unprecedented sensitivity and accuracy for measuring work-function at the nanoscale.

11:00 - 12:00PM **Atomic Force Microscopy: A Key to Capture Molecular and Cellular Dynamics and Explore Mechanobiology** – James Shaw, Life Sciences Applications Scientist — Physical properties including structures such as shape/size and mechanics such as strength/stiffness/ interaction forces play crucial roles in biological processes. Quantification of this at various length scales is necessary because of the heterogeneous/complex nature of biologics. Atomic force microscopy is a unique research tool because of its abilities to perform measurements with both high spatial and force resolution in fluid under physiological conditions. In this presentation, Bruker will demonstrate various biological applications using the Dimension FastScan Bio and Bioscope Catalyst AFM platforms to characterize dynamic biological processes and perform quantitative mechanical measurements on biological samples.

12:00 - 12:45PM *Lunch break — light lunch will be served (Hosted by Bruker)*

1:00 - 5:00PM BioScope Catalyst™ / Dimension FastScan™ Demonstrations

MARCH 22

9:00 – 4:00PM Scheduled BioScope Catalyst™ / Dimension FastScan™ Demonstrations

PARKING: Please download map from workshop registration site or contact Chris Getz for lot information.

Register online for this or other BNS workshops:

www.bruker.com/BNS-NA_workshops

