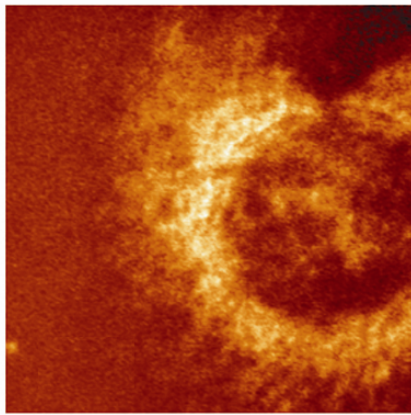


AFM image of a bone-forming STEM cell



Optical fluorescence image of the membrane embedded indocarbocyanine dye (DiI) simultaneously obtained with pixel by pixel correlation

# BioAFM

INTRODUCING A REVOLUTION  
IN SPM BIOIMAGING

THE NANONICS *Hydra*<sup>TM</sup>



NANONICS  
IMAGING Ltd.

THE NEXT EVOLUTION IN SCANNING PROBE MICROSCOPY

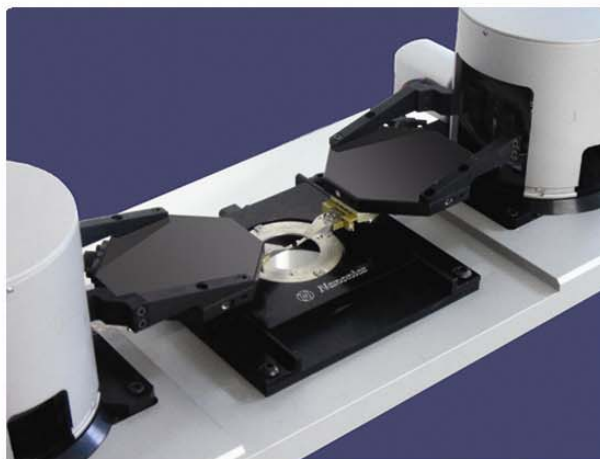
# THE NANONICS REVOLUTION IN BioSPM

ENTER A NEW WORLD OF ULTRA SOFT BioSPM

WITH **THE NANONICS Hydra™**

## A Complex of Innovations

- **The Only BioSPM That Permits Independent and Simultaneous MultiProbe Operation**
- **The Only BioSPM That Can Integrate With Any Optical Microscope**
  - Upright
  - Inverted
  - Dual 4 pi Configurations
  - Raman/Confocal/DIC/NSOM
- **The Only BioSPM That Permits Critically Acclaimed Tuning Fork Feedback in Liquid**
- **Liquid Cell Without Optical and Mechanical Constraints or Interference**
- **A NanoTool Kit™ of MultiFunctional Probes for MultiProbe Operation**
  - Conductance & Patch Clamping
  - Apertured & Apertureless NSOM
  - Single Gold Ball Tipped Probes
  - BioMolecular NanoLithography
- **All Probes Non-Optically Interfering**



## THE NANONICS Hydra™

### A GROUND BREAKING ADVANCE IN AFM BIO-IMAGING IN LIQUIDS

- **Multi Probe SPM Operation**
  - Up to 4 SPM probes
  - Multifunctional probes for manipulation and imaging
- **Tuning Fork Feedback**
  - Ultra soft contact high Q-factors
  - Improved imaging quality
  - Optically free feedback ideal for fluorescence
  - Permits ultrasensitive AC dynamic force spectroscopy
- **Standard Petri Dish**
  - Compatible with all biological sample preparations
- **Full Optical Transparency**
  - Fully integrated with:
  - RAMAN/TERS/NSOM/Confocal/TIRF/DIC/STED/
  - Second Harmonic/4 Pi
- **Tip or Sample Scanning With AFM Autofocus For Confocal Imaging**
- **Z Range of 100  $\mu\text{m}$  Unachievable With Any Other SPM**
- **Environmental Control**
  - Humidity/Temperature/Vacuum
  - Retaining full optical transparency

THE NEXT EVOLUTION IN SCANNING PROBE MICROSCOPY

## REACH NEW HEIGHTS OF SPECTRAL BIOIMAGING



### • Spectral Packages

Confocal Fluorescence Imaging & Lifetime

Confocal Raman

Tip Enhanced Raman Scattering

Total Internal Reflectance Fluorescence

### • Modularity

Connect To Any MicroRaman or Monochromator

Add Individually Controlled Multiple SPM Probes  
One At a Time

Add NSOM Fluorescence Correlation Spectroscopy

Add Force Controlled Cell Penetration & AttoLiter  
Injection

The Flexibility of THE NANONICS *Hydra™* Permits New Directions in SPM Imaging

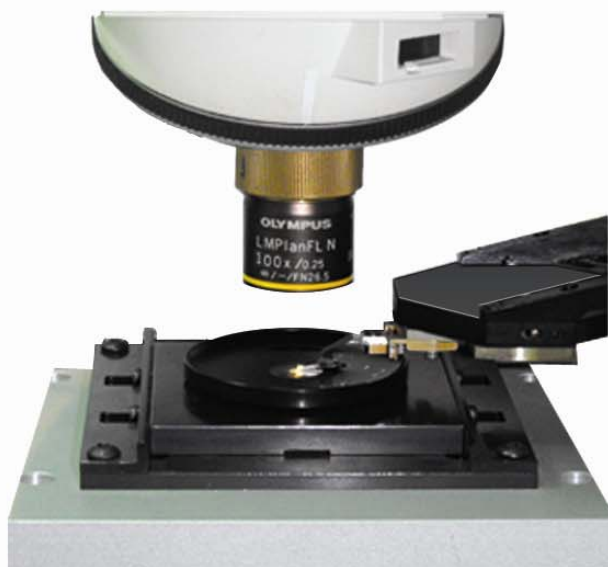
Study on line with optics & SPM  
samples on non-transparent  
substrates

Image optically and with SPM  
highly scattering samples such as  
textiles, fibers, paper, paints and  
capsules

Single molecule studies on gold or  
other opaque substrates

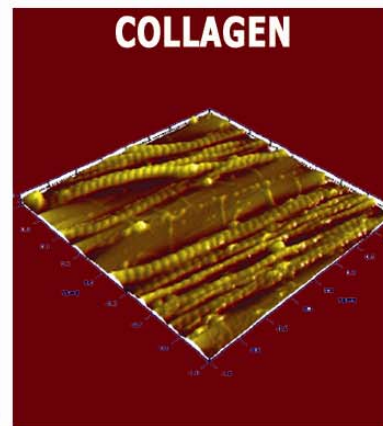
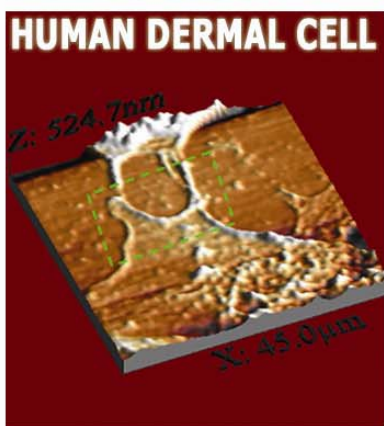
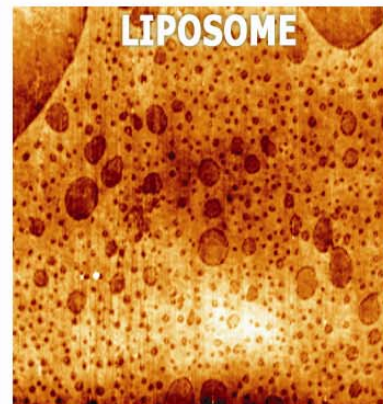
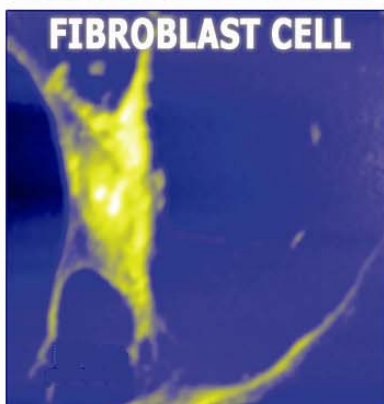
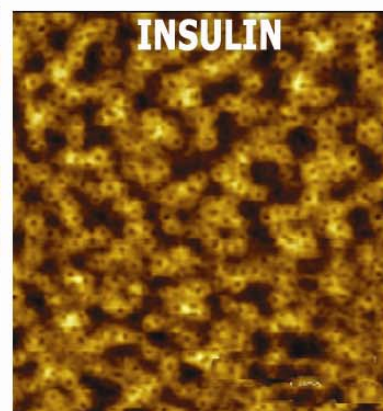
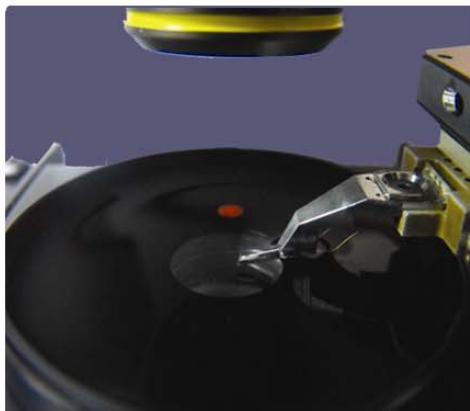
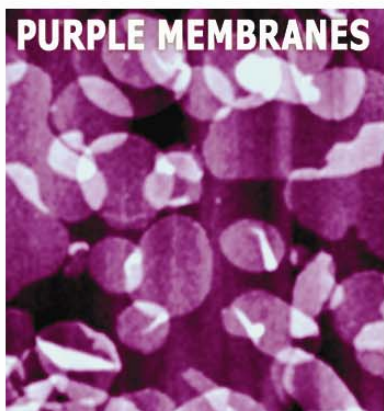
Biosensors

Optically active materials and  
compounds





# BioImaging in Liquid: ENDLESS POSSIBILITIES!



**NANONICS Imaging Ltd. holds the copyright to this document. No part of this document may be reproduced or distributed without prior authorization of NANONICS Imaging Ltd.**  
© NANONICS Imaging Ltd.