



**PRESS RELEASE**

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## Nano-FTIR imaging and spectroscopy at 10nm resolution

neaspec's revolutionary technology, neaSNOM is the only microscope on the market capable of imaging & spectroscopy in the visible, infrared and even terahertz spectral region at only 10 nm spatial resolution. The neaSNOM is the ideal tool for cutting-edge nanoanalytic applications such as chemical nano-composition (nano-FTIR-mode), nano-plasmonic fields, nanoscale stress/strain fields and free charge carrier distributions.

neaspec's patented near-field detection technique eliminates the unwanted diffuse light and filters the only 1% small near-field signal out of the scattered light. Only this optical filtering technique allows 100% reproducible results at 10nm spatial resolution.

Optical imaging is performed by detecting the backscattered light interferometrically (optical amplitude & phase are acquired simultaneously) while scanning the sample surface topography. By illuminating the AFM-tip with a broadband infrared laser, an IR-spectrum of a 10nm spot is recorded (nano-FTIR).

The neaSNOM microscope combined with imaging & spectroscopy systems from neaspec thus allow the study of chemical, structural and electronic properties of a sample at a spatial resolution up to 1000-times higher when compared to conventional technology like micro FT-IR. The non-destructive measurement method is equally suited for organic and inorganic samples and requires only standard AFM sample preparation.

Nano-FTIR key features include;

- Reflective AFM-tip illumination
- Detection optimized for high-performance near-field spectroscopy
- Patented background-free detection technology
- Based on optimized Fourier-Transform spectrometer
- Up to 3 spectra per second
- Standard spectral resolution: 6.4/cm
- Upgrade to 3 cm<sup>-1</sup> spectral resolution available
- Suited for visible & infrared detection (0.5 – 20 μm)
- Exchangeable beam-splitter mount included
- NEW: Suited for IR synchrotron sources

For more information, contact Warsash Scientific on +61 2 9319 0122 or [sales@warsash.com.au](mailto:sales@warsash.com.au).

