



Park Systems – The NX Generation

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Atomic Force Microscopes have been a staple of research activity since their first implementation in 1986 by the team of Noble Prize winner Prof. Gerd Binnig, Prof. Christoph Gerber and the late Prof. Calvin Quate.

Whilst the earliest implementations of this technique lent itself to topographical and force-based research, upon the precept of a vibrating cantilever physically interacting with a sample surface, technological evolution has dictated that a more versatile approach to AFM would soon be needed. Fast forward 35 years and what you now have are a myriad of AFM companies all with the aforementioned topographical measurement capabilities, many with strong nanomechanical capabilities and some still with good electrical measurement abilities amongst other techniques.

Effectively, this has meant that a good AFM is now no longer one that can simply perform topographical measurements. A good AFM is now one that can perform a variety of high-level measurements akin to a scanning probe multi-lab based system, whilst being easy to use.

Such a system is exactly how one would describe Park Systems' NX-series of AFMs.

In addition to our high resolution and stable single nm data, an outcome stemming from our very low noise XY and Z position detectors and 2D flexure guided scanners, Parks patented Pinpoint™ technology also allows for highly controllable nanomechanical and conductive measurements to be performed on both hard and soft samples. Coupled with our third mode of operation (True non-contact mode™, in addition to conventional contact and tapping modes), our system also has the slightly uncommon capability of performing measurements in both air and liquid environments repeatably – with a specially designed system also allowing for hi-vacuum measurements.

Whilst the NX-series of AFMs, much like its predecessors the XE series, have the capability of acquiring a range of information simply from changing a couple of accessories, its real distinction lies in the automation capabilities. Its Smartscan™ software, with Stepscan™ automation, coupled with hardware developments including motorized stages and slide-on-head design, allows for a fully software integrated AFM which can acquire high resolution data, reproducibly, without needing much AFM expertise from the user. Effectively, the definition of a modern AFM.