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Flexible ramp scripting interface added for BioScope Resolve BioAFM

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At the 7th AFM BioMed Conference, Bruker's Nano Surfaces Division today announced the release of ***RampScript***™, which provides extensive new scripting capabilities for the BioScope Resolve® BioAFM. BioScope Resolve has set new standards for highest resolution AFM imaging with the first ever images of microvilli on live cells and by routinely resolving submolecular structures, such as the major and minor groove of DNA, while operating on an inverted microscope.

With its combination of Bruker's exclusive PeakForce Tapping® and FASTForce Volume™ technologies, BioScope Resolve already provides the widest range of ramp rates for biomechanics. Adding the most flexible ramp scripting interface available opens the door to new studies probing the dynamics of individual biomolecular bonds and the viscoelasticity of live cells.

"We are excited about the advances in cell mechanobiology that will be enabled by the new ramp scripting capabilities for BioScope Resolve," said Marco Tortonese, Ph.D., Vice President and General Manager of Bruker's AFM Instrumentation Business.

> Atomic force microscopy can play an even larger role in cell mechanics research when a system has the capability to correlate with the most accurate data to fluorescence. This is why we made it such a priority to add the most comprehensive biomechanics functionality to a system specifically designed for highest resolution on an inverted optical microscope."

About *RampScript*

The ***RampScript*** package for BioScope Resolve delivers the most powerful mechanical investigation toolset available today. It complements the system's widest range of ramp rates and allows users to build, control, and record complex nanomechanical measurements in such experiments as protein pulling, ligand-receptor interaction, and cell mechanics. ***RampScript*** features user-definable scripts for custom point measurements with step-by-step ramp definitions and simple drag-and-drop functionality for the ultimate experiment control. Ramps include seamless switching from segment to segment between open- and closed-loop operation, ramping and holding, Z-feedback and force feedback, as well as easy addition of TTL signals to synchronize optical microscopy or other external measurements. Bruker's ***RampScript*** also enables dynamic mechanical analysis with frequency sweeps during ramp and hold measurements, at single points as well as integrated into force volume maps. A specially designed low-force trigger capability, together with fast, latency-free implementation build on the core performance of the BioScope Resolve to provide the most accurate script execution with pN force control.

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Company Background

Bruker manufactures world class atomic force microscopes and other nano technologies that incorporate the very latest advances in AFM techniques, including the revolutionary ScanAsyst™ AFM imaging mode and the PeakForce QNM® atomic force microscopy imaging mode to ideally suit a wide array of application areas, from biology to semiconductors, from data storage devices to polymers, and from integrated optics to measurement of forces between particles and surfaces.