

JPK Instruments contact:

Gabriela Bagordo: +49 30533112070

Media contact:

Jezz Leckenby: +44 (0)1799 521881

JPK reports on the use of Quantitative Imaging (QI™) mode of the NanoWizard® 3 at Niigata University.

Berlin, 29th April, 2014: JPK Instruments, a world-leading manufacturer of nanoanalytic instrumentation for research in life sciences and soft matter, reports on the use of the Quantitative Imaging mode for tissue engineering studies at Niigata University.

Tomoyuki Kawase is an associate professor at the Institute of Medicine and Dentistry at Niigata University. His field of expertise is tissue engineering about which he has published several key papers*. Professor Kawase is interested to determine the optimal stiffness or elasticity of cell scaffolding materials. In addition, it is also important to demonstrate dynamic changes in cytoskeletal fiber formation in response to the mechanical property of scaffolds.

Prior to learning about JPK's instrumentation, Professor Kawase used fluorescence microscopy and scanning electron microscopy. However, these instruments cannot determine the elasticity of materials and cells. Under the overall banner of atomic force microscopy, AFM, it is possible to study multiple properties of soft materials under aqueous conditions. Speaking about his choice of the NanoWizard® 3 BioScience AFM system with the unique Quantitative Imaging, QI™, mode, Professor Kawase said his motivation was definitely the scanning speed. "For me, the QI™ mode seems technically easier than other modes especially in terms of softer materials such as living cells. I find that the JPK AFM is organized simply, and so is tough enough for a heavy user load. It is trouble-free and easy to maintain."

QI™ is the new quantitative imaging mode from JPK which was developed to make AFM imaging easier than ever before. With QI™, a force curve based imaging mode, the user has full control over the tip-sample interaction force at every pixel of the image. There is no longer a need for setpoint or gain adjustment while scanning. It is particularly powerful when imaging soft, sticky or loosely attached samples or samples with steep edges. QI™ comes as standard with the NanoWizard® 3 family of AFMs.

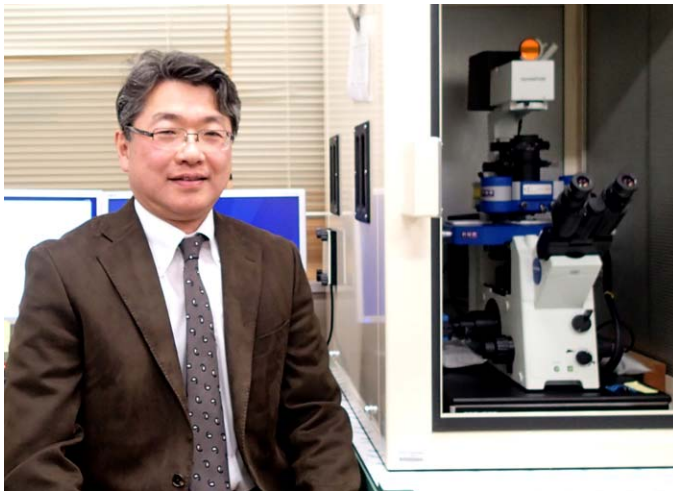
For more details about JPK's Quantitative Imaging mode on the NanoWizard® 3 AFM system and applications for the bio & nano sciences, please contact JPK on +49 30533112070, visit the web site: www.jpk.com or see more on Facebook: www.jpk.com/facebook and on You Tube: <http://www.youtube.com/jpkinstruments>.

***References:**

Horimizu M, Kawase T, Tanaka T, Okuda K, Nagata M, Burns DM, Yoshie H Micron 48: 1-10; 2013: Biomechanical evaluation by AFM of cultured human cell-multilayered periosteal sheets.

Horimizu M, Kawase T, Nakajima Y, Okuda K, Nagata M, Wolff LF, Yoshie H: Cryobiology 66(3):223-232; 2013 An improved freeze-dried PRP-coated biodegradable material suitable for connective tissue regenerative therapy.

Attachment:



Professor Tomoyuki Kawase of Niigata University with his NanoWizard® 3 AFM system which features QI™ mode.

For a high resolution copy of the image, either right click to download, or contact Jezz Leckenby at Talking Science.

About JPK Instruments

JPK Instruments AG is a world-leading manufacturer of nanoanalytic instruments - particularly atomic force microscope (AFM) systems and optical tweezers - for a broad range of applications reaching from soft matter physics to nano-optics, from surface chemistry to cell and molecular biology. From its earliest days applying atomic force microscope (AFM) technology, JPK has recognized the opportunities provided by nanotechnology for transforming life sciences and soft matter research. This focus has driven JPK's success in uniting the worlds of nanotechnology tools and life science applications by offering cutting-edge technology and unique applications expertise. Headquartered in Berlin and with direct operations in Dresden, Cambridge (UK), Singapore, Tokyo and Paris (France), JPK maintains a global network of distributors and support centers and provides on the spot applications and service support to an ever-growing community of researchers.

For further information:

JPK Instruments AG

Bouchéstrasse 12

Haus 2, Aufgang C

Berlin 12435

Germany

T +49 30533112070

F +49 30 5331 22555

www.jpk.com

bagordo@jpk.com

Talking Science Limited

39 de Bohun Court

Saffron Walden

Essex CB10 2BA

United Kingdom

T +44 (0)1799 521881

M +44 (0)7843 012997

www.talking-science.com

jezz@talking-science.com