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Carbon Design Innovations, Inc. Announces
Extreme High-aspect Ratio Atomic Force Microscope Probe for
Life Sciences Applications

Carbon Core BioProbes offer a new level of AFM imaging performance

Burlingame, Calif., February 21, 2010 – [Carbon Design Innovations, Inc.](#) (C|D|I) today announced the availability of a new atomic force microscope (AFM) probe for extreme high-aspect ratio life science imaging. The CCB (Carbon Core BioProbe) offers AFM scientists a new level of performance and opens new avenues for research.

“The carbon nanotube AFM probes from C|D|I reveal the most accurate surface morphology, especially for cellular samples such as rat basophilic lymphocytes cells,” states Dr. G. Y. Liu, University of California, Davis. “All observations reflect upon the superior geometry of these CCB probes, which exhibit little convolution in AFM imaging. We certainly hope to see these advantages among other biological specimens such as, proteins, tissues and biopolymeric materials.”

“AFM researchers understand that the next leap in AFM productivity will be based on improved probe technology,” said Vance Nau, CEO, Carbon Design Innovations. “They have been looking for reliable CNT

probes for many years, however, the inability to consistently manufacture CNT probes that live up to their promise has limited widespread adoption, frustrating users and manufacturers alike.”

C|D|I has patented processes for the deterministic manufacture of carbon nanotube (CNT) devices. Based on these breakthrough processes, the company is able to produce CNT AFM probes that are perfectly straight and precisely aligned, allowing them to be set at desired angles to the imaging surface. The CNT is securely anchored providing for robust and stable imaging with previously unseen levels of performance. C|D|I’s CNT probes are more stable and have longer imaging lifetimes than other probe types. In addition, the ability to apply proprietary coatings allows CDI to produce reliable CNT probes up to 5 microns total length. As a result, C|D|I probes offer customers greater imaging flexibility, performance and reproducibility that will enable them to make significant advances in new areas of AFM research. The new CNT AFM probes from C|D|I are compatible with all major AFM systems, giving users an easy path for improving AFM performance without making a substantial investment in new instrumentation.

The CCB probe offers extreme high-aspect ratio imaging capability for life science applications and allows AFM scientists to look at more detailed cell structure. It offers stability and durability in a high-aspect ratio probe designed for difficult to resolve scanning operations such as deep-trench imaging. The total CNT probe length is 2 μ to 5 μ with the exposed CNT length being <500nm. The CCB comes standard on an Applied Nanostructures probe, but can be mounted onto any AFM Cantilever.

In addition to the CCB probes, C|D|I offers a family of high-aspect (CCHAR) and high-resolution (CCHR) probes for materials science and metrology applications. Probes are available for order shipment now.

About Carbon Design Innovations

Carbon Design Innovations develops and manufactures carbon nanotube devices based on patented, deterministic methodologies. The company’s initial focus is on manufacturing AFM probes.



The company was founded by AFM and CNT industry veteran and company president, Ramsey M. Stevens in January, 2008. Vance Nau, Ph.D. joined the company as CEO in July 2008. Nau has over 25 years experience in management at scientific instrumentation companies and recently led AFM manufacturer Molecular Imaging for five years until its successful acquisition by Agilent Technologies.

More information about Carbon Design Innovations is available at www.carbodesigninnovations.com, by sending an e-mail inquiry to info@cdi-nano.com, or by calling +1 650.697.7070.