FEI's New Direct Electron Detector Revolutionizes Electron Microscopy of Biological and Other Beam-Sensitive Samples

A Quantum Leap in Low-Dose, High-Contrast Biological Imaging the FEI Falcon Direct Electron Detector Allows Life Scientists to See Biologically-Significant Detail That Could Not be Seen Before

HILLSBORO, Ore., Jul 27, 2009 (GlobeNewswire via COMTEX News Network) -- FEI Company (Nasdaq:FEIC), a leading provider of three-dimensional (3D) molecular, cellular and atomic-scale imaging systems, today announced the new Falcon(tm) Direct Electron Detector for its Titan(tm) and Tecnai(tm) transmission electron microscopes (TEMs). The Falcon is based upon direct electron detection that enables the acquisition of low-noise images of delicate biological samples and other beam-sensitive materials that require low electron dose interactions to prevent radiation damage of the material.

"We expect this new detector to revolutionize electron microscopy of biological structures," said Matthew Harris, FEI's vice president and general manager of the Life Sciences Division. "In these applications, imaging performance is limited by the inherently low contrast of the sample material and the samples' vulnerability to damage by the electron beam. The Falcon detector achieves signal to noise ratios equivalent to CCD cameras at a fraction of the electron dose. Conversely, at the maximum tolerable dose for a given sample, the Falcon detector delivers significant improvements in noise, contrast and resolution."

Limiting exposure to the electron beam is particularly important for biological samples that are primarily composed of a few relatively electron-sensitive elements and offer little intrinsic contrast in an electron microscope. Conventional fixing and staining techniques can improve contrast and dose tolerance, but introduce artifacts and increase the difficulty of image interpretation. Advanced cryo sample preparation techniques preserve biological structure but do not enhance contrast. The vulnerability of biological structures to damage by high energy beam electrons precludes the use of extended exposures that could otherwise be used to improve signal-to-noise.

The Falcon is a direct electron detector with improved quantum efficiency, capturing more information from a given electron dose, and accelerating the rate at which the signal-to-noise ratio improves over the exposure period. The unique design of the Falcon detector overcomes the excessive electron beam deterioration that was previously the primary technical challenge in developing a practical direct electron detector.

The Falcon detector offers 4K by 4K resolution and works in tandem with a CCD camera used for surveying and samples that are not dose sensitive. It is available for ordering in the fourth calendar quarter of 2009. For more information, please visit: www.fei.com.

About FEI

FEI (Nasdaq:FEIC) is a leading diversified scientific instruments company. It is a premier provider of electron and ion-beam microscopes and tools for nanoscale applications across many industries: industrial and academic materials research, life sciences, semiconductors, data storage, natural resources and more. With a 60-year history of technological innovation and leadership, FEI has set the performance standard in transmission electron microscopes (TEM), scanning electron microscopes (SEM) and DualBeams(tm), which combine a SEM with a focused ion beam (FIB). FEI's imaging systems provide 3D characterization, analysis and modification/prototyping with resolutions down to the sub-Angstrom (one-tenth of a nanometer) level. FEI's NanoPorts in North America, Europe and Asia provide centers of technical excellence where its world-class community of customers and specialists collaborate. FEI has approximately 1800 employees and sales and service operations in more than 50 countries around the world. More information can be found at: www.fei.com.

The FEI Company logo is available at http://www.globenewswire.com/newsroom/prs/?pkgid=6379

FEI Safe Harbor Statement

This news release contains forward-looking statements that include statements regarding the performance capabilities and benefits of the Falcon Direct Electron Detector and anticipated availability date. Factors that could affect these forward-looking statements include but are not limited to failure of the product or technology to perform as expected and achieve anticipated results, unexpected technology problems and our ability to manufacture, ship and deliver the tools as expected. Please also refer to our Form 10-K, Forms 10-Q, Forms 8-K and other filings with the U.S. Securities and Exchange Commission for additional information on these factors and other factors that could cause actual results to differ materially from the forward-looking statements. FEI assumes no duty to update forward-looking statements.

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