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JEOLink

JEOL USA News - Imaging & Microanalysis and More

Issue: #52

October - November 2014

Upcoming Events

** ISTFA **

Houston, TX
JSM-6010PLUS
ElementEye EDXRF
NeoScope SEM
Booth #213
Nov 11-14

Society for Neuroscience

Washington, DC
Booth#1711
Nov 16-19

Eastern Analytical Symposium

Somerset, NJ
Nov 17-19

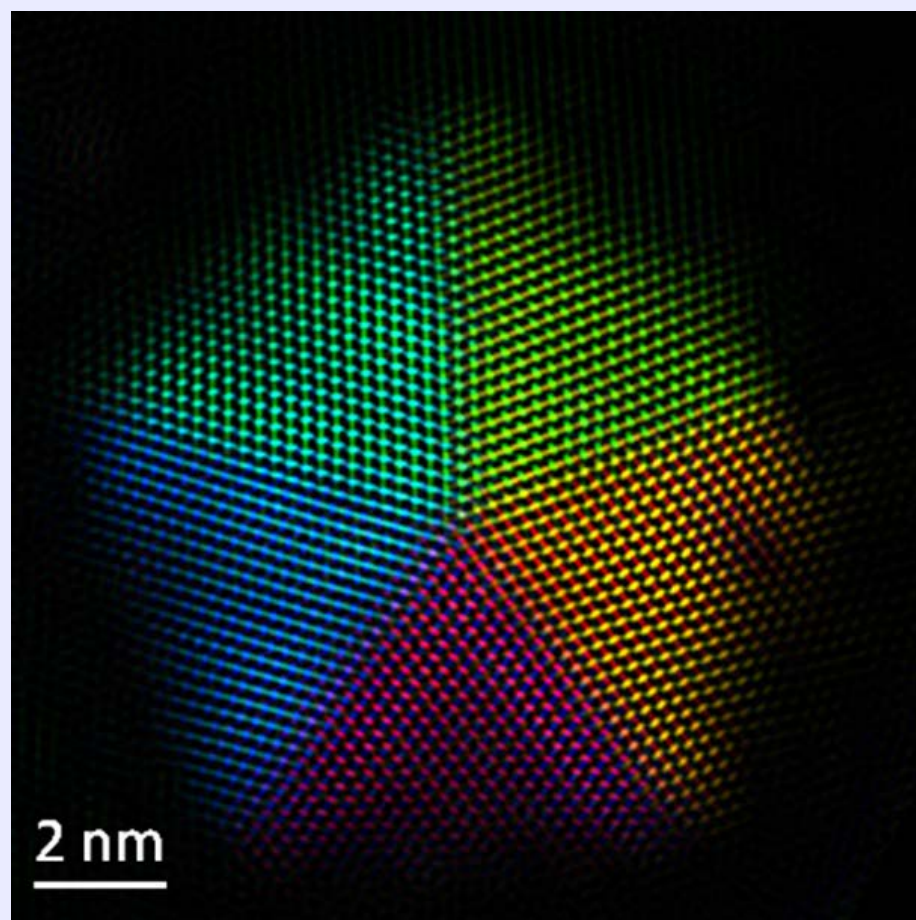
Fall MRS

Boston, MA
Booth #413
Dec 2-4

**** To request a demo please contact your local sales representative.**

[2014 Training Schedule at](#)

"Birth of a Nanostar" Wins September Image Contest



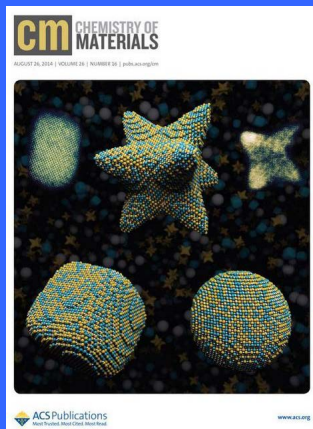
Birth of a Nanostar

Each month we receive more submissions for the 2014 Image Contest - showcasing a great variety of accomplishments. The winning image for the month of September comes from Prof. Moon Kim's lab at University of Texas, Dallas (Ning Lu, Jinguo Wang, Sample from Prof. Younan Xia at Georgia Tech.). This is a pseudo-colored STEM HAADF image of a Pd-Rh bimetallic nano-particle during the early stages of its formation. The five distinct regions are indicative of its

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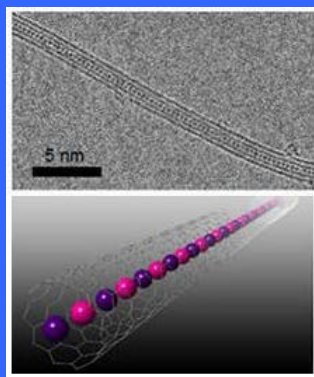
Hooke College of Applied Sciences
SEM/TEM Training

JEOL in the News



[What to expect when you're expecting the JEOL ARM200F TEM - Nickel/Iron Oxide Nanocrystals with a Nonequilibrium Phase: Controlling Size, Shape, and Composition](#)

[Scientists Synthesize a 2-Element Atomic Chain Inside a Carbon Nanotube](#)



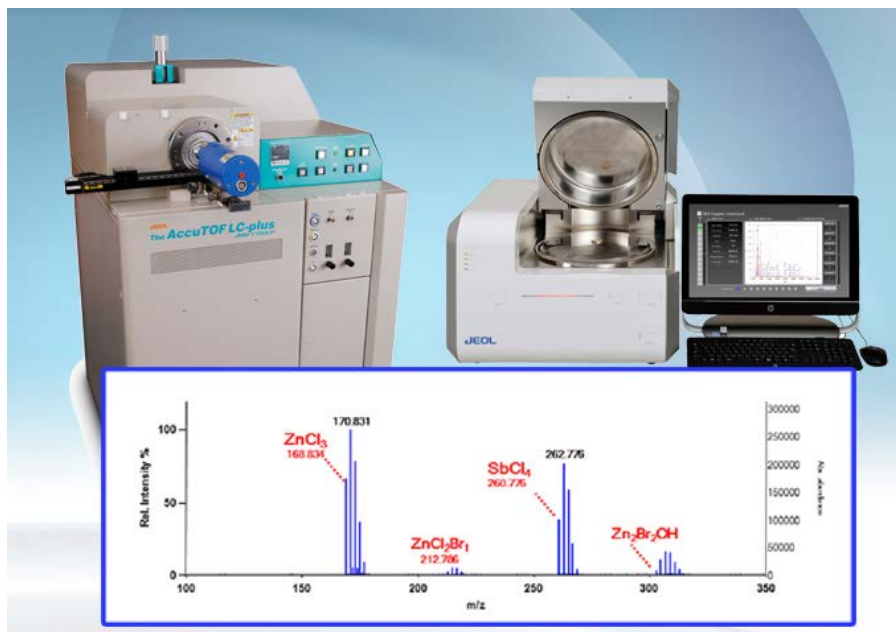
Spotlight on Neuroscience

five-fold rotational symmetry, colored for easy viewing. The image is from a JEOL JEM-ARM200F TEM. [Read more about Prof. Moon Kim's work in our latest REALab article.](#)

Take your best shot! [click here](#) for the guidelines and Image Gallery. A winner is selected for each month, and the winning images will be featured in a 2015 poster calendar from JEOL.

Reserve yours now!

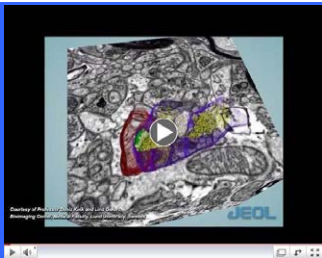
We'll post the October winner next week in our [image contest gallery](#) and on social media.



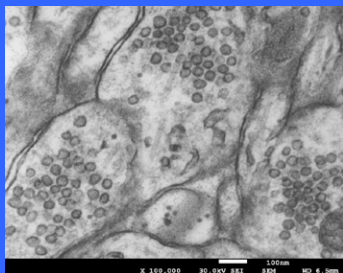
Forensics Investigation: Combining EDXRF and Mass Spectrometry

The latest analytical tool at JEOL, the [ElementEye EDXRF](#), is getting put to the test in our demo labs here in Peabody, MA. Recently our mass spectrometry experts combined techniques to identify inorganic elements in electrical tape. The chemical identification of electrical tapes is important for forensic investigation of improvised explosive devices. Pyrolysis mass spectrometry and X-ray fluorescence (XRF) are among the methods that are used for the forensic analysis of electrical tapes. The JEOL [AccuTOF-DART mass spectrometer](#) and EDXRF eliminate the need for extensive sample prep. [Read the full paper here.](#)

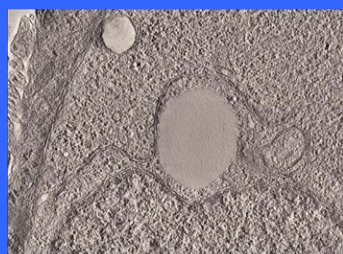
JEOL Applications Specialist Selected for National Institute of Standards (NIST) GSR Subcommittee



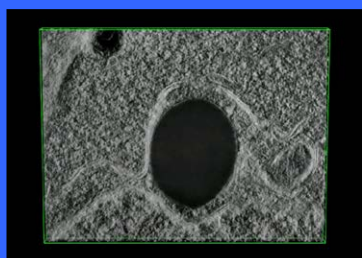
JEOL FE SEM with Gatan 3View Serial Block Face Imaging of Synapse



SEM in STEM image of brain



Neuron: Tomography



Neuron: 3D Tomography

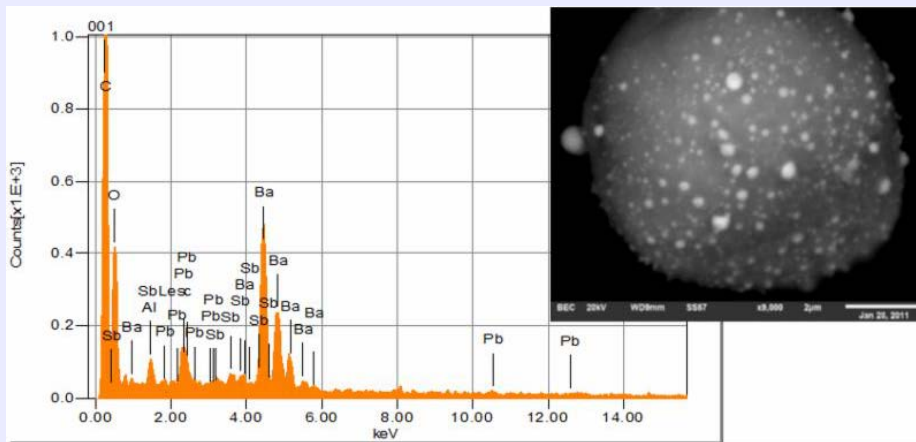
TEM images courtesy of Greg Ning-Penn State

A JEOL specialist in SEM applications has been selected to serve as a member of the National Institute of Standards (NIST) Gunshot Residue Subcommittee. David Edwards will be part of an effort by NIST to strengthen national standards and guidelines for characterizing gunshot residue using the Scanning Electron Microscope and EDS. This technique identifies the presence of antimony, barium, and lead on clothing and skin, and also produces micrographs for further evidence in law enforcement. Standards for this characterization will be revisited and revised through the GSR Subcommittee as part of the NIST effort. NIST announced the formation of the Organization of Scientific Area Committees (OSAC) earlier in 2014.



Dave Edwards.

A statement from NIST reads, "The OSAC will be a collaborative body of more than 600 forensic science practitioners and other experts who represent local, state, and federal agencies; academia; and industry. NIST is establishing OSAC to strengthen the nation's use of forensic science by supporting the development and promulgation of forensic science consensus documentary standards and guidelines, determining each forensic discipline's research and measurement standards needs, and ensuring that a sufficient scientific basis exists for each discipline."



Dave joined JEOL in 2007 and as SEM Applications Specialist he applies his knowledge of electron microscopy and analysis to help customers image and analyze a wide variety of samples with unique

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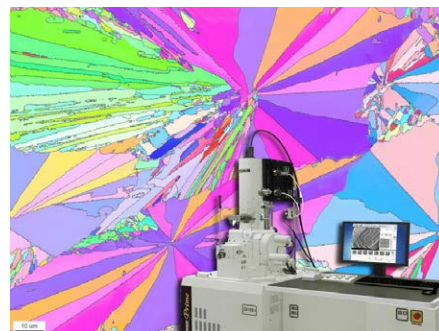


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properties. He holds a physics degree from Rensselaer Polytechnic Institute, and is a member of IEE and EDFAS.

PRIME Performance in New Extreme Resolution FE SEM

"The new JSM-7800F PRIME Field Emission SEM exposes structures that couldn't be seen before."



JSM-7800F PRIME

"With 7 Angstrom resolution, and a landing voltage of 10V, it's approaching scanning Auger sensitivity for surface analysis."

"The SEM marries new EDS and microscope technology, giving us the ability to routinely look at nanometer sized structures, catalysts, ceramics, oil and gas, carbon nanotubes, and more."

"This analytical tool is effectively a self-contained nanolab without compromising any low kV performance specs."



Vern Robertson introduces the Extreme High Resolution Field Emission SEM, the new JSM-7800F PRIME

For more details, [click here](#).

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Sincerely,

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