SEM • TEM • MASS SPEC • NMR • ESR • EPMA • AUGER • FIB • SAMPLE PREP • APPLICATIONS EXPERTISE



JULY 2017 | Issue #72



JEOL 2017 Image Contest - Winner of the Month



Congratulations to Sergey and Alexander Simchenko of SSTehnology for this interesting image of the surface morphology of porous Gallium Arsenide. Imaged on the JSM-6490 SEM and false colored.

Congratulations to Lita Duraine, Howard Hughest Medical Institute, BCM, for this winning TEM image of Drosophila melanogaster neuromuscular region showing a mutant bouton from the ALS homolog gene. (JEM-1010 TEM)

Follow us on social media to see the next image contest winner!

Do you have a great image to share? Enter the JEOL Microscopy Image Contest!

Visit our website for how to <u>enter the contest</u> and win an Amazon gift certificate and be featured in the next JEOL calendar! View all <u>entries</u> or learn more about criteria for a winning image.		
We look forward to seeing you at M&M in St. Louis! Come see the new lineup of JEOL SEMs and TEMs - we will be demonstrating our newest SEM technology in our booth #708, and discussing the latest in TEM.		
Learn more about our plans for M&M 2017 and JEOL's newest SEMs and TEMs here. Registration for demos is just one click away!		



SMART - FLEXIBLE - POWERFUL

YOUR TOP PICKS FOR MICROSCOPY

NEW ATOMIC RESOLUTION TEM • NEW CRYO-EM
NEW FE-SEM • NEW INTOUCHSCOPE SERIES



MEET THE NEW JEOL LINEUP AT M&M 2017 - BOOTH #708



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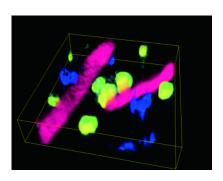
What's New in Industry-Leading TEM from JEOL NEOARM

JEOL is pleased to introduce the "NEOARM" / JEM-ARM200F, featuring JEOL's unique cold field emission gun (Cold FEG) and a new Cs corrector (ASCOR) that compensates for higher order aberrations. The combination of a Cold FEG and ASCOR enables atomic-resolution imaging at not only 200 kV accelerating voltage, but also a

JEM-F200 "F2"

- * Most powerful non-aberration corrected TEM available!
- * 20-200kV TEM with Cold FEG
- * Unprecedented guaranteed resolution for STEM (0.14nm), EDS (1.7sr) and EELS (0.3eV)

See what the F2 is all about! <u>View the video here.</u> <u>Learn more>>></u>



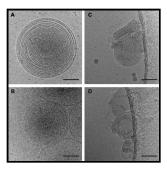
JEM-1400Flash

Building on the acclaimed performance of the this 120 kV electron microscope (more than 2400 sold), the new "JEM-1400Flash" is equipped with a high-sensitivity sCMOS camera, an ultra-wide area montage system, and an OM (optical microscope) image linkage function.



Recent Publications and Microscopy News

Peripheral myelin protein 22 alters membrane architecture: This study provides both a biochemical assay for PMP22 function and evidence that PMP22 directly contributes to membrane organization in compact myelin. Co-authored by researchers from Emory University, Vanderbilt University, and Georgia Institute of Technology.



Electric field imaging of single atoms: <u>Link to the web site</u> of the School of Engineering, The University of Tokyo (May 31, 2017) >>>

Researchers at Michigan State have successfully imaged one of the world's largest viruses. "If the common cold virus is scaled to the size of a ladder, then the giant Samba virus is bigger than the Washington Monument," lead researcher Kristin Parent, assistant professor of biochemistry and molecular biology at Michigan State, explained. "Cryo-EM allowed us to map this virus' structure and observe the proteins it uses to enter, or attack, cells." More>>>

Researchers at University of		
Texas at Dallas (Moon Kim		
Lab) witnessed atoms		
rearrange into an interesting		
pattern - possibly the world's		
smallest American flag. The		
team was observing a new material at atomic resolution with the JEOL Transmissi	on Electron Microscope when th	ey
increased the temperature of the sample to observe the phase transition. The surp	rising result was a whole new p	hase of
"stars and stripes." Kim's team is pushing to create the world's smallest transistor,	and the nanowires are smaller t	han 1
nanometer in diameter. The paper was published March 10 in Advanced Materials	More>>>	
Correlative Fluorescence and Electron Microscopy in 3D—Scanning		l
Electron Microscope Perspective. Center for Biologic Imaging, University of		
Pittsburgh with co-authors from JEOL.		
Current Protocols in Cytometry 12.45.1–12.45.15, April 2017		
Preview the data here.		

The Newest JEOL SEMs Are Here!

The new JSM-7900F Field Emission SEM is now in our demo lab in Peabody - then heading to M&M St. Louis where we will demonstrate it in our booth #708.

We welcome Mr. Nakajima (front) to our SEM Team as we sadly say farewell to M. Shibata who will return to Japan this month. Come see the latest in FE SEM from JEOL, and meet us at M&M!

We will unveil an **all-new high resolution SEM** on the show floor at M&M. It is a game-changer to say the least, and while we can't tell you more right now, <u>here is a preview!</u>

The <u>IT500 SEM</u> is the new workhorse, large chamber tungsten SEM. Stop by for a look and schedule a demo if you're at the show. We will have this SEM in the Renishaw booth.

The <u>IT100 InTouchScope</u> and the <u>JSM-7200F Field</u> <u>Emission SEMs</u> will also be in the booth.

Highlights of Upcoming Events

See our full calendar of events here.

Cathodoluminescence EPMA Workshop on xCLent Saturday, August 5, 2017 | Washington University | St. Louis, MO Join us for this special event prior to M&M.

For details, click here>>>

M&M 2017

August 7-10, 2017 | St. Louis, MO

Meet us in St. Louis in booth #708 where you'll see the game-changing new microscopes we are introducing this year!

Symposium: Renishaw Raman technology & techniques

September 19, 2017 | Dundee, IL Information and registration

PAST EVENTS

Wrapping up the 2-day **NanoEarth Summer School at Virginia Tech** - Masa Kawasaki was on hand to discuss Transmission Electron Microscopy applications and use.

Stay in touch with us at JEOL USA and share in the fun and some valuable information. Besides, we like to see you there! (Photo of JEOL USA Peabody office.)



Contact us at jeolink@jeol.com.

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