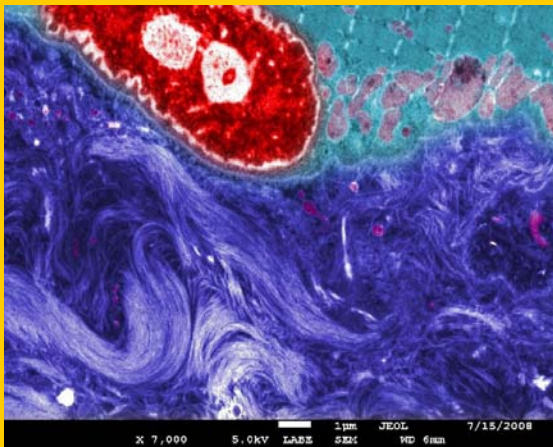


JEOLink

JEOL USA Newsletter

September 2008

Extreme Image



LAbE (low angle BEI detector) colorized image from JEOL JSM-7500F field emission SEM using 5kV on thin section of gracilis muscle

From M&M 2008 Poster: A Comparison of Backscatter Electron, R-filter, and Scanning Transmission Imaging of Sectioned Resin Embedded Biological Materials in Field Emission Scanning Electron Microscope (N. Erdman*, C.H. Nielsen* and C.A. Ackerley**)

JEOL Debuts New Microscopes, FIBs, and Remote TEM Capabilities at M&M 2008

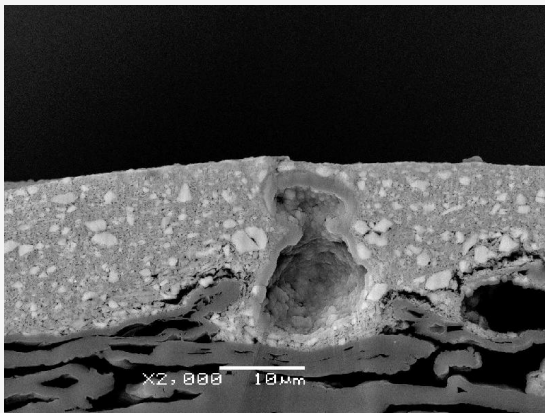


Dr. Jaap Brink of JEOL demonstrates the bio-TEM capabilities of the JEM-1400 Transmission Electron Microscope

M&M is traditionally the place to roll out the new products, and this year JEOL had several to showcase - in fact enough to fill two booths! For the first time, JEOL had one large island booth plus a separate in-line booth for "Power Tools," our sample preparation instruments, including two FIB systems and the new Cross Section Polisher. In the main booth we held ongoing demonstrations on several new SEMs and the bio-TEM, as well as remote operation tutorials



Visit a REALab



JUST POSTED! [Paper thin takes on a new meaning when creating cross sections of paper](#)

See Us at These Upcoming Meetings and Tradeshows



[SPIE/BACUS Photomask](#)
Monterey, CA
Oct 6-10, 2008

[Materials Science & Technology](#)
Pittsburg, PA
Oct 7-8, 2008

[AVS](#)
Boston, MA
Oct 19-24, 2008

for TEM.

New JEOL SEM Lineup

[JSM-7600F Thermal FE SEM](#)

[JSM-6510/6510LV](#) and [JSM-6610/6610LV](#)
Tungsten SEMs

Advanced TEM Performance

[PRISM Practical Remote In Situ Microscopy](#)

Sirius Remote Microscopy
JADAS
JAMS

FIB Systems

NEW! [JIB-4600F](#) Field Emission FIB
[JIB-4500](#) SEM/FIB

Portable/Benchtop SEMs

[JCM-5700](#) CarryScope
[NeoScope](#) Benchtop SEM

New PC Superprobe

JXA-8230 Electron Probe Micro Analyzer



Practical Remote In Situ Microscopy Tutorial



Dr. Larry Allard of Oak Ridge National Laboratory demonstrates remote microscopy using a new heating holder on the Cs corrected TEM in the ORNL lab.

A tutorial held in the JEOL booth at the M&M conference gave attendees the opportunity to see remote operation of the JEOL TEM at Oak Ridge

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[ISTFA](#)
[Portland, OR](#)
[Nov 4-5, 2008](#)

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[Fall MRS](#)
[Boston, MA](#)
[Dec 2-4, 2008](#)

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-
[Guide to Scanning Electron Microscope Observation](#)

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JEOL USA Mission Statement

JEOL USA, Inc.

Mission Statement

Achieve customer fulfillment and loyalty by delivering outstanding technology and superior support while maintaining a leadership position in the industries and institutions that we serve.

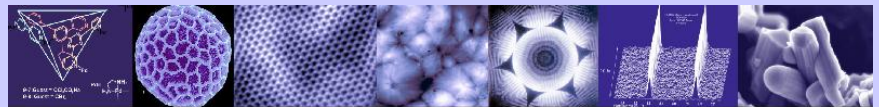
National Laboratory. Dr. Larry Allard of ORNL and Dr. Tom Isabell of JEOL operated the Cs TEM to demonstrate Sirius remote capability and to introduce a new in situ heating holder made by Protochips. This new holder gives scientists the ability to study and analyze materials in ways previously thought impossible, including catalytic reactions, biomass conversion and hydrogen storage materials that require high temperature, real-time & high resolution analysis.

To see the video of the tutorial, [click here](#).

Beijing Workshop of Cryo-Electron Microscopy in Structural Biology

Tsinghua University, Beijing, China, July 14 - 16, 2008

Beijing was a major destination this summer not only for the Olympics, but also for the first [KH Kuo Summer School of Electron Microscopy and Crystallography](#). Named for a prominent electron microscopist and crystallographer, the school series will alternate between biology and materials science each summer. For this year's structural biology focus, several of JEOL's TEM customers were invited speakers: Dr. Robert Glaeser (University of California, Berkeley), Dr. Yoshinori Fujiyoshi (Kyoto University), Dr. Wah Chiu (Baylor College of Medicine), and Dr. Huilin Li (Brookhaven National Laboratory). Also invited to present was JEOL USA biologist Dr. Barbara Armbruster, who discussed "Present and future trends in cryo-electron microscopy."



JEOL Microscopy Seminars Coming to Your Area Soon!

Attendance for the JEOL seminar on the west coast topped 100 on August 13 in Milpitas, California, with the theme "[The Changing World of Electron Microscopy](#)" tailored to the interests of the audience. Topics included:

- Applications of SEM in the IC Industry
- Preparing Difficult Cross Sections
- Low Vacuum SEM
- Contemporary CL
- Low kV Backscatter Imaging and Microanalysis
- State of the Art Dual Beam and TEM in a High Throughput Failure Analysis Environment

JEOL is planning a series of seminars to be held in central regions throughout the United States. Please look for your invitation, or [contact us](#) to be sure you're added to the seminar invitation list. Topics may vary

JEOL in the News

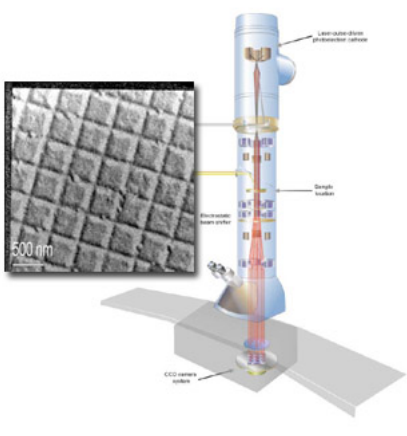


Image courtesy of LLNL

Dynamic TEM Wins R&D 100 Award

A new type of TEM has received an R&D 100 award for its ability to improve temporal resolution, allowing developers to see chemical reactions, changes in microstructure, motion, and motility on extremely short time scales. The dynamic transmission electron microscope developed at Lawrence Livermore National Lab provides the highest resolution ever for digital imaging of ultrafast material processes on the nanometer, or billionth of a meter, scale. Members of the team include: Wayne King, Michael Armstrong, Nigel Browning, Geoffrey Campbell, William DeHope, Judy Kim, Thomas LaGrange, J. Bradley Pesavento, Benjamin Pyke, Bryan Reed, Richard Shuttlesworth, Brent Stuart, Mitra Taheri and Benjamin Torralva (former LLNL employee). This technology was developed in conjunction with JEOL USA.

SEM Specimen Holders

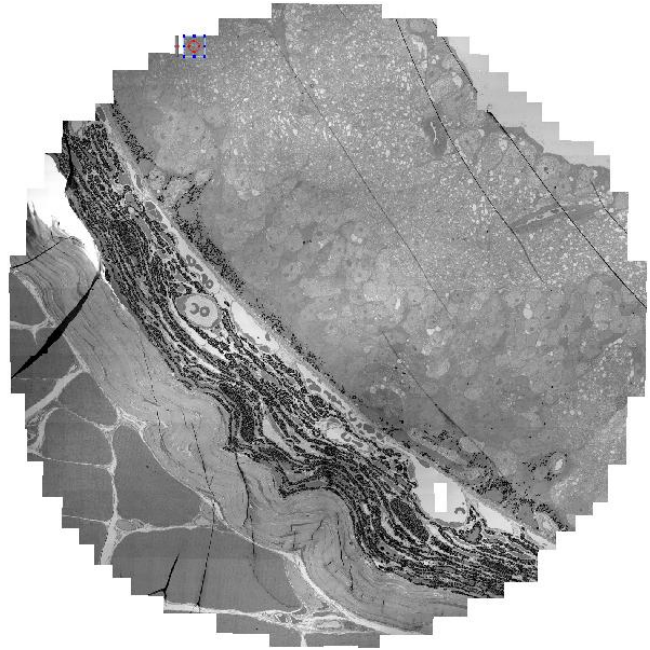


JEOL USA has the widest offering of sample holders for SEMs. Follow the link above to our Parts Online pages to see the selection. We also work closely with our customers when they have unique requirements. For more information, contact us at salesinfo@jeol.com.

from region to region.

The next JEOL Seminar will be held on September 30th in Boston.

SerialEM with Montaging for 3D Reconstruction



Unattended acquisition of ~1000 frames for a mosaic of a 0.25mm diameter specimen area of mouse retina microneuroma at 5000X. Courtesy of Dr. Robert Marc at the University of Utah John A. Moran Eye Center.

For advanced techniques requiring dual axis tomography and tiling, SerialEM (freely available for non-commercial use from the University of Colorado, Boulder) features an integrated GUI for image acquisition, and display and storage of tomographic datasets.

Among the many features, SerialEM supports montaging, enabling for instance the unattended acquisition of ~1000 CCD frames for a mosaic of a 0.25mm diameter specimen area of mouse retina microneuroma (image courtesy of Dr. Robert Marc at the University of Utah John A. Moran Eye Center).

SerialEM controls in-column Omega or post-column energy filters and provides a robust minimum dose system. 3D reconstruction of the tilt series data is achieved through means of IMOD (also freely available from the University of Colorado, Boulder) the academic standard for tomographic reconstruction.