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Microscopy AND Microanalysis



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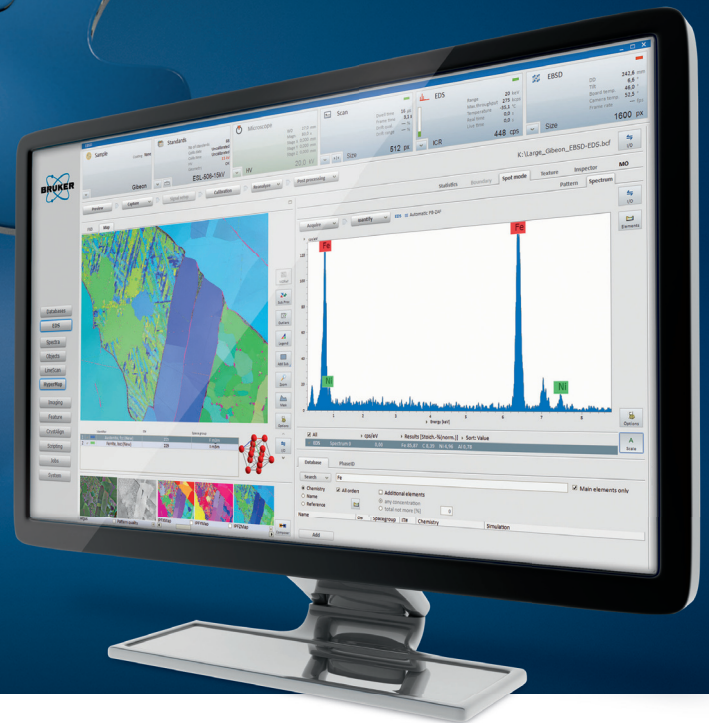
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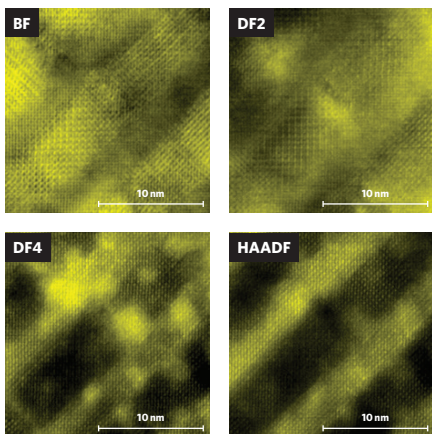
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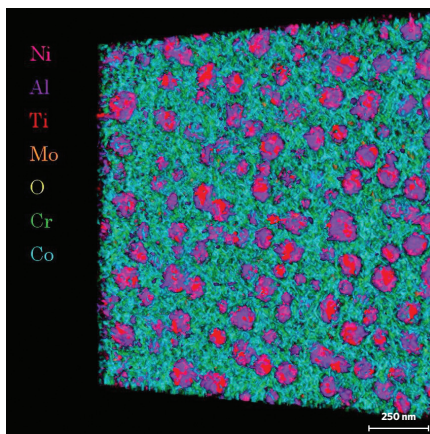
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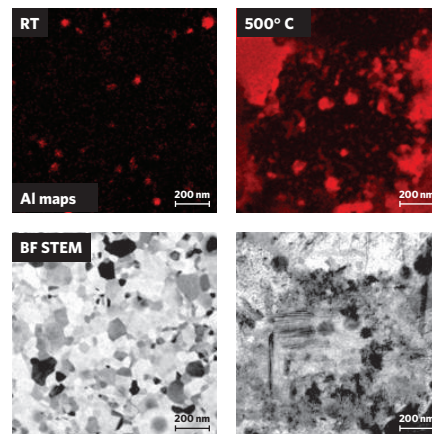
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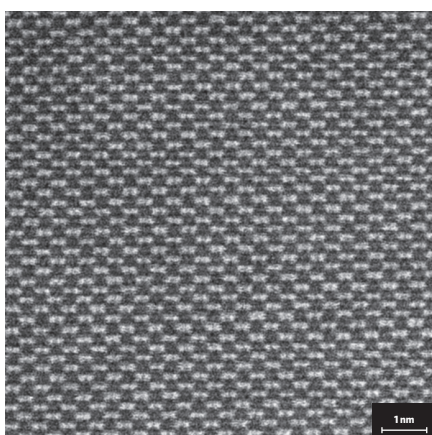
4 channel simultaneous HRSTEM imaging of SrTiO₃ using 4 STEM detectors.



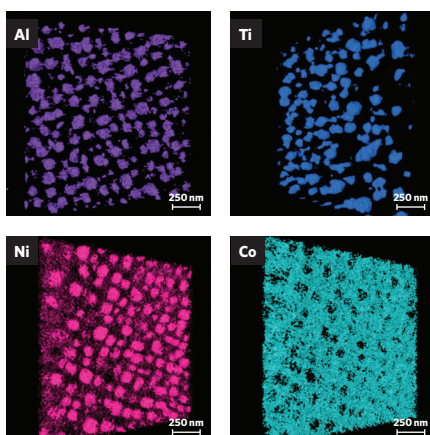
Combined 3D EDS map: Ni, Al, Ti, Mo, Cr, and Co.



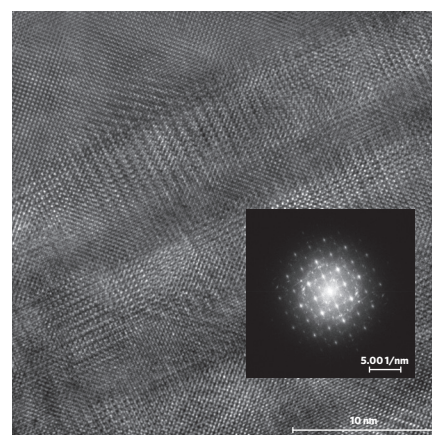
Temperature driven Al aggregation in solar cell. Sample courtesy of Dr. S. Kraschewski, U. Erlangen.



HRSTEM of Si (110) at 200kV.



3D EDS maps at different angles.



HRTEM image of SrTiO₃ with Ceta 16M camera.

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April 2015

REVIEW ARTICLE

- A Review of Color Blindness for Microscopists: Guidelines and Tools for Accommodating and Coping with Color Vision Deficiency 279
Douglas R. Keene

EQUIPMENT DEVELOPMENT

- In Situ* Heater Design for Nanoscale Synchrotron-Based Full-Field Transmission X-Ray Microscopy 290
Andrew M. Kiss, William M. Harris, Arata Nakajo, Steve Wang, Joan Vila-Comamala, Alex Deriy, and Wilson K. S. Chiu
- Design and Application of a Novel *In Situ* Nano-Manipulation Stage for Transmission Electron Microscopy 298
Bon-Woong Koo, Seung-Pyo Hong, Seong-Il Kim, Chan S. Kang, Sang-Sub Han, Kyu H. Oh, and Young-Woon Kim
- Development of an Integrated Thermocouple for the Accurate Sample Temperature Measurement During High Temperature Environmental Scanning Electron Microscopy (HT-ESEM) Experiments 307
Renaud Podor, Damien Pailhon, Johann Ravaux, and Henri-Pierre Brau

BIOLOGICAL APPLICATIONS

- FtsZ1/FtsZ2 Turnover in Chloroplasts and the Role of ARC3 313
Carol B. Johnson, Rahamthulla Shaik, Rehab Abdallah, Stanislav Vitha, and Andreas Holzenburg
- Collagen Structure Deterioration in the Skin of Patients with Pelvic Organ Prolapse Determined by Atomic Force Microscopy 324
Svetlana L. Kotova, Peter S. Timashev, Anna E. Guller, Anatoly B. Shekhter, Pavel I. Misurkin, Victor N. Bagratashvili, and Anna B. Solovieva
- Analysis of Grayscale Characteristics in Images of Labeled Microtubules from Cultured Cardiac Myocytes 334
Yongming Dang, Xiaodong Lan, Qiong Zhang, Lingfei Li, and Yuesheng Huang
- Comparative Tissue Stainability of *Lawsonia inermis* (Henna) and Eosin as Counterstains to Hematoxylin in Brain Tissues 343
Judith N. Alawa, Gbenga O. Gideon, Bamidele Adetiba, and Clement B. Alawa
- Flow Cytometry and Electron Microscopy Study of *Staphylococcus aureus* and *Escherichia coli* Treated with Mdc-Hly 351
Xuemei Lu, Xiaobao Jin, and Jiayong Zhu
- Effects of Tributyltin Chloride on Developing Mouse Oocytes and Preimplantation Embryos 358
Xian-Ju Huang, Ming Shen, Lizhong Wang, Fengxiang Yu, Wangjun Wu, and Hong-lin Liu
- Structural Heterogeneity of Intraluminal Content of The Prostate: A Histochemical and Ultrastructural Study 368
Paula Badea, Amelia Petrescu, Lucia Moldovan, and Otilia Zarnescu



On the Cover: Phase image of off-axis hologram. For further information please see Zheng et al., pp. 498–509.

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α -Viniferin-Induced Structural and Functional Alterations in <i>Raillietina echinobothrida</i> , a Poultry Tapeworm	377
<i>Bishnupada Roy and Bikash R. Giri</i>	
Analysis of Gill Structure from a Fresh Water Fish (<i>Heteropneustes fossilis</i>) Exposed to Bleached Sulfite Pulp Mill Effluents	385
<i>Sudip Dey, Utpal Rajguru, Dinesh Chandra Pathak and Umesh C. Goswami</i>	
The Incorporation of Nanoparticles into Conventional Glass-Ionomer Dental Restorative Cements	392
<i>Elizabeta Gjorgievska, Gustaaf Van Tendeloo, John W. Nicholson, Nichola J. Coleman, Ian J. Slipper, and Samantha Booth</i>	
XRMA and ToF-SIMS Analysis of Normal and Hypomineralized Enamel	407
<i>Lisa Melin, Jesper Lundgren, Per Malmberg, Jörgen G. Norén, Fabian Taube, and David H. Cornell</i>	
MATERIALS APPLICATIONS	
A Tool for Local Thickness Determination and Grain Boundary Characterization by CTEM and HRTEM Techniques	422
<i>Ákos K. Kiss, Edgar F. Rauch, Béla Pécz, János Szívós, and János L. Lábár</i>	
Periodic Artifact Reduction in Fourier Transforms of Full Field Atomic Resolution Images	436
<i>Robert Hovden, Yi Jiang, Huolin L. Xin, and Lena F. Kourkoutis</i>	
Robust Focus Measure Operator Using Adaptive Log-Polar Mapping for Three-Dimensional Shape Recovery	442
<i>Ik-Hyun Lee, Muhammad Tariq Mahmood, and Tae-Sun Choi</i>	
Total-Scattering Pair-Distribution Function of Organic Material from Powder Electron Diffraction Data	459
<i>Tatiana E. Gorelik, Martin U. Schmidt, Ute Kolb, and Simon J. L. Billinge</i>	
Characterization of the Thickness and Distribution of Latex Coatings on Polyvinylidene Chloride Beads by Backscattered Electron Imaging	472
<i>Clifford S. Todd and Douglas E. Beyer</i>	
A Model Ni-Al-Mo Superalloy Studied by Ultraviolet Pulsed-Laser-Assisted Local-Electrode Atom-Probe Tomography	480
<i>Yiyu Tu, Elizaveta Y. Plotnikov and David N. Seidman</i>	
Nonequilibrium Microstructures for Ag-Ni Nanowires	491
<i>Rajesh K. Rai and Chandan Srivastava</i>	
Investigation of (Fe,Co)NbB-Based Nanocrystalline Soft Magnetic Alloys by Lorentz Microscopy and Off-Axis Electron Holography	498
<i>Changlin Zheng, Holm Kirmse, Jianguo Long, David E. Laughlin, Michael E. McHenry, and Wolfgang Neumann</i>	
Assessment of In-Depth Degradation of Artificially Aged Triterpenoid Paint Varnishes Using Nonlinear Microscopy Techniques	510
<i>George Filippidis, Meropi Mari, Lambrini Kelegkouri, Aggelos Philippidis, Aleksandros Selimis, Kristallia Melessanaki, Maria Sygletou, and Costas Fotakis</i>	
On the Use of the Unusual Green Pigment Brochantite ($\text{Cu}_4(\text{SO}_4)(\text{OH})_6$) in the 16th-Century Portuguese-Flemish Paintings Attributed to The Master Frei Carlos Workshop	518
<i>Sara Valadas, Rita V. Freire, Anna Cardoso, José Mirão, Cristina B. Dias, Peter Vandenaabeele, and António Candeias</i>	
μ -XRF Analysis of Trace Elements in Lapis Lazuli-Forming Minerals for a Provenance Study	526
<i>Debora Angelici, Alessandro Borghi, Fabrizia Chiarelli, Roberto Cossio, Gianluca Gariani, Alessandro Lo Giudice, Alessandro Re, Giovanni Pratesi, and Gloria Vaggelli</i>	
BOOK REVIEW	
Biom mineralization Sourcebook: Characterization of Biominerals and Biomimetic Materials	534
<i>Ashit Rao</i>	



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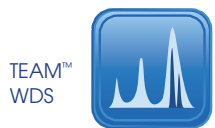
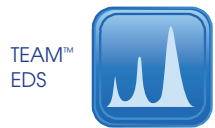
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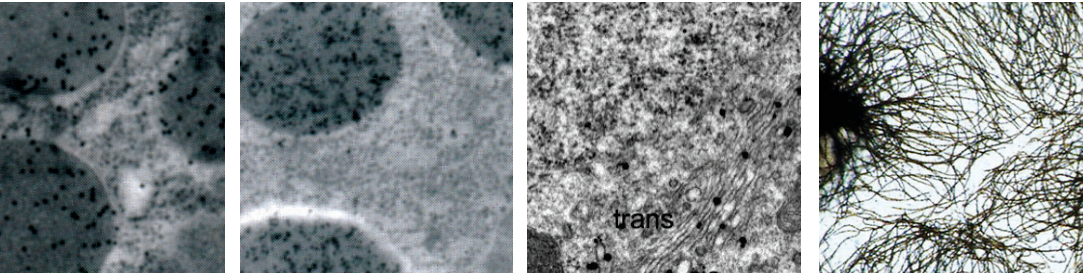
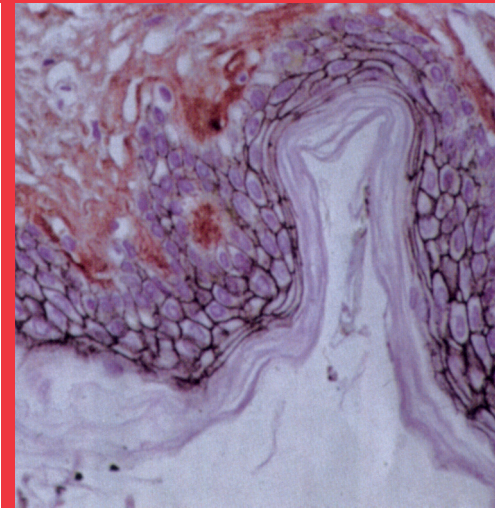
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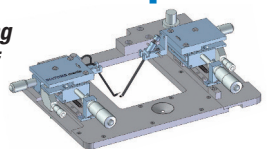
*ultra 45° • cryo • histo • ultra 35°
histo jumbo • STATIC LINE II
cryo immuno • ultra sonic
ultra AFM & cryo AFM
and now the NEW!...*

trimtool 20 and trimtool 45
Finally, one trimming tool for all of your trimming needs, be it at room or cryo temperatures.



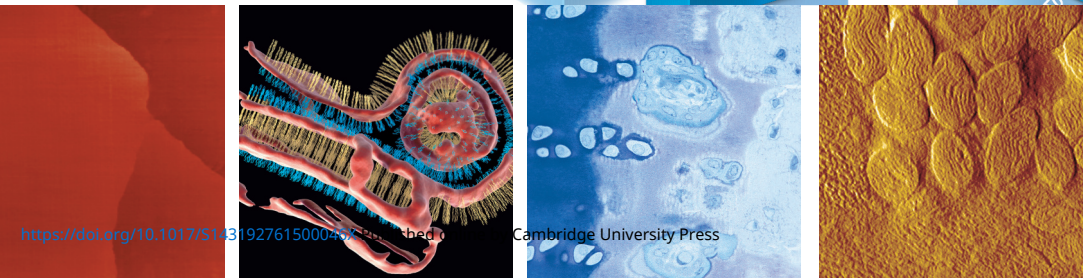
NEW!... DiATOME manip

For easy handling and mounting of section ribbons



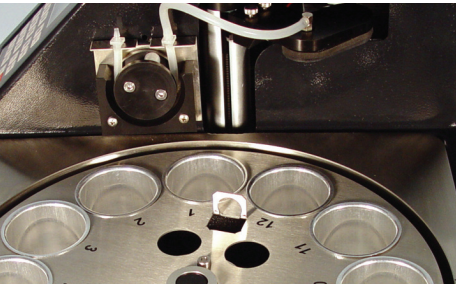
Applications

- Frozen hydrated biological samples (CEMOVIS)
- Room temperature sectioning of water sensitive samples
 - Dry resin sectioning of biological samples for chemical analysis
 - Dry sectioning of industrial samples such as polymers



For more information, see our new Full Line Catalog or visit us on the web at www.emsdiasum.com

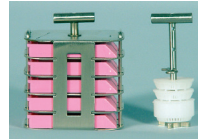
Lynx II



Automated Tissue Processor for Histology and Microscopy

The most unique state-of-the-art tissue processor which not only is compatible with all plastic resins but paraffin waxes as well

The LYNX II holds 24 reagent vials for EM processing. Optional HP (Histology processing) may be done with 12 larger size reagent vials for HP processing. In both EM and HP modes, LYNX II has two independently controlled heating/cooling stations.



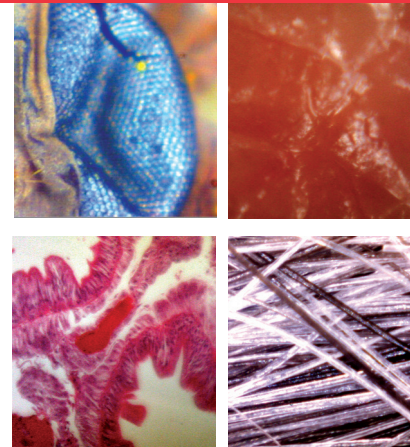
ProScope Micro Mobile, the world's first handheld digital microscope is now adaptable to mobile devices.



ProScope Digital Handheld Microscopes

There is always a yet undiscovered use for any of the ProScope models as the microscopic world is now in your hands. Popular uses include: **Science Education, Law Enforcement, Medical Fields, Quality Inspections**

Our offering includes the Wireless ProScope Mobile, ProScope HR and ProScope HR2, and ProScope Micro Mobile Digital Handheld Microscopes, as well as software and accessories.



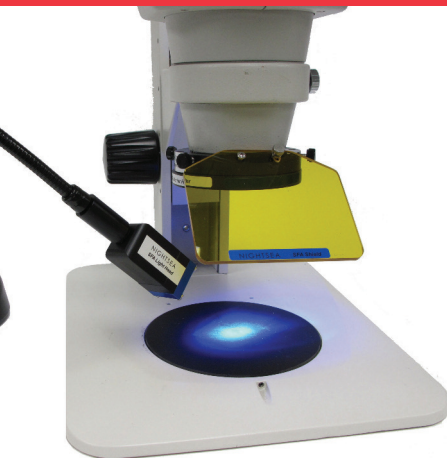
Adapt your existing lab stereo microscopes for fluorescence

NIGHTSEA™ Stereo Microscope Fluorescence Adapter

The NIGHTSEA™ Stereo Microscope Fluorescence Adapter adapts just about any stereo microscope (dissecting microscope) for fluorescence with no modification to the microscope itself. The modular design lets you easily switch between several different excitation/emission combinations to work with a variety of fluorescent proteins and other fluorophores. There are now six different excitation/emission combinations available, plus white light.

This simple system is excellent for:

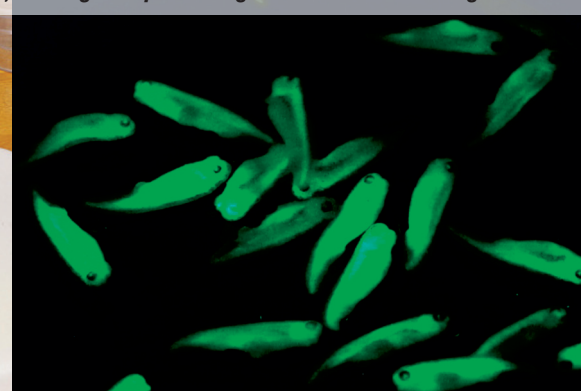
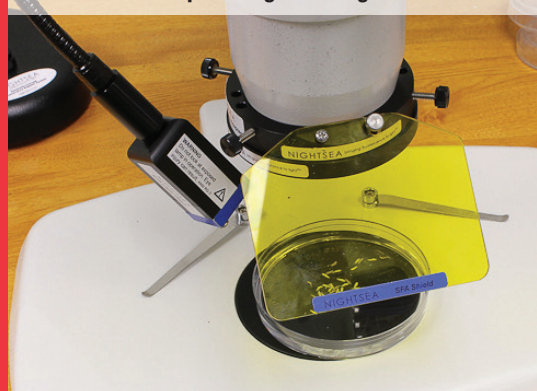
- Quick screening of your fluorescent genotypes - *Drosophila*, zebrafish, *C. elegans*,...
- Freeing up your research-grade fluorescence microscopes for more demanding work
- Fluorescence-aided dissection, injection, or micromanipulation
- New faculty start-up budgets
- Bringing fluorescence into the teaching laboratory



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Learn how to do it...**

We've added video content to our website to help you get to know our latest products even better! Stop by and see what it's all about.

Stereo microscope configured for green fluorescence, viewing *Xenopus* through shield filter for sorting.



FOCUS ON ESSENTIAL RESEARCH TOOLS

C-Flat™ Holey Carbon Grids for Cryo-TEM

C-flat™ is an ultra-flat, holey carbon-coated TEM support grid for transmission electron microscopy (TEM). Unlike competing holey carbon films, C-flat™ is manufactured without plastics, so it is clean upon arrival and the user has no residue to contend with.

C-flat™ leads to better data sets.

Made with patent pending technology, C-flat™ provides an ultra-flat surface that results in better particle dispersion and more uniform ice thickness. Patterning is done using deep-UV projection lithography, ensuring the most accurate and consistent hole shapes and sizes down to submicron features. The precise methods by which C-flat™ is manufactured eliminate artifacts such as excess carbon and edges around holes.

C-flat™ is affordable

C-flat™ is available in 25, 50, and 100 packs at a per-grid price less than competing products.

C-flat™ Customization

We realize that each customer has unique needs since specimens vary greatly in composition and size. To meet the diverse and demanding needs of the cryoTEM community, C-flat™ can be customized to meet a user's specific requirements.

Please contact EMS with any custom C-flat™ requests. We will be glad to provide you with a quote for specialized C-flat™ grids. Requests for customized parts can be made directly to EMS via e-mail to sgkcck@aol.com

C-Flat™ is now available in the standard version and a new thick version that doubles the carbon thickness from approximately 20nm to 40nm.

DuraSiN™ Film and Mesh for TEM

DuraSiN™ Film and Mesh products are affordably-priced, durable, nonorganic, low scatter support grids for quantitative TEM and X-ray analysis. DuraSiN™ products are made of a thin, high quality, low-stress silicon nitride membrane supported around its perimeter by a rigid silicon substrate.

Unlike other support films and grids, DuraSiN™ Film and Mesh products can withstand harsh chemical and temperature environments. For example, DuraSiN™ Film or Mesh products could be used as a substrate onto which nanowires could be directly grown from a strong acidic solution. Once the nanowires are grown, the specimen is immediately ready for imaging and analysis in the TEM. With direct deposition, no longer will you have to prepare a sample on one substrate only to then have to transfer it to a support grid for imaging.

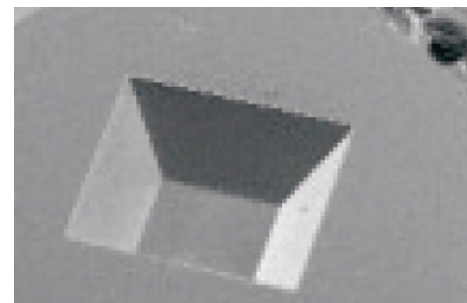
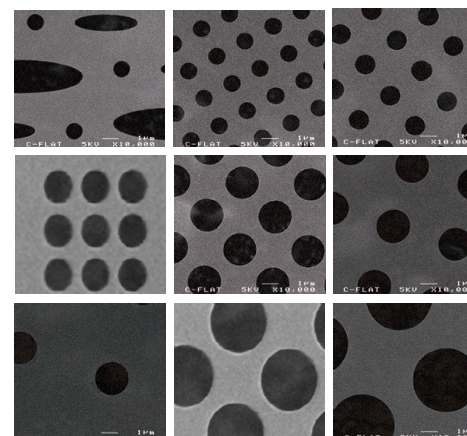
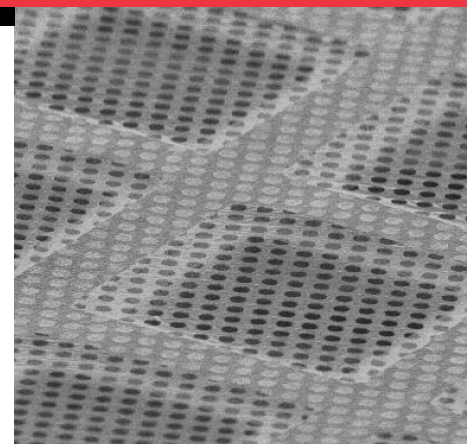
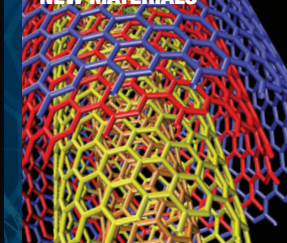
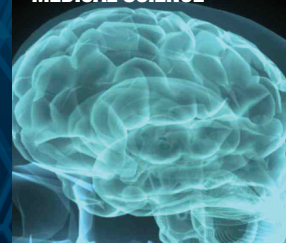
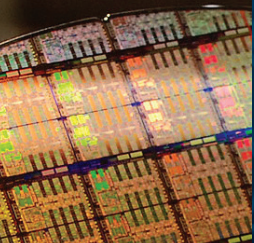
Applications:

SEMICONDUCTORS

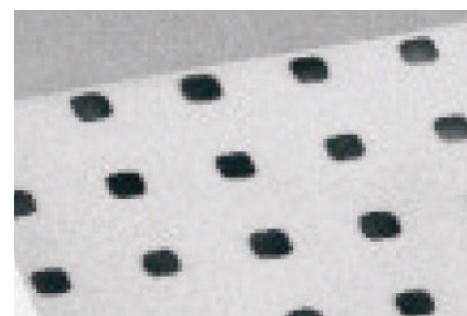
MEDICAL SCIENCE

CHEMISTRY

NEW MATERIALS



SEM image of a DuraSiN™ Film (taken from the back side)



SEM image of a DuraSiN™ Mesh (taken from the back side)

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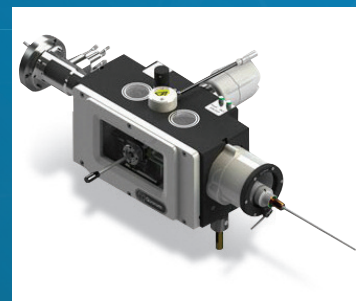


FOCUS ON ESSENTIAL RESEARCH TOOLS



PP3010T Cryo-SEM Preparation System

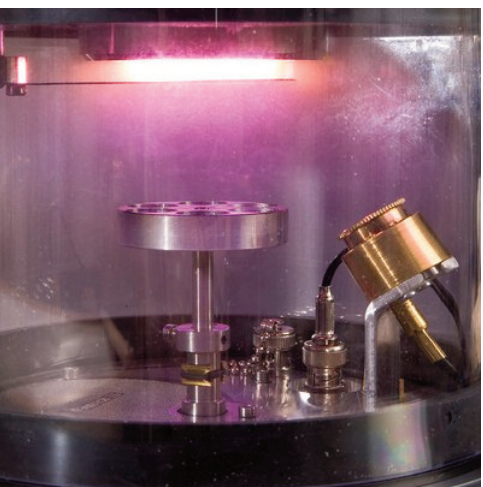
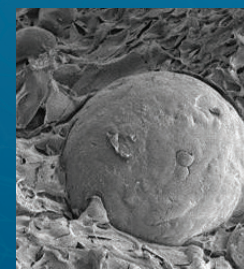
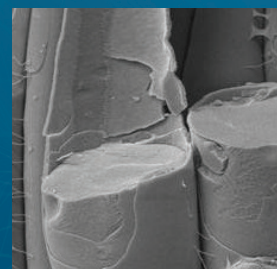
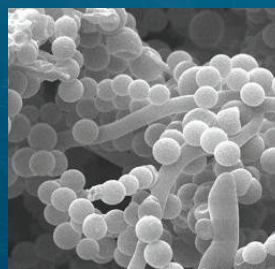
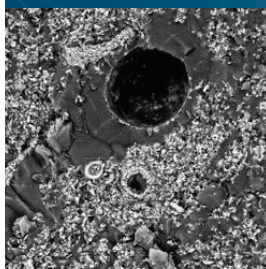
The PP3010T is a highly automated, easy-to-use, column-mounted, gas-cooled cryo preparation system suitable for most makes and models of SEM, FE-SEM and FIB/SEM. The PP3010T has all the facilities needed to rapidly freeze, process and transfer specimens. The cryo preparation chamber is turbomolecular pumped and includes tools for cold fracturing, controlled sublimation and specimen coating. The specimen can then be transferred onto a highly stable SEM cold stage for observation. Cold trapping in the cryo preparation chamber and SEM chamber ensures the whole process is frost-free. Specimen process times are typically between five and ten minutes.



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Learn how to do it...**

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Stop by and see what it's all about.

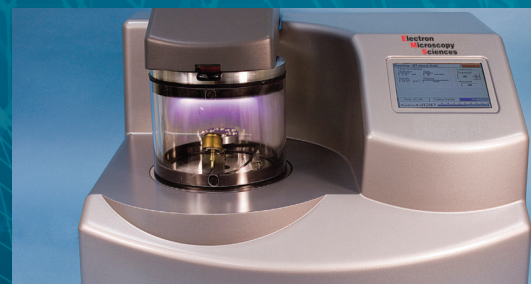


Innovative and versatile Sputter Coaters and Carbon Evaporators for all Microscopy Applications

SEM, high resolution FESEM and TEM etc. The EMS-150R/T and the EMS 300 Series offers a complete range of stand alone carbon coaters, sputter coaters, Sputter/Carbon coater in one. We offer low-cost, rotary-pumped systems for depositing non-oxidizing metals - such as gold (Au) and platinum (Pt) - and also turbomolecular-pumped models, suitable for oxidizing and non-oxidizing metals - such as chromium (Cr). Large chamber models are available for specimens up to 8"/200mm diameter, and all sputter coaters can be fitted with carbon evaporation attachments.



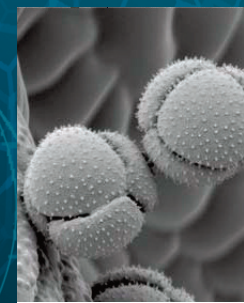
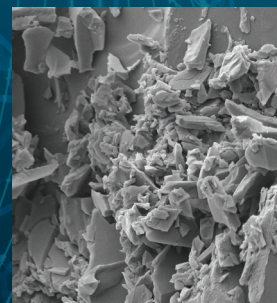
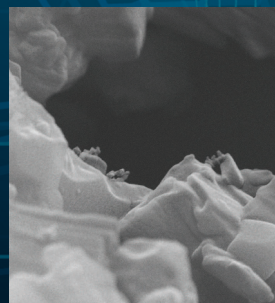
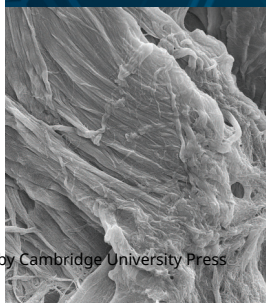
EMS300TD Dual Target, Large Chamber, Turbo-Pumped Sputter Coater



EMS150R Rotary Pumped Carbon and Sputter Coating System

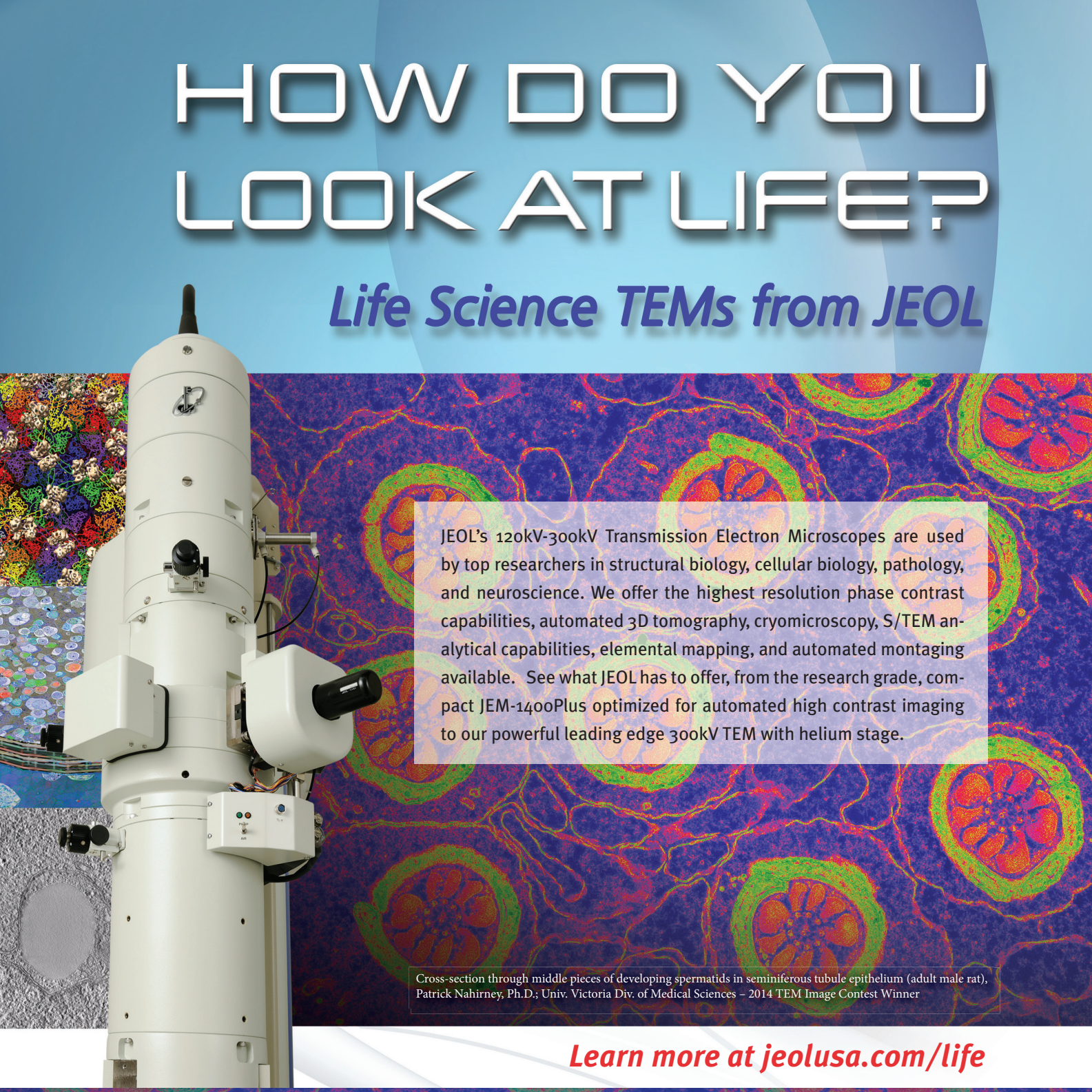
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Cross-section through middle pieces of developing spermatids in seminiferous tubule epithelium (adult male rat), Patrick Nahirney, Ph.D.; Univ. Victoria Div. of Medical Sciences – 2014 TEM Image Contest Winner

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Bacteriophage Epsilon 15, Wah Chiu, Ph.D.,
Baylor College of Medicine (top image)

Rabbit Retinal Connectome volume; Robert Marc, Ph.D.,
Marc Lab, Moran Eye Center, Univ. of Utah (middle image)

Neuron, 200nm, tomography; Greg Ning, Ph.D.,
Penn State University College of Agricultural Sciences
(bottom image)

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