## The moment "I think" becomes "I know".



#### Achieve new insights into your sample properties

Whether you aim for fundamental understanding or want to improve the composition of future materials – you are driving materials science. ZEISS microscopes are designed to provide all the data you need. Get results fast with comprehensive workflow solutions for multi-modal, multi-scale microscopy and analysis from 2D to 3D to 4D. Visit ZEISS booth #902 and learn how we can help with your materials imaging challenge.

ZEISS

www.zeiss.com/materials-science



XY Piezo Motor Stage, 100mm

#### Precision, Speed, Stability

#### NANO-POSITIONING FOR MICROSCOPY & IMAGING



Manual Stage 25x25mm Travel



High-Speed Nanofocus <1nm Resolution



0.1nm Resolution, XYZ



**UHV Piezo Stage** 

#### The Broadest and Deepest Portfolio of Precision Motion Technologies











XYZ Flexure Stage <1nm Resolution



Learn more www.pi-usa.us 508.832.3456 PI (Physik Instrumente)

Piezo Mechanics

Air Bearings

Fiber Alignment

Beam Steering

#### **SEM & TEM Sample Preparation**

#### Microscopy

#### **DESK V TSC**

Sample Coater

- Fully automated
- Minimize sample charge
- Reduce e-beam damage
- Increase secondary electron emissions

#### **BENCH TOP TURBO**

**Evaporation Tool for Tissue** and Life Science

- Carbon coating
- Sputtering
- AC glow discharge
- Low-voltage thermal evaporation



#### Support **Performance** Value

#### DV-502

Large Sample, High Throughput **Sputter & Evaporation** 

- Rotary shadowing for metals and carbon
- High vacuum gate valve for rapid cycling
- Recipe development

#### DENTONVACUUM

www.dentonvacuum.com

**Enabling Innovation** 

All Denton Vacuum Microscopy tools are backed by a 12 month warranty, over 50 years of process knowledge, an in-house process engineering group, worldwide support, and Global factory service center. To learn more about how to better prepare your samples, contact your electron microscope manufacturer or call us at +1-800-666-6004



#### OnPoint ™ detector offers high speed, low kV BSE detection for the SEM.

The OnPoint detector sets a new standard for backscattered electron (BSE) detectors delivering sharper, clearer images with less noise. This detector's high signal-to-noise ratio (SNR) is ideal for imaging beam sensitive materials that may be sensitive to charging or other beam damage. Combined with its superior detection efficiency, the OnPoint detector consistently collects more electrons to ensure you have the most sensitive BSE detector across most SEM working distances.



# Expand your Knowledge of Microscopy with MSA Membership!

Whether your primary focus is in light, electron, or scanning probe microscopy, or the biological or the physical sciences, MSA takes your knowledge to the next level!

#### **Members Receive:**

- A personal subscription to MSA's official journal,
   Microscopy and Microanalysis, and MSA's popular bi-monthly magazine, Microscopy Today.
- Peer Networking through the Society's Focused Interest Groups and Local Affiliated Societies.
- Discounts on books, journals and other educational materials.
- MSA Awards Programs, Scholarships, Speaker Opportunities, and more!



Join MSA Today!

Visit: www.microscopy.org or call 1-800-538-3672



### TESCAN Triglav<sup>TM</sup>

New SEM column technology for the new UHR models 2016



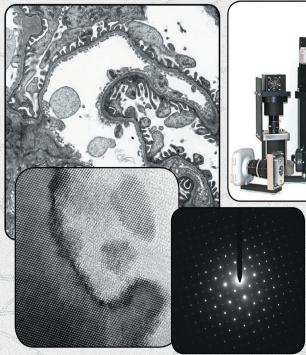
Find out more about this new cutting-edge technology at www.tescan-usa.com/triglav



1 TO 50 MEGAPIXELS live and slow scan

MAGNIFICATION FACTOR OF 1 on bottom mounted cameras

DIFFRACTION BEAM STOP on side mounted cameras







Affordable TEM camera systems for research, education, healthcare, and industry since 2001

Scientific Instruments and Applications 2773 Heath Lane • Duluth, GA 30096 (770) 232 7785 • www.sia-cam.com

#### INDEX TO ADVERTISERS

Bruker Nano GmbH	A13
Denton Vacuum	A18b
Diatome	Cover 3
EDAX	A16
Electron Microscopy Sciences, EMS	Cover 2, A3
FEI Company	A6
Gatan, Inc.	A19
Hitachi	A9
JEOL	A14, Cover 4
The Imaging Source	A11
PCO	A5
PI (Physik Instrumente)	A18a
Protochips	A15
Scientific Instruments & Applications (SIA)	A22a
ZEISS	A17



#### DiATOME diamond knives

ultra 45° • cryo • histo ultra 35° • histo jumbo cryo immuno • ultra sonic ultra AFM & cryo AFM trimtool 20 • trimtool 45 trimtool 90

#### Exchange service

discretion when working with proprietary samples.

knife for no extra charge, e.g. ultra to cryo or 45° to 35°.

Re-sharpening and reworking service

Whenever you exchange a knife we offer you a new DiATOME knife at an advantageous price.

Sectioning tests with biological and material research specimens of all kinds. We send you the sections along with the surfaced sample, a report on the results obtained and a recommendation of a suitable knife. Complete

A re-sharpened Diatome diamond knife demonstrates the same high quality as a new knife. Even knives

purchased in previous years can continue to be re-sharpened. The knives can be reworked into another type of

Over 40 years of development, manufacturing, and customer service

#### DiATOME U.S.

P.O. Box 550 • 1560 Industry Rd. • Hatfield, Pa 19440 Tel: (215) 412-8390 • Fax: (215) 412-8450 email: sqkcck@aol.com • www.emsdiasum.com





#### UNMATCHED PERFORMANCE, TECHNOLOGY AND SUPPORT

SEM • TEM • Cryo • STEM • High Resolution • MicroAnalysis
Correlative Microscopy • EPMA • FIB • NMR • Mass Spec • ESR

Learn more at jeolusa.com/MandM2016

www.jeolusa.com • salesinfo@jeol.com • 978-535-5900

\*Image credits on our M&M 2016 web page