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Microscopy AND Microanalysis



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Introducing the EMS

poly III

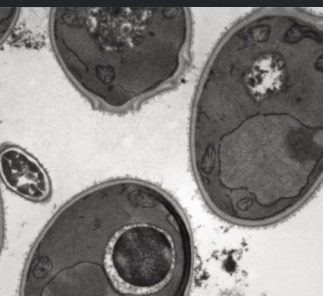
the solution for Evaporation-Controlled Automated Embedding and Polymerization

- Automates embedding
- Reduces hands-on time
- Minimizes exposure to hazardous and irritating chemicals
- Reduces solvent and resin use
- Facilitates the processing of up to 52 samples in one instrument run
- Prevents specimen loss

The EMS POLY III is an instrument for the embedding of specimens by the proper combination of pressure and temperature. Central to the instrument is a specimen chamber that is temperature controlled and which can be heated up from room temperature to 70°C. The pressure in the chamber can be reduced from ambient pressure to a controlled level with an inbuilt vacuum-pump. The instrument chamber accepts up to 52 BEEM specimen vials, and features preset programs which can be modified according to the user's preference. In the presets pressure and temperature settings have been coordinated and optimized for an efficient removal of solvent from the specimens. Bulk removal of solvent is followed by steps for the thorough removal of trace amounts.

As a practical approach the instrument can be loaded by the end of a workday and (when using acetone or propylene oxide) by the next morning the vials are ready for polymerization after the vials have been topped up with pure resin.

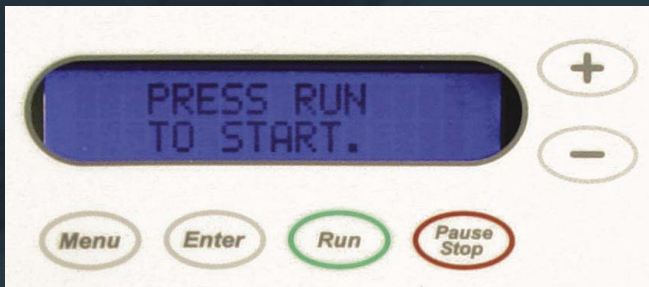
A lengthy and sometimes tedious manual procedure now reduced to a few simple steps.



Yeast cells were fixed with glutaraldehyde in cacodylate buffer, washed in distilled water and postfixed with 1% KMnO4 in distilled water



Facilitates the processing of up to 52 samples in one instrument run.



A choice of 3 embedding programs in the EMS POLY III for 3 different solvents. They have been pre-programmed for general use but the user can change the programs to fit specific specimens.



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Object: Mantis, an insect that is known for its aggressiveness: the females eat the males after mating
 Origin: Namibia
 Preparation: air-dry, no staining
 Micro-CT scanning and 3D volume rendering using SkyScan 1272



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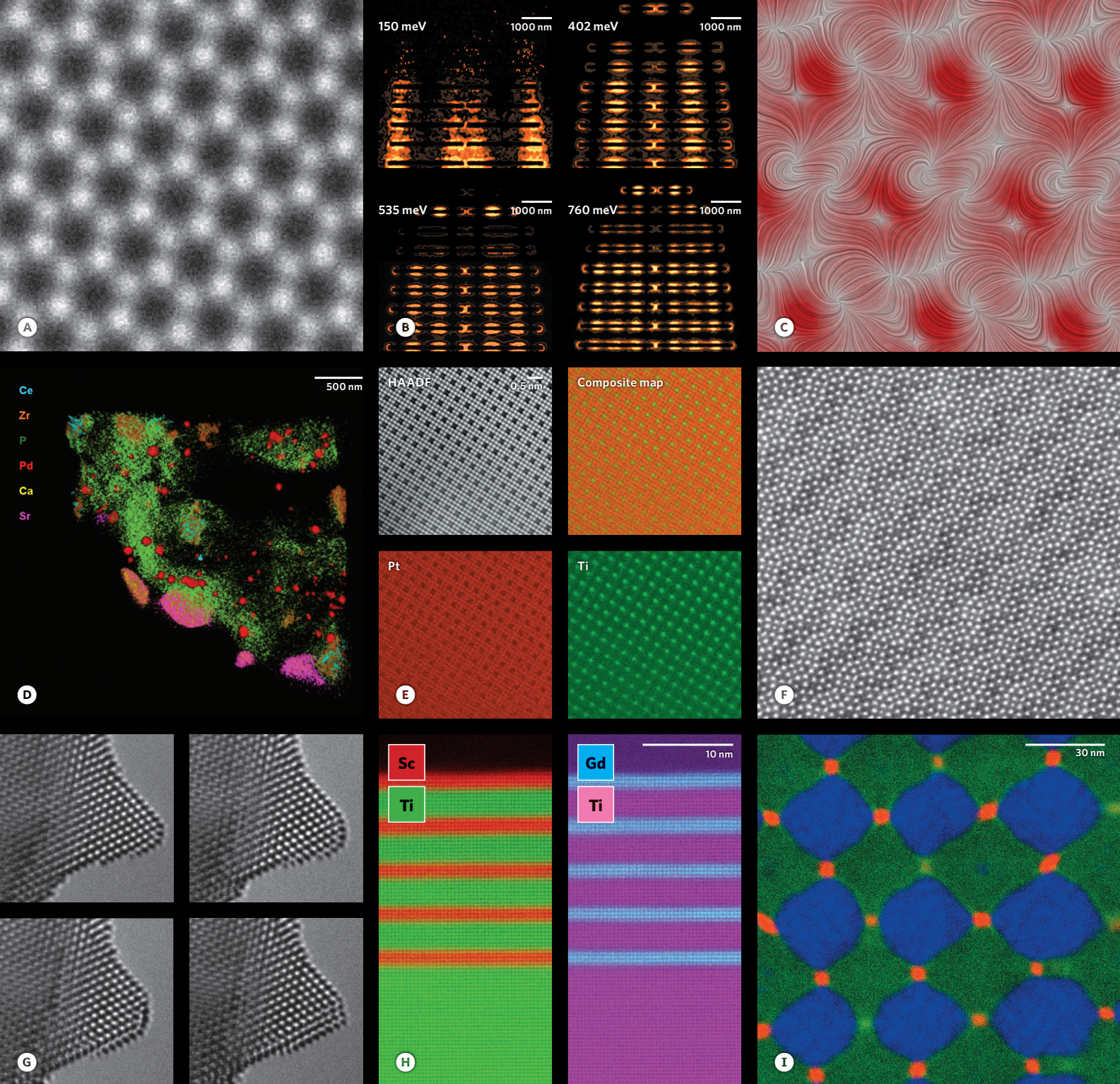
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A: Low-kV HRSTEM imaging of Graphene (80 kV). **B:** Plasmonic imaging of noble metal nanowires. **C:** Atomic electrostatic field visualization in GaN using DPC. **D:** EDS tomography of automotive catalyst. **E:** Atomic EDS mapping. **F:** HRSTEM of (Ba, Sr) Nb₂O₆. Courtesy B. Kabius, Materials Research Institute Penn State. **G:** Dynamic behavior (clockwise) of gold atoms captured with the CETA camera at 25fps. **H:** Atomic EDS mapping. **I:** 4k × 4k EDS map from ALNICO-8. Red: Cu, Blue: Fe, Green: Ni. Sample courtesy of Prof. Hamish Fraser, The Ohio State University, USA.

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On the Cover: Transmission electron backscatter diffraction image of AgAu sample. For further information please see de Jeer et al., pp 1387–1397.

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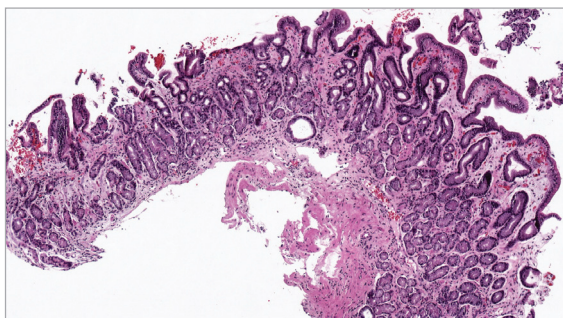
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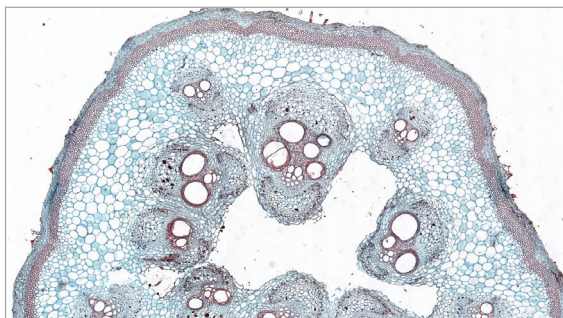
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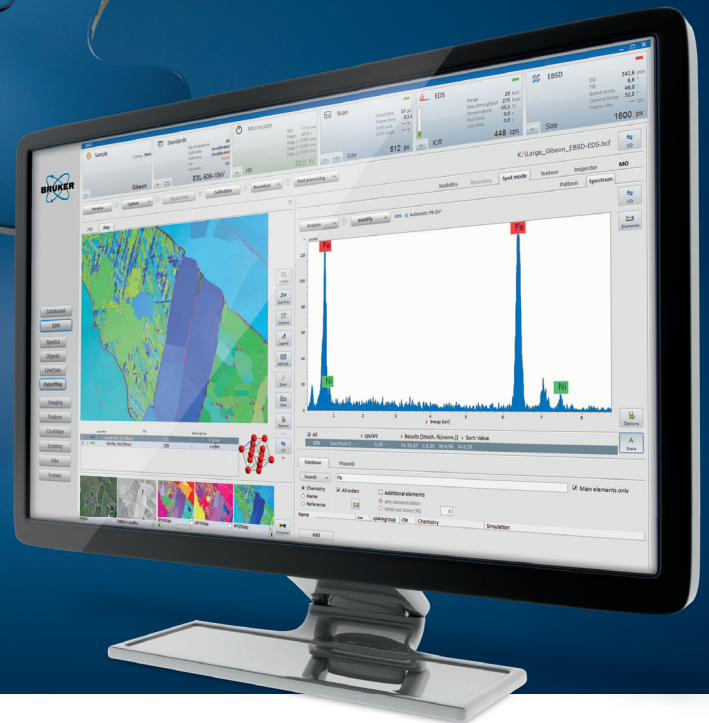
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Free customer service

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 discretion when working with proprietary samples.

Re-sharpening and reworking service

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

Exchange service

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

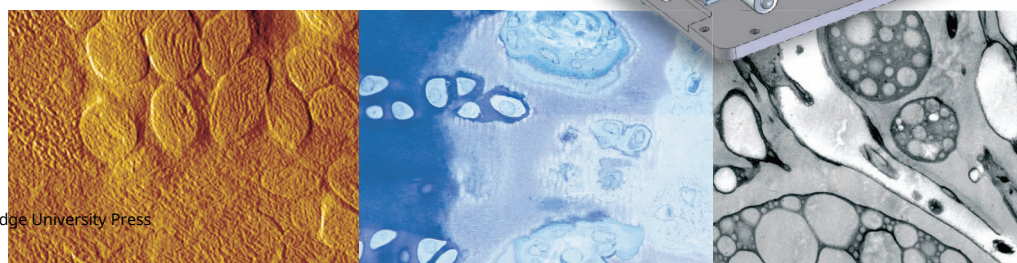
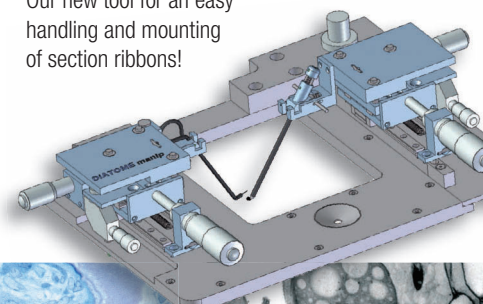
trimtool 90

Many requests from customers doing FIB cutting of biological and technical sample blocks have motivated us to relaunch the trim 90 blade.

Please contact us for more information.

DiATOME manip

Our new tool for an easy handling and mounting of section ribbons!



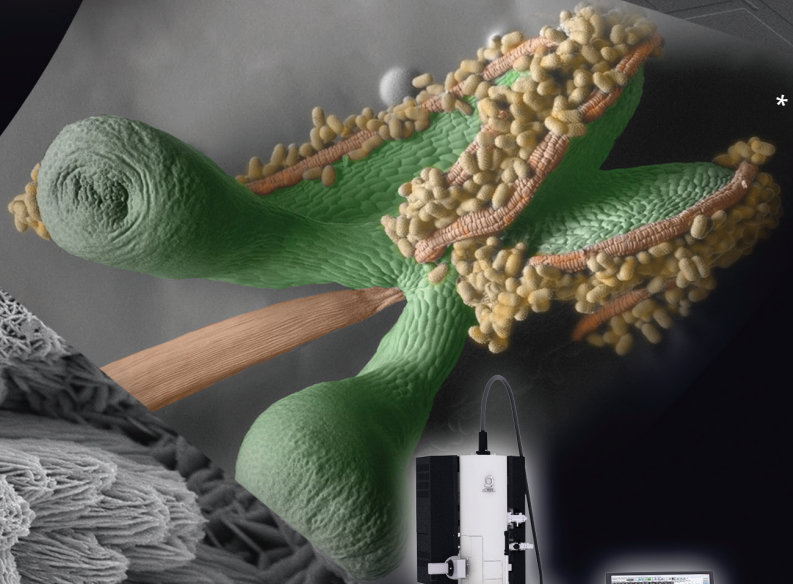
GAIN FRESH INSIGHT

IMAGING AND ANALYSIS
FROM THE NANO TO
MACRO SCALE

100 μm

*

100 nm



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nanolaboratory, ultrahigh
resolution FE SEM



NEW!
JSM-IT100 —
up to 300,000X, SE-BSE-EDS,
LV/HV, versatile compact SEM



NEW!
JCM-6000Plus NeoScope —
10X-60,000X, SE-BSE-EDS, LV/HV

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* Courtesy of José R. Almodóvar Rivera, University of Puerto Rico Mayagüez Campus

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Epoxy mount of heavy-mineral separates acquired with a Gatan ChromaCL2 system; image courtesy of Dr. Clayton Loehn, the Arizona LaserChron Imaging Facility, University of Arizona.

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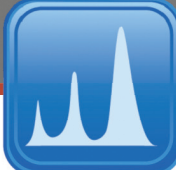





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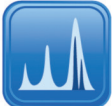
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