

Agilent Technologies

Tel: 480-756-5900
Email: afm-info@agilent.com
www.agilent.com



Agilent AFM & FE-SEM

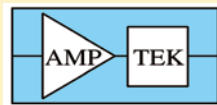
APPLICATIONS: • Atomic Force Microscopes • Scanning Electron Microscopes • Scanning Probe Microscopes • Scanning Tunneling Microscopes

FEATURES: Nanotechnology instrumentation including atomic force microscopes (AFM) & field emission scanning electron microscopes (FE-SEM) for materials and life sciences characterization at the nanoscale.

www.agilent.com/find/nano

Amptek Inc.

Tel: 781-275-2242
Email: sales@amptek.com
www.amptek.com



FAST SDD Detector for SEM-EDS

APPLICATIONS: • Detectors • Energy-Dispersive X-ray Spectrometry (EDS) • Spectrometers (X-ray) • X-ray Analysis Equipment • OEM

FEATURES: SDD detectors for EDS-XRF use with SEMs by OEMs. Low energy response of the Amptek FAST SDD™ extends down to carbon (C).

<http://www.amptek.com/sem.html>

Anatech USA

Tel: 510-401-5990
Email: tawatts@anatechusa.com
www.anatechusa.com



Hummer 6.2

APPLICATIONS: • Specimen Preparation Equipment • Scanning Electron Microscopes (SEMs) • Vacuum Equipment • SEM Accessories • Coating Systems

FEATURES: Hummer Sputtering tools have been in production for over 40 years • SEM • R&D • FA • Materials Research • Medical /Biological Research • other Thin Film Requirements

<http://www.anatechusa.com/hummer-sputter-systems/4>

AppFive, LLC

Tel: 480-389-6816
Email: bruno@appfive.com
www.appfive.com

Topspin Experiment Framework for (Transmission) Electron Microscopy

APPLICATIONS: • Transmission Electron Microscopes (TEMs) • Software for Microscopy • Electron Backscatter Diffraction • Energy-Dispersive X-Ray Spectrometry (EDS) • Scanning Electron Microscopy (SEMs)

FEATURES: Novel (S)TEM experiments enabled by synchronized beam scanning, beam precession, and advanced analysis • Strain, Orientation and Phase Mapping • Nanocrystal Characterization • Enhanced EDX/EELS Spectroscopy • *In-Situ* Microscopy

<http://appfive.com/topspin/>

CoolLED USA

Tel: 800-877-0128
Email: info@cooled.com
www.cooled.com



CoolLED pE-Series LED Illumination Sources

APPLICATIONS: • Fluorescence Microscopy • Illuminators (LOM) • Lamps and Light Sources • LED Illumination (LOM) • LED Lamps

FEATURES: Contact CoolLED's U.S. office to learn more about our wide range of LED illumination products for fluorescence and Optogenetics.

<http://www.cooled.com/Life-Sciences-Analytical/>

Diatome U.S.

Tel: 215-412-8390
Fax: 215-412-8450
Email: sgkccck@aol.com
www.emsdiasum.com



Cryo Immuno

The first cryo knife with a diamond platform and 35° cutting angle that leads to a considerable reduction in mechanical stresses and therefore to improved structure preservation in sucrose-protected samples.



EDAX Inc.

Tel: 201-529-4880
Email: sue.arnell@ametek.com
www.edax.com



TEAM™ Trident Analysis System



APPLICATIONS: • Materials Characterization • EDS • EBSD • WDS • Fully integrated EDS-EBSD-WDS • OIM™ Analysis

FEATURES: Easy to use TEAM™ user interface. Dynamic EDS, EBSD, and WDS mapping for real time data analysis. Three clicks from start to final report.

www.edax.com/Smart

Hikari XP EBSD Camera



APPLICATIONS: • High speed EBSD data collection • Detailed microstructural characterization • Orientation precision • High indexing rates

FEATURES: Results without compromise. Highest orientation precision. Industry best sensitivity for operation at beam currents as low as 100 pA with >99% indexing success rates.

<http://www.edax.com/Products/EBSD/Hikari-XP-EBSD-Camera.aspx>

Octane Silicon Drift Detector Series



APPLICATIONS: • High Quality EDS Data Acquisition • SEM Microanalysis • TEAM™ EDS Software Suite

FEATURES: High speed, high quality data collection. Four models for key microanalysis applications. Smart features guarantee optimized acquisition setup and quality data.

<http://www.edax.com/Products/EDS/Detectors/Octane-Silicon-Drift-Detector-Series.aspx>

Electron Microscopy Sciences

Tel: 215-412-8400
E-mail: stacie@ems-secure.com
www.emsdiasum.com



EMS-002 Cryo Workstation

The EMS-002 Cryo Workstation is a complete ultra rapid freezing system that captures rapid events and labile structures that are not seen in chemically fixed materials.

Electron Microscopy Sciences

Evans Analytical Group

Tel: +1-408-530-3500
Email: info@eag.com
www.eag.com



Material Characterization

APPLICATIONS: • Microscopy Services • Surface Analysis • Service Laboratories • Microanalysis Services • Failure Analysis

FEATURES: Providing high quality microscopy services including: SEM, S/TEM, EDS, EELS, EBIC, CL, EBSD, FIB imaging and now: Aberration corrected STEM services using a Hitachi HD-2700.

www.eag.com

EXpressLO LLC

Tel: +1-321-663-3806
Email: Lucille.Giannuzzi@EXpressLO.com
www.EXpressLO.com



EXpressLO™ Ex Situ Lift Out System

APPLICATIONS: • FIB Accessories • FIB Lift Out • TEM Grids • TEM Specimen Preparation • APT Specimen Preparation

FEATURES: EXpressLO™ allows fast and easy *ex situ* lift out—no carbon support film needed. No expensive FIB time required. Simple manipulation for routine backside milling reduces curtaining.

www.EXpressLO.com

ibss Group, Inc.

Tel: 415-566-5774
Email: elena.grankina@ibssgroup.com
www.ibssgroup.com



GV10x DS Asher

APPLICATIONS: • Contamination Control • Long mfp Plasma Cleaning • New *In-Situ* Cleaning Paradigm • FIB/SEM/TEM • SIMS/XPS/Review SEM

FEATURES: Unique plasma source is the engine in GV10x Asher that provides high power and low pressure, long mfp plasma for cleaning chambers and specimens *in-situ*.



Leica Microsystems

Tel: 800-248-0123
Fax: 846-405-0164
Email: yourimage@leica-microsystems.com
www.leica-microsystems.com



Leica EM CPD Critical Point Dryer

APPLICATIONS: • Life Sciences • Materials Science • Critical Point Drying • SEM Sample Preparation • High-quality Samples

FEATURES: Dries delicate biological or industrial samples in a fully automated, controlled process to preserve surface structure for subsequent treatment and analysis.



<http://www.leica-microsystems.com/products/electron-microscope-sample-preparation/biological-specimens/room-temperature-techniques/drying/details/product/leica-em-cpd300/>

Leica EM VCT100 Vacuum Cryo Transfer System

APPLICATIONS: • Life Sciences • Mounts to Any Vacuum-operated SEM, FIB, SIMS, AFM, or XPS Chamber • Contamination-free Cryo Transfer

FEATURES: Samples are transferred in a well-defined environment, e.g., protective gas or high vacuum from a preparation instrument to analysis unit: can be kept at low-temperature for cryo techniques.



<http://www.leica-microsystems.com/products/em-sample-preparation/biological-specimens/low-temperature-techniques/vacuum-transfer/details/product/leica-em-vct100/>

Leica EM TIC 3X Ion Beam Slope Cutter

APPLICATIONS: • Materials Science • Triple Ion Beam Cutter • Cross-sections for SEM, Microstructure Analysis, and AFM • Sample Preparation • Milling at High Rates

FEATURES: For high-quality cross sections of materials, this instrument features three individually controlled ion beams that can cut up to three deep, broad samples in one process.



<http://www.leica-microsystems.com/products/electron-microscope-sample-preparation/industrial-materials/solid-state-technology/details/product/leica-em-tic-3x/>

Leica EM ACE Series of Coaters

APPLICATIONS: • High vacuum coating for FE-SEM and TEM • Low vacuum coating – Sputter Coating and Carbon Thread • Sample Preparation

FEATURES: The latest advances in automated low vacuum and high vacuum coating systems – one touch coating with a small footprint.



<http://www.leica-microsystems.com/products/em-sample-preparation/biological-specimens/room-temperature-techniques/coating/>

Leica EM UC7 Ultramicrotome

APPLICATIONS: • Life Sciences • Sample Preparation for TEM, SEM, AFM, and LM • Room Temperature and Cryo Sectioning • Materials Science • Semi- and Ultra-thin Sections

FEATURES: Provides easy preparation of semi- and ultra-thin sections as well as perfect, smooth surfaces of biological and industrial samples for TEM, SEM, AFM, and LM examination.



<http://www.leica-microsystems.com/products/electron-microscope-sample-preparation/biological-specimens/low-temperature-techniques/ultramicrotomy/details/product/leica-em-uc7-1/>

McCrone Microscopes & Accessories



Tel: 630-887-7100
Email: lbolin@mccrone.com
www.mccronemicroscopes.com

NeoScope II Benchtop SEM

APPLICATIONS: • Benchtop Electron Microscopes • Camera/Digital Camera Systems • Digital Microscope • Freeze Drying Equipment • Heating Stages

FEATURES: Widest magnification range 10x–60,000x • No special sample prep • EDS for elemental analysis • Images in under 3 minutes • Intuitive touchscreen interface



<http://www.benchtopsem.com/>

Microtome Service Company

Tel: 315-451-1404
Email: Mitch@MicrotomeServiceCo.com
<http://www.microtomeserviceco.com>



Microtome Sales, Service, and Parts

APPLICATIONS: • Microtomes and Ultramicrotomes • Microtome Repair • Knifemakers • Service and Repair • Fabricate and modify lab equipment

FEATURES: Sales, service of Sorvall, DuPont, and RMC Microtomes and GKM Knife Makers. Microtome and lab accessories fabrication and modifications to meet your specific needs.



http://microtomeserviceco.com/index.php?route=information/information&information_id=7

SPI Supplies/Structure Probe, Inc.

Tel: 610-436-5400
Email: sales@2spi.com
www.2spi.com



Vacu Prep™ II

APPLICATIONS: • Materials Science • Life Science • Semiconductor • Coating Systems • Failure Analysis

FEATURES: Turbo molecular pump for fast and clean pump down times; simple automated operation for evaporation or sputtering, 60 liter/minute turbo molecular pump; interactive touch screen control pad, Rotation assembly, LN2 trap and funnel.



Plasma Prep™ III

APPLICATIONS: • Materials Science • Life Science • Semiconductor • Asbestos • Failure Analysis

FEATURES: Solid state RF generator capable of 1 to 100W operations; low temperature asher/etcher; small footprint; 4" diameter x 6" depth Pyrex or Quartz Chamber; Optional Process Controller; Optional system for cleaning TEM Specimen Holders.



Osmium Plasma Coaters

APPLICATIONS: • Materials Science • Life Science • Semiconductor • High Resolution SEM • Sample Preparation Equipment

FEATURES: Thin (1 nm) osmium metal coatings with no grain structure; Excellent for High Resolution FE-SEMs; Ideal for heat sensitive samples; No oxidation of coating.



SC-1000 SEM Ion Mill

APPLICATIONS: • Materials Science • Life Science • Semiconductor • SEM • Ion Beam Milling

FEATURES: Equipped with both high- and low-energy ion sources. Rapid slope cutting with the high-energy ion gun followed by gentle surface cleaning with the low-energy ion gun provides cross-sectional SEM samples suitable for semiconductor failure analysis and other analytical purposes.



Sutter Instrument

Tel: 415-883-0128
Email: alex@sutter.com
www.sutter.com



SmartShutter™

APPLICATIONS: Shuttering, Fluorescence Microscopy, Life Sciences, Imaging Hardware

FEATURES: • Life tested to 100 million cycles • Complete opening time 8 msec from trigger • Select partial opening function for neutral density capability • "Soft" mode provides minimum vibration • Stand alone, or use with Sutter filter wheel



Lambda XL

APPLICATIONS: Microscope Illumination, Fluorescence Microscopy, Life Sciences, Imaging Hardware, OEM Illumination

FEATURES: • 10,000 hour expected lifetime for bulb • No high-voltage pulse • Highly stable output (less than ±1% fluctuations) • Built-in driver for Sutter filterwheel and SmartShutter • Low light loss through bulb life



Lambda DG-4 / DG-5 PLUS

APPLICATIONS: Fluorescence Microscopy, Ratio-metric Imaging, Wavelength Switching, Imaging Hardware, Life Sciences

FEATURES: • 0.5 msec switching between filters • Integrated light source and wavelength switching excitation system • Holds four or five interference filters and one neutral density filter • Light guide output provides uniform illumination • Direct computer control via parallel or serial interface



Lambda 10-3

APPLICATIONS: Fluorescence Microscopy, Ratio-metric Imaging, Wavelength Switching, Imaging Hardware, Life Sciences

FEATURES: • As fast as 40 msec between adjacent filters (10 position wheel) • As fast as 31 msec between adjacent filters (4 position wheel) • Can control up to 3 wheels and 2 shutters, or 2 wheels and 3 shutters • Compatible with SmartShutter™ stepper-motor controlled shutter • Controls a variety of 12, 25, 32, and 50 mm filterwheels



Sutter Instrument (continued)

MPC-385 / MPC-325



APPLICATIONS: Life Sciences, Micromanipulation, Electrophysiology

FEATURES: • Single controller and ROE will run 2 stepper motor drive manipulators • User-friendly interface: single button access to all major functions • Accelerated mode for fast, manual manipulator movement • Definable 4th axis for coaxial pipette movement • Ultra-low drift, ultra-smooth movement.

SOM—Simple Moving Microscope



APPLICATIONS: • Fluorescence Microscopy • *In vivo* microscopy • *In vitro* microscope • Life sciences • Photostimulation

FEATURES: The SOM is a small, simple microscope designed to allow a single experimental setup to be used for both *in vivo* and *in vitro* experimentation.

Ted Pella, Inc.

Tel: 800-237-3526
Email: sales@tedpella.com
www.tedpella.com



High Resolution FE-SEM Sputter Coaters



APPLICATIONS: Life Sciences, Materials Science, Semiconductors, SEM

FEATURES: • Grain-free, ultra-thin uniform and conform coating • Wide choice of operating parameters to accommodate all sample types • Purpose designed with optimized vacuum pumping system • Includes Rotary-Planetary-Tilting stage and high resolution thickness controller • Easy to operate with fast cycle times

www.tedpella.com/crossing_html/crs208hr.html

The PELCO BioWave® Pro Microwave Tissue Processor



APPLICATIONS: Life Sciences, Fluorescence Microscopy, TEM, Image Analysis

FEATURES: • Superior Microwave Processing Control • Precision Sample Temperature Control • Unrivaled Application Flexibility • Consistent Quality Results • True ease of operation

www.tedpella.com/microwave_html/BioWave_Pro.htm#biowave_pro

PELCO easiGlow™



APPLICATIONS: Life Sciences, Materials Science, TEM, Tomography

FEATURES: • Precise and easy vacuum settings • Short cycle times • Consistent results • Intuitive touch screen for control and display • Supports hydrophilic/hydrophobic and negative/positive modes

www.tedpella.com/easiglow_html/91000.htm

PELCO® Silicon Nitride Support Films



APPLICATIONS: TEM, STEM, Thin Film Research, Life Sciences, Material Sciences

FEATURES: • Debris free and resilient films • Available membrane thickness of 8, 15, 50, and 200 nm • 3 mm diameter frame fits perfect in TEM holders • EasyGrip™ edges for improved handling

www.tedpella.com/grids_html/silicon-nitride.htm#_21500_10

PELCO® Modular SEM Sample Holders



APPLICATIONS: SEM FESEM, FIB/FIB/SEM

FEATURES: • Stage adapters for all major SEM brands • Large selection of effective and practical sample holders • Can be used on any SEM platform

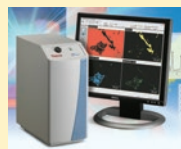
www.tedpella.com/SEMmod_html/SEMmod3.htm#anchor907543

Thermo Scientific

Tel: 800-532-4752
Email: info.microanalysis.us
@thermofisher.com
www.thermoscientific.com/microanalysis



NORAN System 7 X-ray Microanalysis System



APPLICATIONS: • Energy-Dispersive X-ray Spectroscopy (EDS) • Wavelength-Dispersive X-ray Spectroscopy (WDS) • Electron Backscatter Diffraction (EBSD) • Raman Spectroscopy/Microscopy • Surface Analysis

FEATURES: Specializing in intuitive, easy to use microspectroscopy that eliminates operator bias for consistent results. We are the world leader in serving science. When results count, count on us.

www.thermoscientific.com/microanalysis

XEI Scientific Inc.

Tel: 650-369-0133
Email: sales@Evactron.com
www.Evactron.com



Evactron® Combiclean™ System



APPLICATIONS: Combines remote plasma cleaning of SEM, FIB, and vacuum chambers with onboard cleaning for carbon removal of samples and vacuum parts.

FEATURES: • Switchable cleaning solutions • Integrated vacuum chamber • External Plasma Radical Source (PRS) for *in-situ* cleaning • Internal memory • Simple operation • Microprocessor regulates timer, RF power, and chamber pressure • Uses air for plasma • Backstreaming suppression for clean vacuum storage

http://evactron.com/combiclean

XEI Scientific Inc. (continued)

Evactron® 25Z De-Contaminator



APPLICATIONS: SEM, FIB, and vacuum chamber remote plasma cleaner; carbon removal from vacuum chamber.

FEATURES: • Uses air to make oxygen radicals • Pre-set cleaning recipes • Available computer interface • Simple operation • Table top controller • Fast Zephyr mode cleaning at <20 mTorr.

<http://evactron.com/evactron25>

Evactron® SoftClean™ Chamber



APPLICATIONS: Desktop plasma cleaning of specimens; uses one PRS for SEM and specimen cleaning; cleaning without sputter etching.

FEATURES: • 3 ports for TEM stage holders • Top opening chamber lid for SEM samples • RF shield built into lid • Includes vacuum cutoff valve • Uses air for cleaning gas

<http://evactron.com/softclean>

Evactron® 45Z and 40Z De-Contaminators



APPLICATIONS: SEM, FIB, and vacuum chamber remote plasma cleaners; carbon removal from vacuum chamber.

FEATURES: • Use air • Pre-set cleaning recipes • Available computer interfaces • Simple operation • Rack mounted controllers • Fast Zephyr mode cleaning at <20 mTorr

<http://evactron.com/evactron45> <http://evactron.com/evactron40>

Evactron® Plasma Radical Sources



APPLICATIONS: Make oxygen radicals from air or oxygen gas; make hydrogen radicals from H₂; plasma light sources.

FEATURES: • A variety of size and appearance options • Built-in pressure measurement • Built-in gas flow control • Compact size • Easy mounting

<http://www.evactron.com/images/files/2012PRSu.pdf>

Evactron® De-Contaminators

FAST, Large Volume, and Damage Free Plasma Cleaning



New Evactron® Zephyr™ plasma source
Fast cleaning at *full speed turbopump* pressures.



Evactron®

By XEI Scientific

www.evactron.com
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Image by David Sharf



M&M 2014

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Call for Papers

Paper Submission Open: November 15, 2013

Paper Submission Portal

Paper Submission Deadline: February 8, 2014

Program Details

Awards Information

Hartford Area & Hotel Information

Hotel reservations available
January 2014

Online Registration

Opens February 2014



Image at Top: Cathodoluminescence image of composite SiC-diamond cutting tool; Colin MacRae, CSIRO-Minerals, Clayton, Victoria, Australia

The single source for all your **microscopy supplies** and **specimen preparation equipment.**



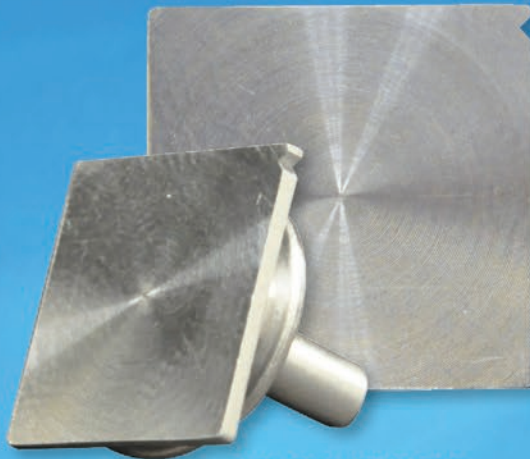
EM Coating Systems



PELCO BioWave® Pro
Tissue Processor



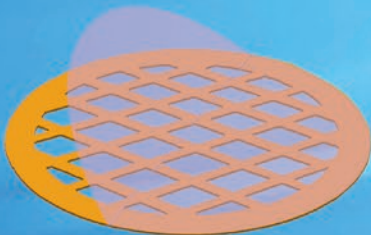
FIB Supplies



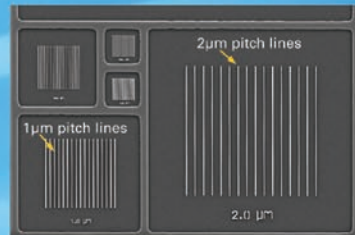
PELCO® Q SEM
Correlative Pin Stubs



SEM Supplies



TEM Supplies



Microscope Calibration

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Microscopy Products for Science and Industry

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