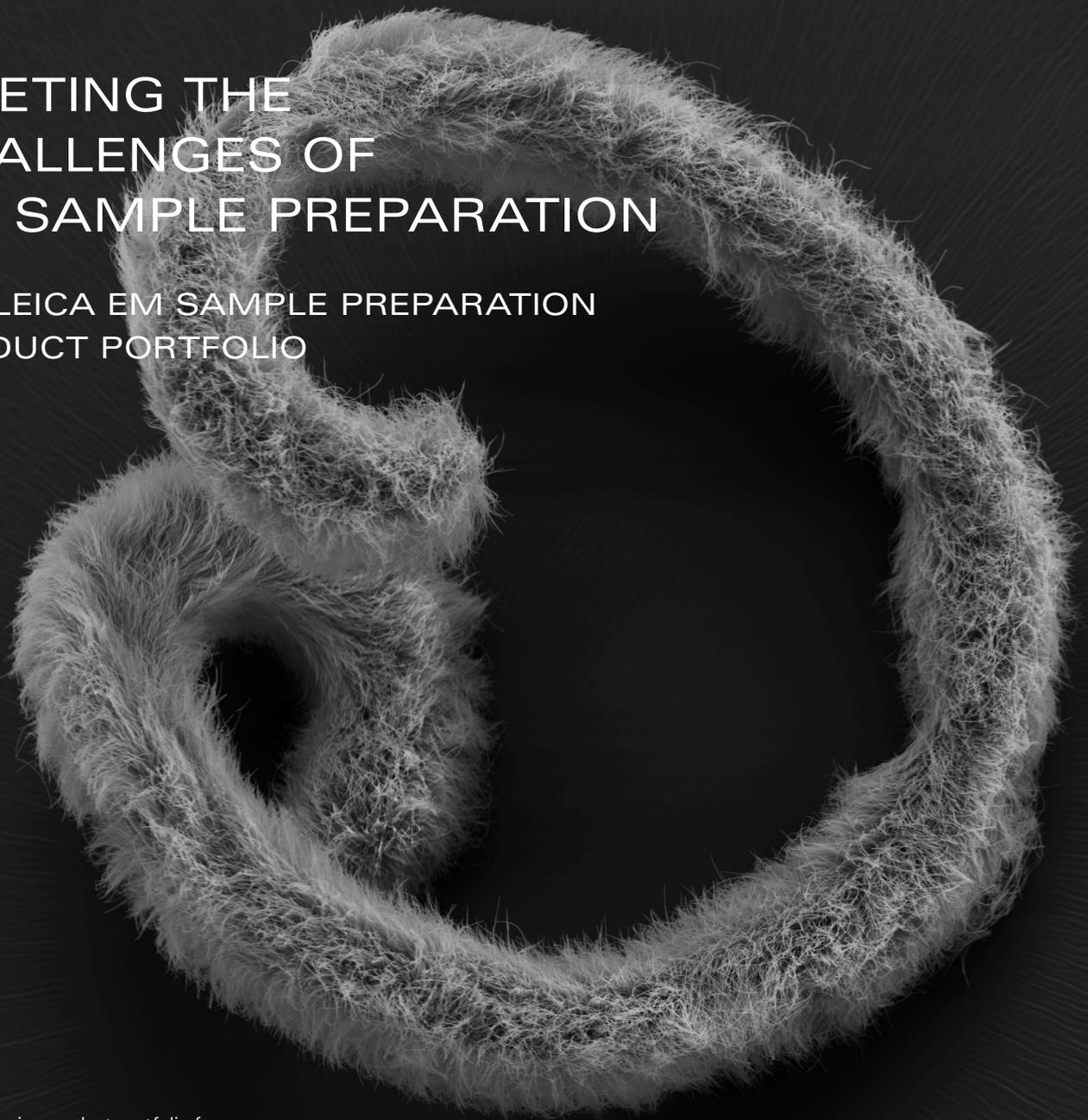


From Eye to Insight

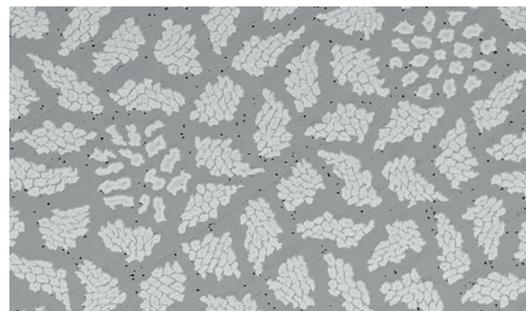
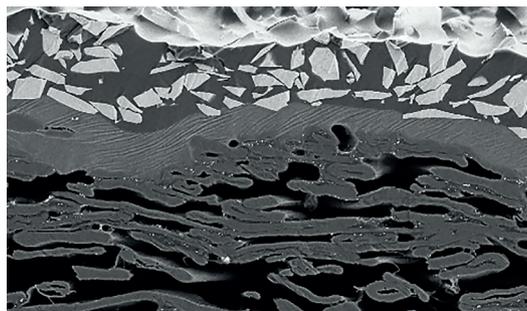
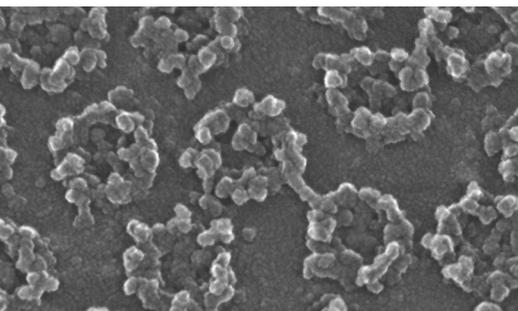


MEETING THE CHALLENGES OF EM SAMPLE PREPARATION

THE LEICA EM SAMPLE PREPARATION
PRODUCT PORTFOLIO



Comprehensive product portfolio for
preparation of biological, medical, and industrial samples.



SAMPLE PREPARATION WITH LEICA MICROSYSTEMS – THE PORTFOLIO THAT GIVES YOU SUCCESS FOR YOUR APPLICATION

TRIMMING & MECHANICAL PREPARATION	EM TXP, EM RAPID
ION BEAM MILLING	EM TIC 3X
ULTRAMICROTOMY & CRYO-ULTRAMICROTOMY	UC Enuity, EM KMR3
SAMPLE TRANSFER	EM VCT500, EM VCM
CLEM & CRYO CLEM	Coral Life Coral Cryo
CRYO PREPARATION	EM ICE, EM GP2, EM AFS2, EM CTD
COATING	EM ACE200, EM ACE600
TISSUE PROCESSING	EM TP
CONTRASTING	EM AC20
CRITICAL POINT DRYING	EM CPD300

FOCUSING ON WORKFLOW SOLUTIONS, WE PROVIDE A
PRODUCT RANGE ALIGNED WITH YOUR NEEDS FOR TEM,
SEM, CLEM, AND AFM EXPERIMENTS.

Cover images: top: Nematode *Eubostriichus diana*e with ectosymbiotic bacteria layer, critical point dried with the EM CPD300 (source: Mag. N. Leisch, University of Vienna, Austria); bottom left: Clawed frog (*Xenopus laevis*), nuclear pores (source: Dr. Martin Goldberg and Christine Richardson, University of Durham, UK); bottom middle: cross section of abrasive paper, prepared with the EM TIC 3X (source: Wolfgang Grünewald, TU Chemnitz, Germany); bottom right: cross-section of a Nb₃Sn superconductor, prepared with the EM TXP and EM TIC 3X (source: Wolfgang Grünewald, TU Chemnitz, Germany).

TRIMMING & MECHANICAL PREPARATION



EM TXP

EM TXP is Leica's dedicated tool designed for precise mechanical target preparation for a broad range of light and electron microscopy applications.

- > Allows for very fine polishing of surfaces, revealing buried features
- > Accurate preparation of barely visible targets
- > In-situ stereomicroscope observation



EM RAPID

Advanced specimen trimming device for TEM, SEM, and LM.

- > 0.5, 1, 10, 100 μm step advance
- > Adjustable cutting speed 300–20,000 rpm
- > Advance indication on LCD display

ION BEAM MILLING



EM TIC 3X

The Triple Ion Beam Milling System allows for production of cross sections and planed surfaces for SEM microstructure analysis (EDS, WDS, Auger, EBSD), and AFM investigations.

- > Broad and deep cross sections
- > Uniform, large area milling
- > Interchangeable stages: Standard stage, Multiple sample stage, Cooling stage, Rotary stage
- > Preserve sample quality by adding EM VCT500 – a versatile vacuum cryo transfer system.



The EM TIC 3X outfitted with an EM VCT500 docking station is the ideal solution for environmentally sensitive and / or cryogenic sample transfer.

SAMPLE TRANSFER



EM VCT500

Versatile vacuum cryo transfer system for contamination-free transfer of specimens between different preparation and analysis instruments.

- > Specimen monitoring throughout workflows.
- > Connects workflow steps from sample preparation to EM
- > Connects to more than one SEM
- > Various specimen holders for SEM, FIB-SEM, freeze-fracture, and more



EM VCM

LN₂ cooled workstation for contamination-free specimen manipulation.

- > From sample loading on, all transfers under vacuum
- > Improved connectivity given by a movable loading sphere, Cryo-TEM transfer holders, and CLEM adaptors for STELLARIS Cryo

ULTRA MICROTOMY & CRYO-ULTRA MICROTOMY



UC Enuity - Room temperature configuration

Ultramicrotome for ultrathin sectioning of biological and industrial samples with automated setup functions. Make every section count for array tomography. Collect uniformly aligned ultra-thin sections straight on the wafer for fast and reliable transfer to SEM.

- > Work smarter with automated technology
- > Trim towards your target with the help of fluorescence or μ CT data
- > High quality sections for volume EM experiments



UC Enuity - Cryo configuration

Low temperature ultrathin cryosectioning of biological and industrial samples. Experience better quality cryo sections with superb precision and safety.

- > Temperature working range from -15 °C to -185 °C
- > Individual temperature settings for specimen, knife, and gas
- > Easy section collection using micromanipulator and EM CRION ionizer
- > Option to add: EM VCT500 – a versatile vacuum cryo transfer system



The UC Enuity cryo configuration can be outfitted with an EM VCT500 to transfer environmentally sensitive and / or cryogenic samples.



UC Enuity - Fluorescence configuration

Trim your target with the help of fluorescence
UC Enuity allows you to monitor the fluorescence signal during sectioning at both room temperature and in cryo conditions. Quickly identify your region of interest in the resin block.

- > Seamless serial sectioning for downstream SEM analysis, ensuring consistent high-quality results
- > Uniform, ultra-thin, and thin ribbons for array tomography experiments, at reduced risk of losing precious sections
- > Reliable and precise sample collection, minimizing the risk of section loss or displacement



EM KMR3

Balanced-break glass knife maker to produce 45° glass knives from 6.4 mm, and 8 mm glass.

- > Highly reproducible, outstanding knife quality
- > Automatic reset of the breaking and scoring mechanism
- > Ergonomic design for comfortable use

CLEM & CRYO CLEM

Coral Life

Correlative live-cell and electron microscopy workflow

- > Investigation of dynamic events with nanometer resolution.
- > Combination of fluorescence dynamic data with precisely timed EM analysis.



THUNDER Imager Nano

3D live-cell microscope with incubator, Samplink chambers for fast sample transfer to the EM ICE Nano, and a sapphire-optimized objective.

- > Fast, 3D live-cell imaging for accurate physiological studies
- > Blur removal for better target identification with THUNDER technology.
- > Optimized resolution and targeting with a sapphire-corrected objective



EM ICE Nano

High pressure freezing for cryo-immobilization of live cells and optimal sample fixation. Full compatibility with Samplink chambers.

- > Enables capturing of transient events with a transfer time under 5 seconds
- > Full vitrification of adherent cells
- > Optimal results with the market-leading solution

Coral Cryo

Target what matters for your cryo-tomography workflow.

- > Resolve and identify intracellular targets in 3D
- > Reduce handling steps in your workflow



STELLARIS Cryo

Confocal cryo light microscope with a dedicated cryo objective and a cryo imaging chamber.

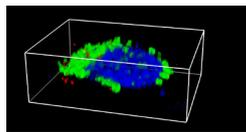
- > More precise targeting of 3D structures of interest: in room temperature and under cryogenic conditions
- > Monitoring of ice thickness
- > Access to advanced information by fluorescence life time (TauSense)



Cryo Microscopy Kit

Cryo transfer shuttle and cryo stage for loading, transfer, and imaging under vitreous conditions.

- > Safe and intuitive sample loading as well as straightforward transfer, while maintaining the sample under optimal cryo conditions
- > Constant overpressure of gaseous nitrogen against the surrounding atmosphere



LAS X Coral Cryo Software

Guided workflow and advanced confocal imaging

- > User-friendly software workflow
- > Registering the exact target coordinates identified in the cryo light microscope
- > Export open access coordinates for greater system interoperability

CRYO PREPARATION



EM ICE

High pressure system for freezing aqueous samples delivers optimal sample preservation. Offers the highest flexibility to meet multiple application demands.

- > Programmable sequential freezing of nine samples (3 × 3)
- > Automated LN₂ re-filling of the sample storage dewar
- > One minute recovery time between freezing cycles
- > Retrofitable light and/or electrical stimulation mode



EM ICE Light Stimulation (LS)

All the features of EM ICE standard, in addition offers fully integrated light stimulation.

- > Software integrated programming for LS
- > Automatic recondition of the specific light module
- > Modules with different LEDs (wave lengths): UV, blue, red, green, amber
- > Detailed log file of each experiment
- > Light stimulation precision of 1 millisecond



EM ICE Electrical Stimulation (ES)

All the features of EM ICE standard, in addition offers fully integrated electrical stimulation.

- > Millisecond precision
- > Complete coordination of electrical discharge at the moment of freezing
- > Capturing and imaging action potential and membrane trafficking events



EM GP2

Automatic plunge freezer for EM grids.

- > Automatic single and multiple sided blotting
- > Single sided sensor blotting
- > Fast, easy, and safe filling of the secondary cryogen with the unique liquifying head
- > Controllable secondary cryogen temperature
- > Environmental chamber with adjustable temperature and humidity
- > Intuitive control via touch panel



EM AFS2

Freeze substitution and low temperature embedding for light and electron microscopy.

- > Temperature range from -140 °C to +70 °C
- > Transfer function – LN₂ gas regulation in the chamber to minimize contamination
- > LED UV polymerization
- > Stereomicroscope viewing



EM FSP

Automatic reagent handling / dispensing system for freeze substitution and PLT.

- > One step preparation
- > Flexible built-in UV light for polymerization
- > Up to 20 samples per run
- > Reduced setup time



EM CTD

Cryo tool dryer

- > Combines heated air flow and heating plate for de-icing
- > Maximum temperature +50 °C

COATING & FREEZE FRACTURING



EM ACE200

Desk-top coater for homogeneous coatings of conductive metal or carbon. Fully automated instrument. Options include:

- > Carbon thread evaporation
- > Sputtering
- > Both methods with interchangeable heads
- > Quartz crystal measurement
- > Planetary rotation
- > Glow discharge



EM ACE600

Fully automated, versatile high vacuum coater producing very thin, fine-grained, conductive metal and carbon coatings. Up to two angled coating sources configurable. Designed for high resolution analysis, required in FE-SEM and TEM applications.

- > Sputtering
- > Carbon thread evaporation
- > Carbon rod evaporation
- > E-beam evaporation
- > Glow discharge
- > 104 mm automated rotating stage with planetary option
- > EM VCT500 option for cryo-coating, freeze-fracture, double-replica, and controlled environmental transfer



The EM ACE600 outfitted with EM VCT500 is the ideal solution for contamination-free cryo-SEM sample preparation with complete environmental control.

TISSUE PROCESSING



EM TP

Automated tissue processor for LM and EM sample preparation.

- > Programming of all processing steps
- > Integrated touch-screen-based software
- > Consistent, reproducible performance
- > Processing of multiple tissues in one run
- > Environmental conditions maintained during preparation

CONTRASTING



EM AC20

Automatic contrasting of ultrathin sections for electron microscopy.

- > 60 runs per one set of Ultrastains
- > Low reagent consumption
- > High contrast

CRITICAL POINT DRYING



EM CPD300

Critical point dryer for biological (pollen, tissue, plants and insects) and industrial (Micro Electro Mechanical Systems (MEMS), hydro or aerogels) samples.

- > Reduced process times by Leica filler / sample holder concept
- > Minimized CO₂ consumption and minimal user interaction time
- > Integrated waste separator prevents direct contact with chemical waste

WHY LEICA SERVICE?

Enabling your success with complete workflow support

Keep your operations running around the globe with best-in-class services entirely dedicated to microscopy and over 170 years of history.

Key features

- > Leica Team: 500+ Service & Application experts
- > Leica Training: 4-level factory certification program
- > Leica Logistics: 5 regional hubs for genuine parts
- > Leica OneCall: PhD-level hotline assistance

