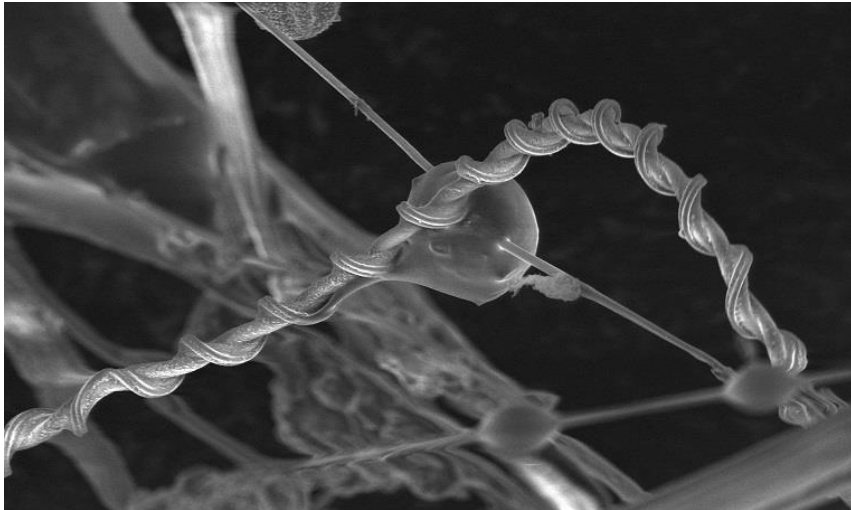
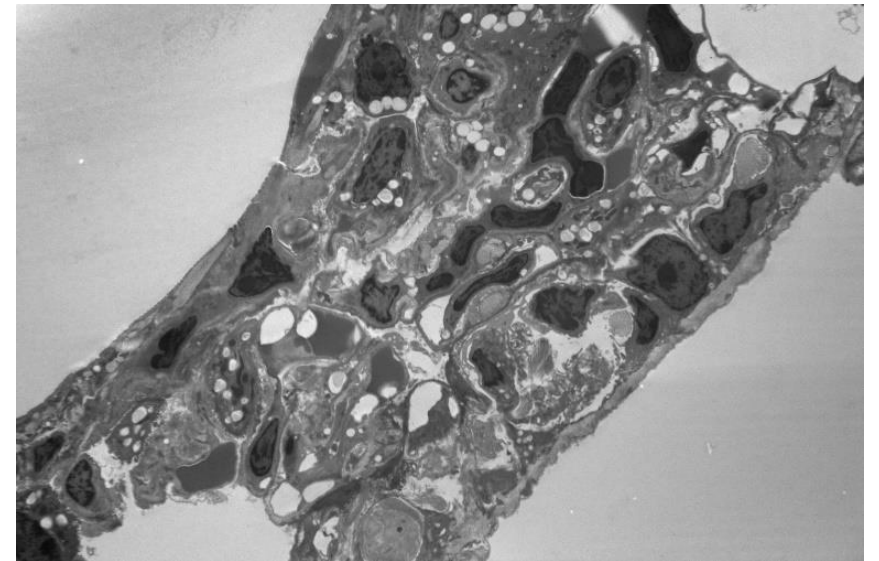




MNTC Electron Microscopy Capabilities for Researchers



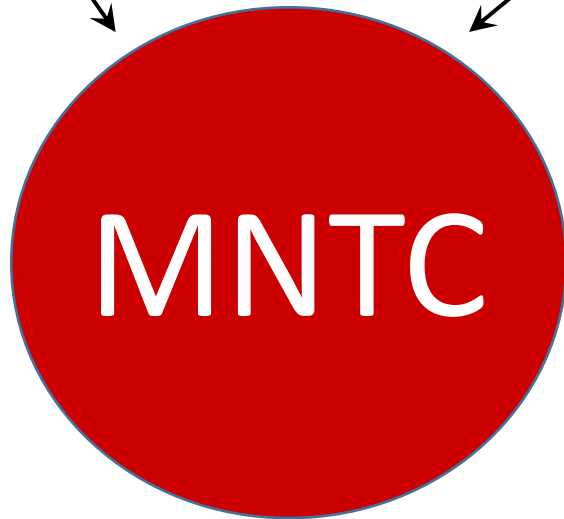
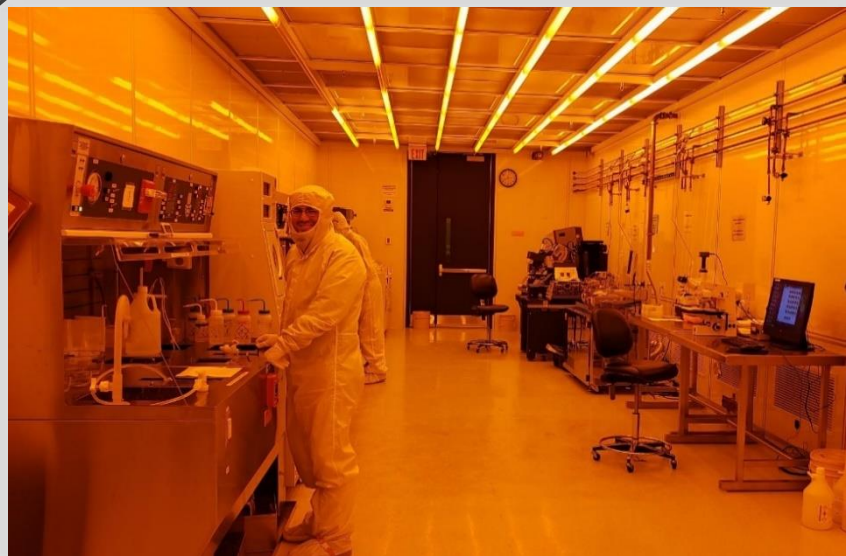
Julia Aebersold, Ph.D.
Manager, Micro/Nano Technology Center
<http://louisville.edu/micronano>



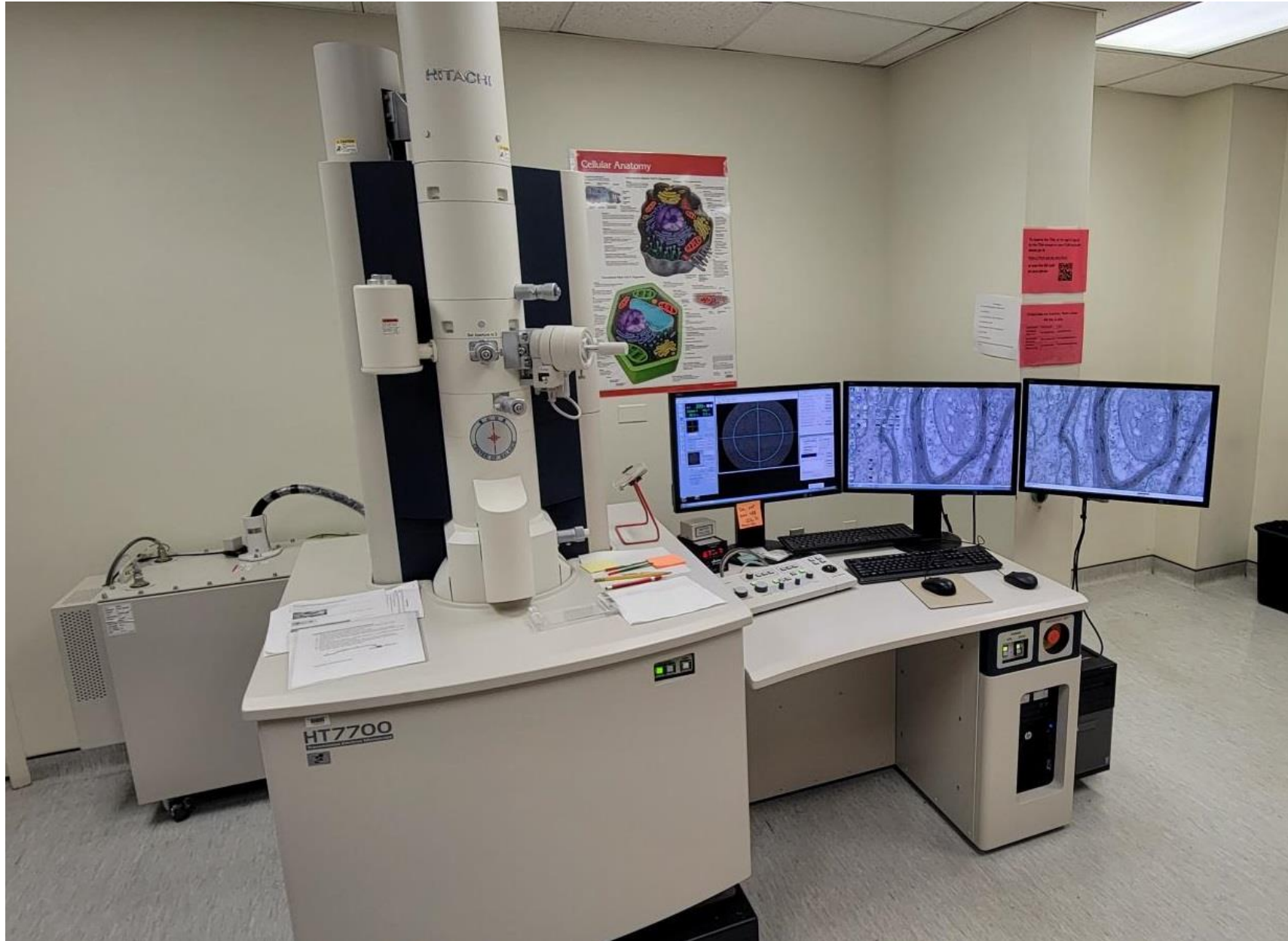
Huson Imaging & Characterization Laboratory



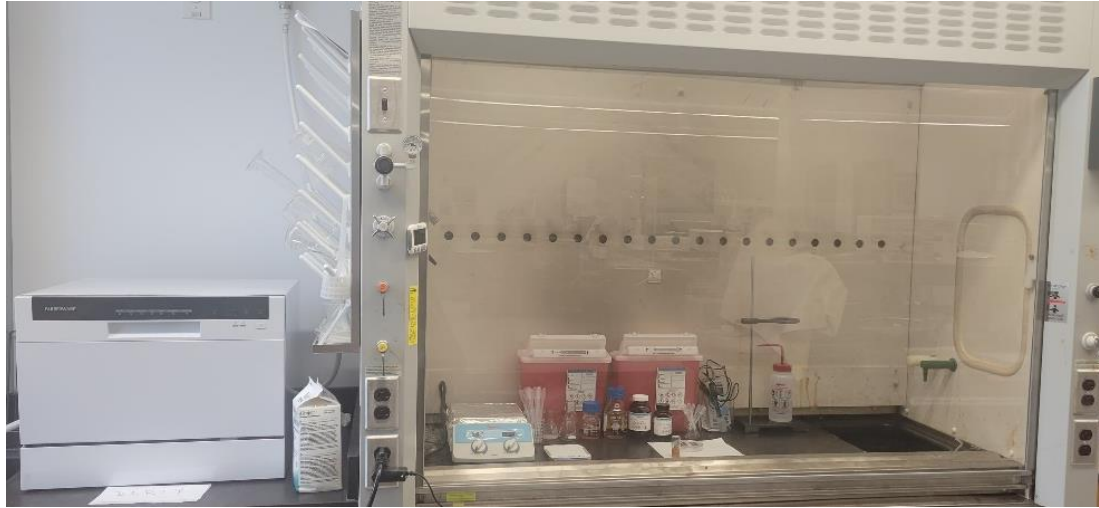
\$30M Class 100/1000 Cleanroom



MNTC Hitachi 7700 TEM



MNTC TEM Sample Prep Stations



TEM Sample Prep Fume Hood



Whole Body Perfusion Fume Hood

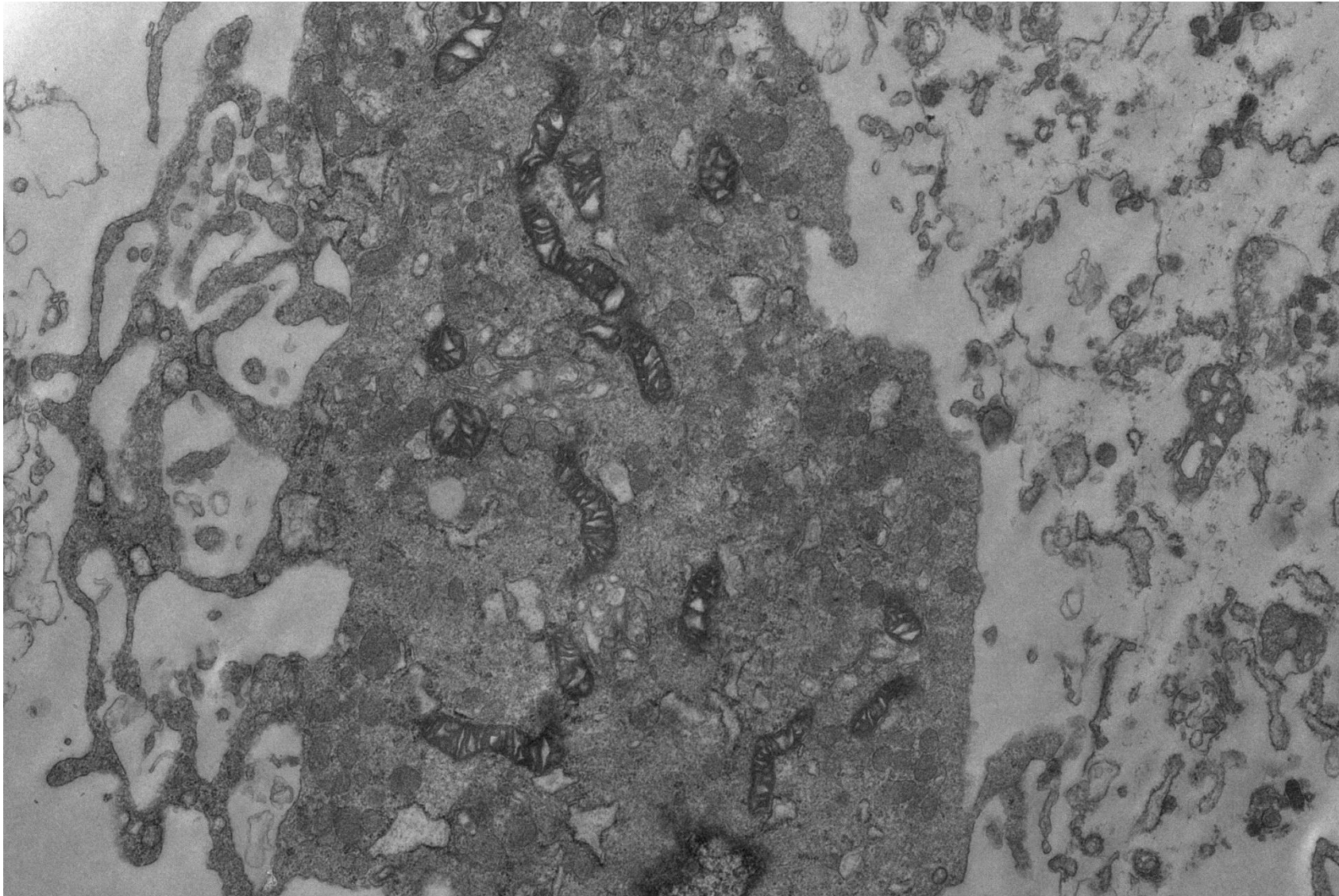


TEM Sample Prep Bench



Leica UC 7 Ultramicrotome

TEM Images

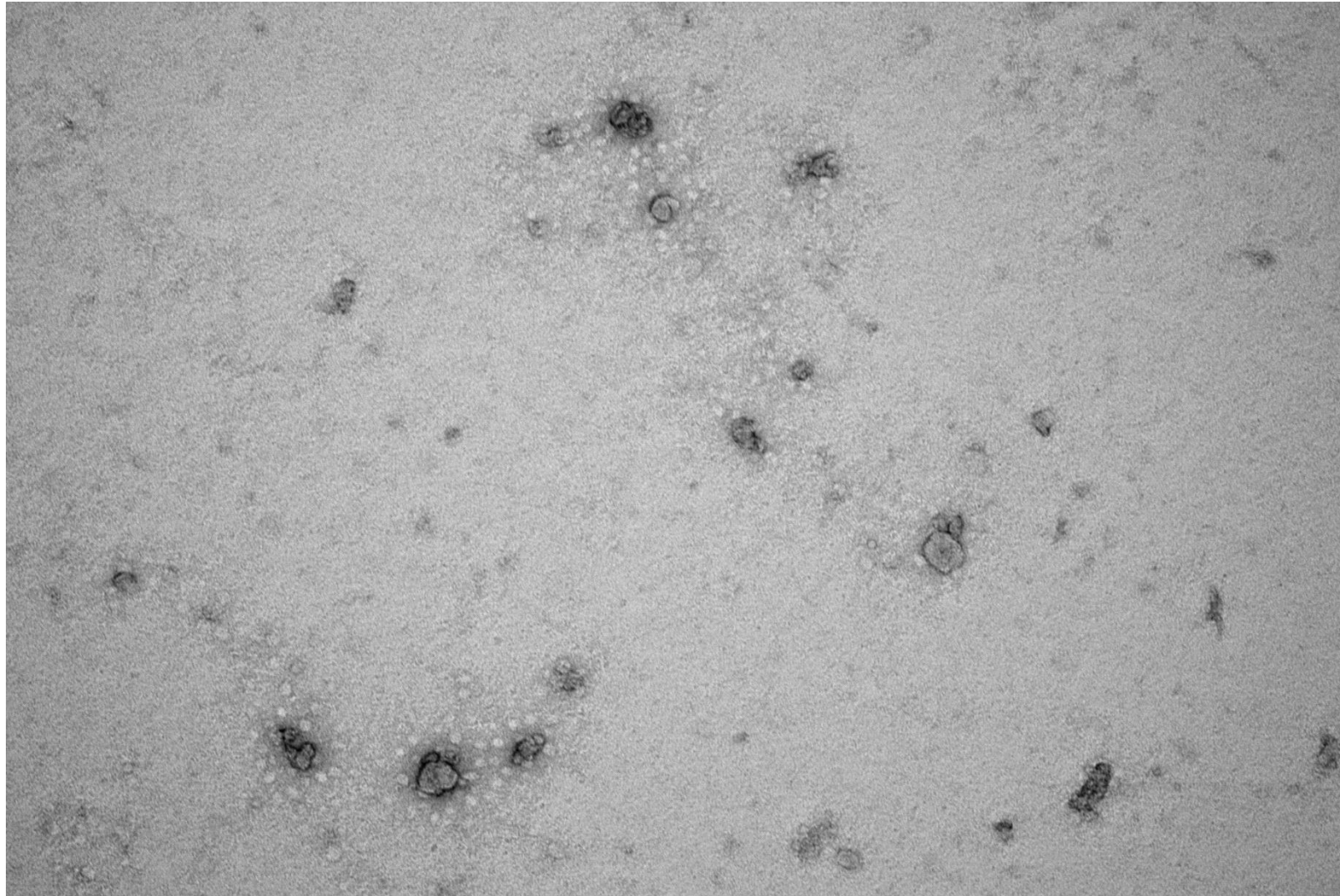


Macrophages

Control Peritoneal Macrophages - Grid 1 - Image 1
Print Mag: 13600x @ 7.0 in
16:54:50 1/10/2022
Microscopist: J. Aebersold

1 μ m
HV=80.0kV
Direct Mag: 6000x
KV JNPRE TEM CORE

TEM Images

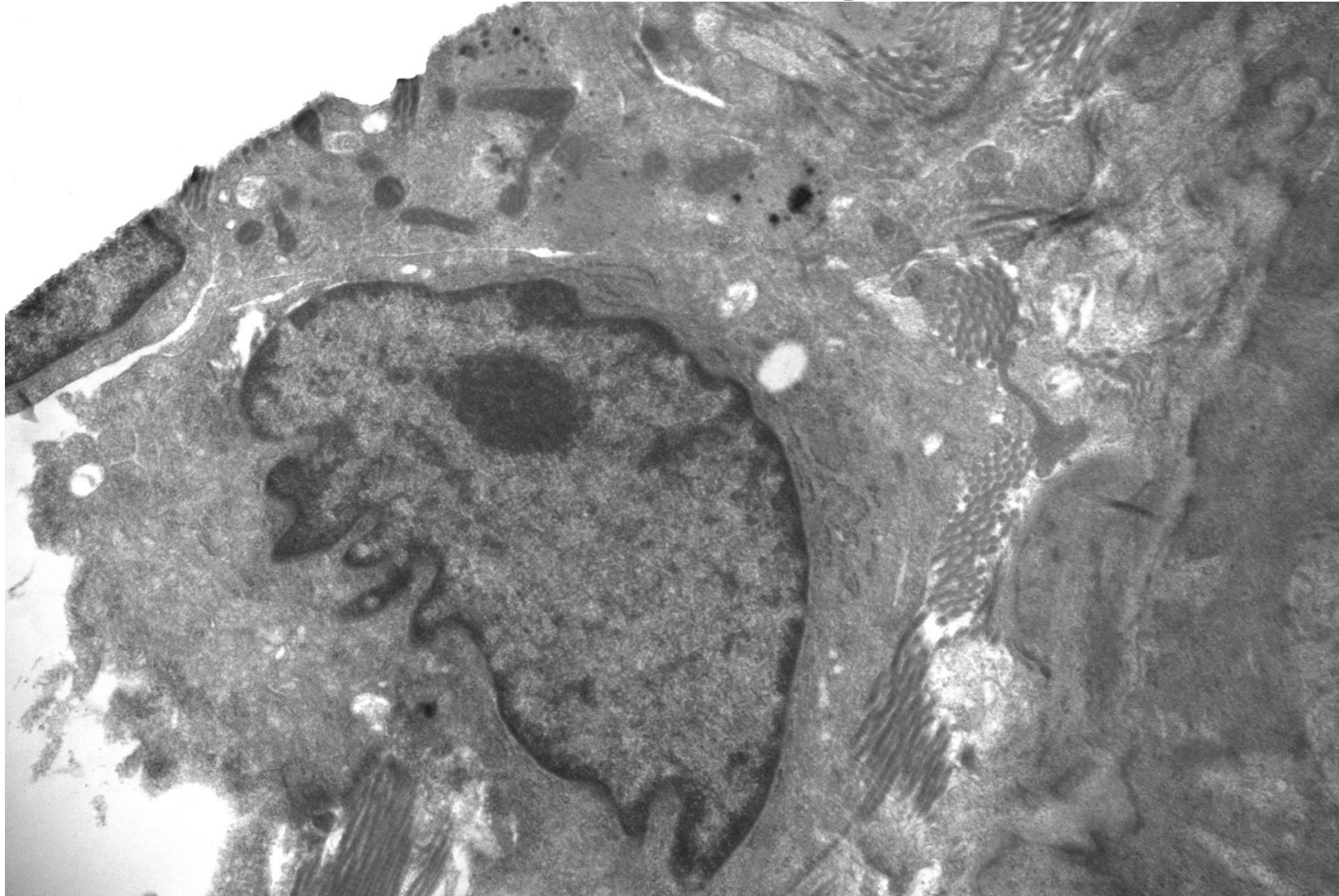


Extracellular
Vesicles

375 Grid 3 v2 - Image 5
Print Mag: 91200x @ 7.0 in
18:10:39 7/27/2022
Microscopist: J. Aebersold

200 nm
HV=80.0kV
Direct Mag: 40000x
KY INBRE TEM CORE

TEM Images

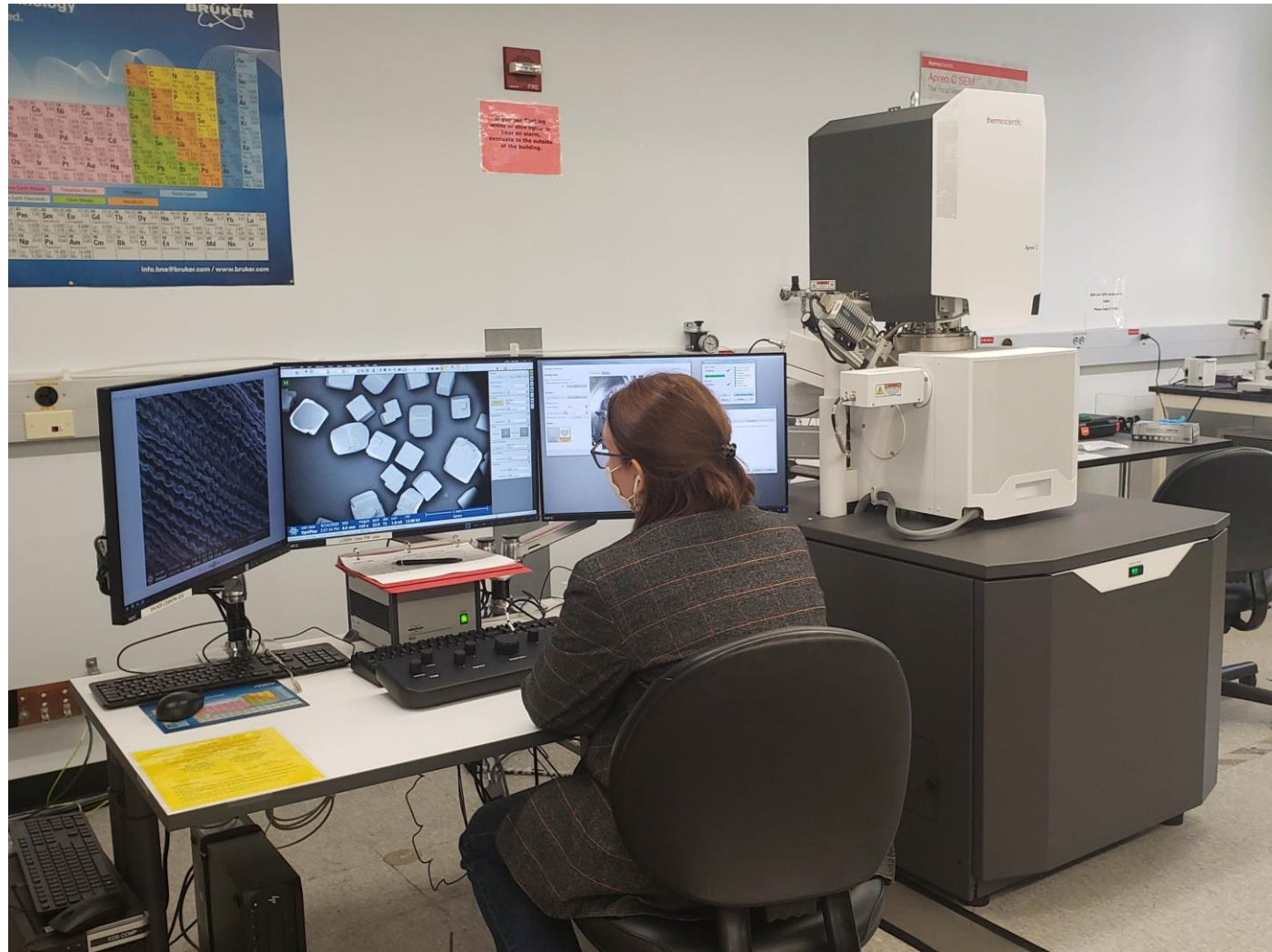


Mouse
Liver

Mouse 20 Resection - Grid 1 - 1
Print Mag: 15900x @ 7.0 in
16:10:20 11/10/2021
Microscopist: Julia Aebersold

1 μ m
HV=80.0kV
Direct Mag: 7000x
KY INBRE TEM CORE

MNTC Thermo Scientific Apreo Low Vac SEM



Apereo Detectors

Secondary Detector: Basic SEM imaging

In-lens: Higher contrast than the secondary detector

Backscatter Detector (BSD): Grain structural analysis

Scanning Transmission Electron Microscopy (STEM): STEM = TEM + SEM

Energy Dispersive Spectroscopy (EDS): Elemental Analysis

SEM Sample Prep

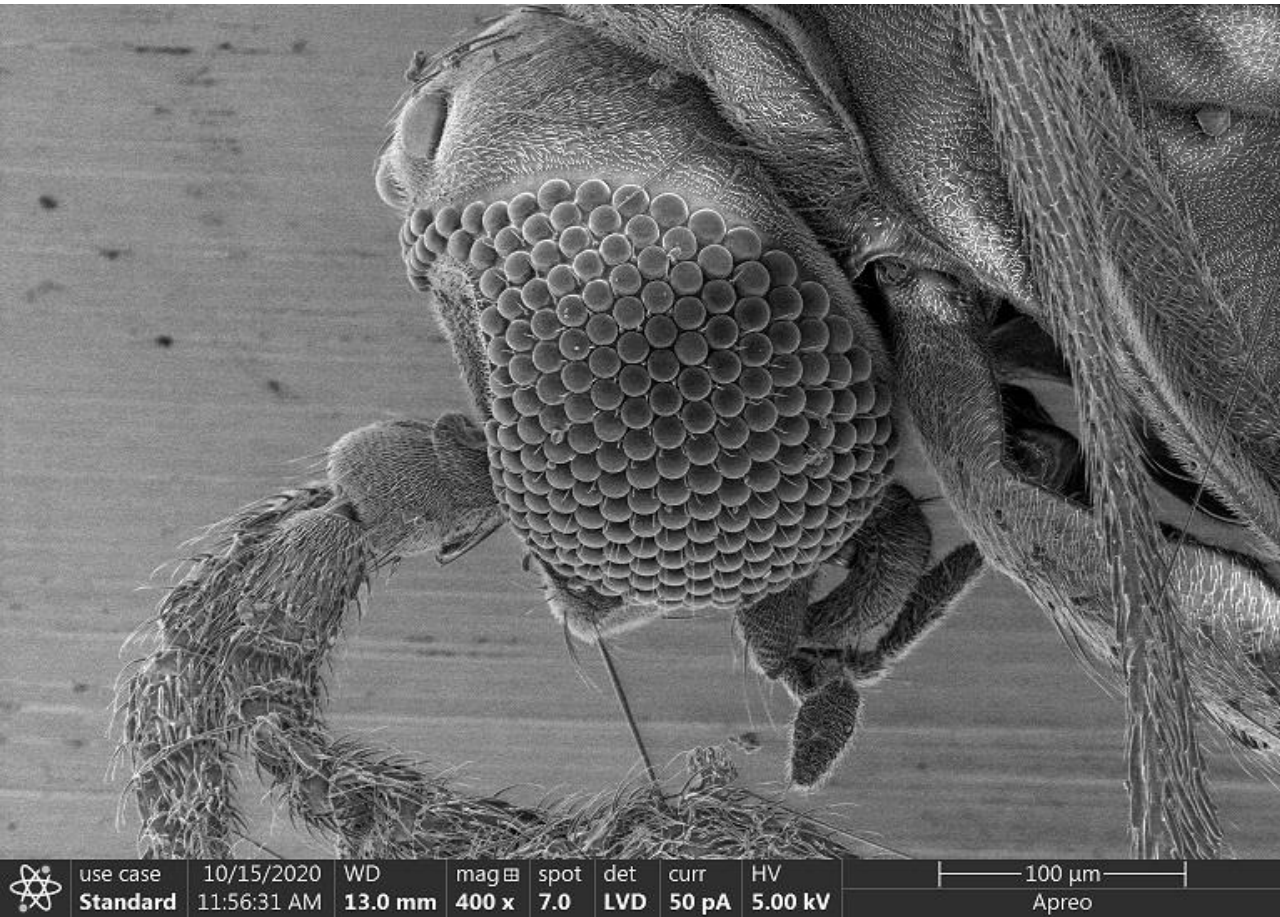


Cressington 108 Manual Sputter Coater

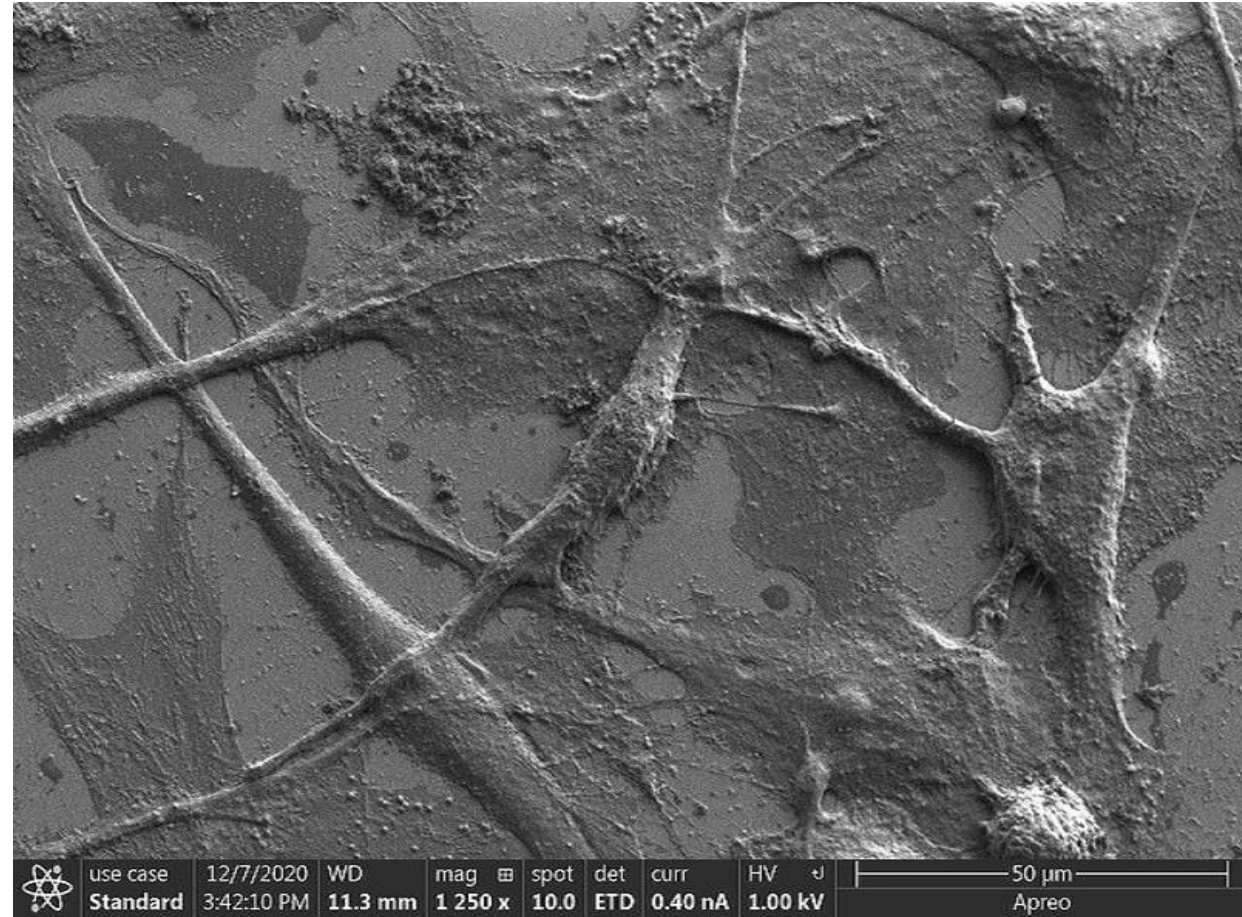


Tousimis 915B Critical Point Dryer

MNTC SEM Images

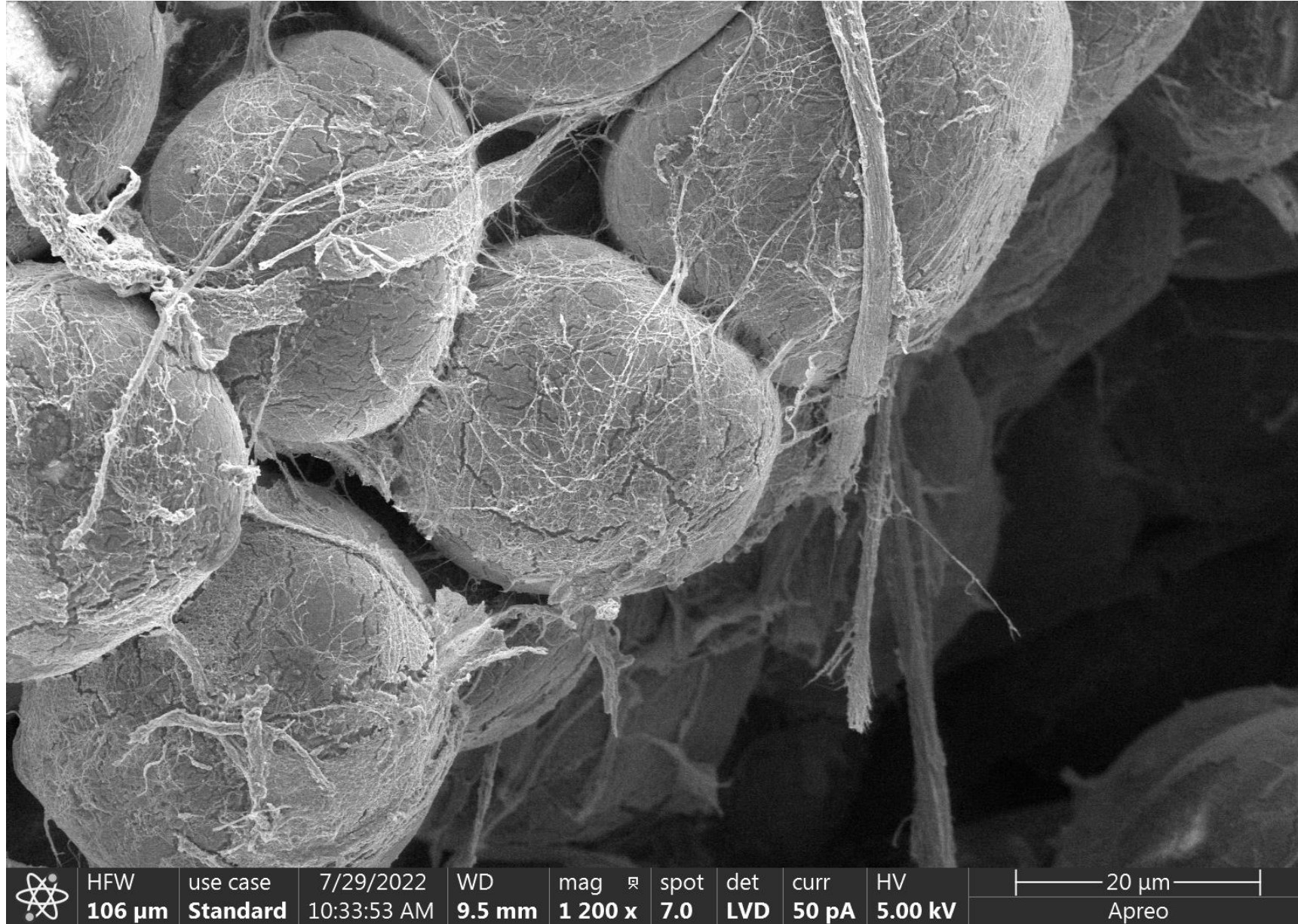


Spider



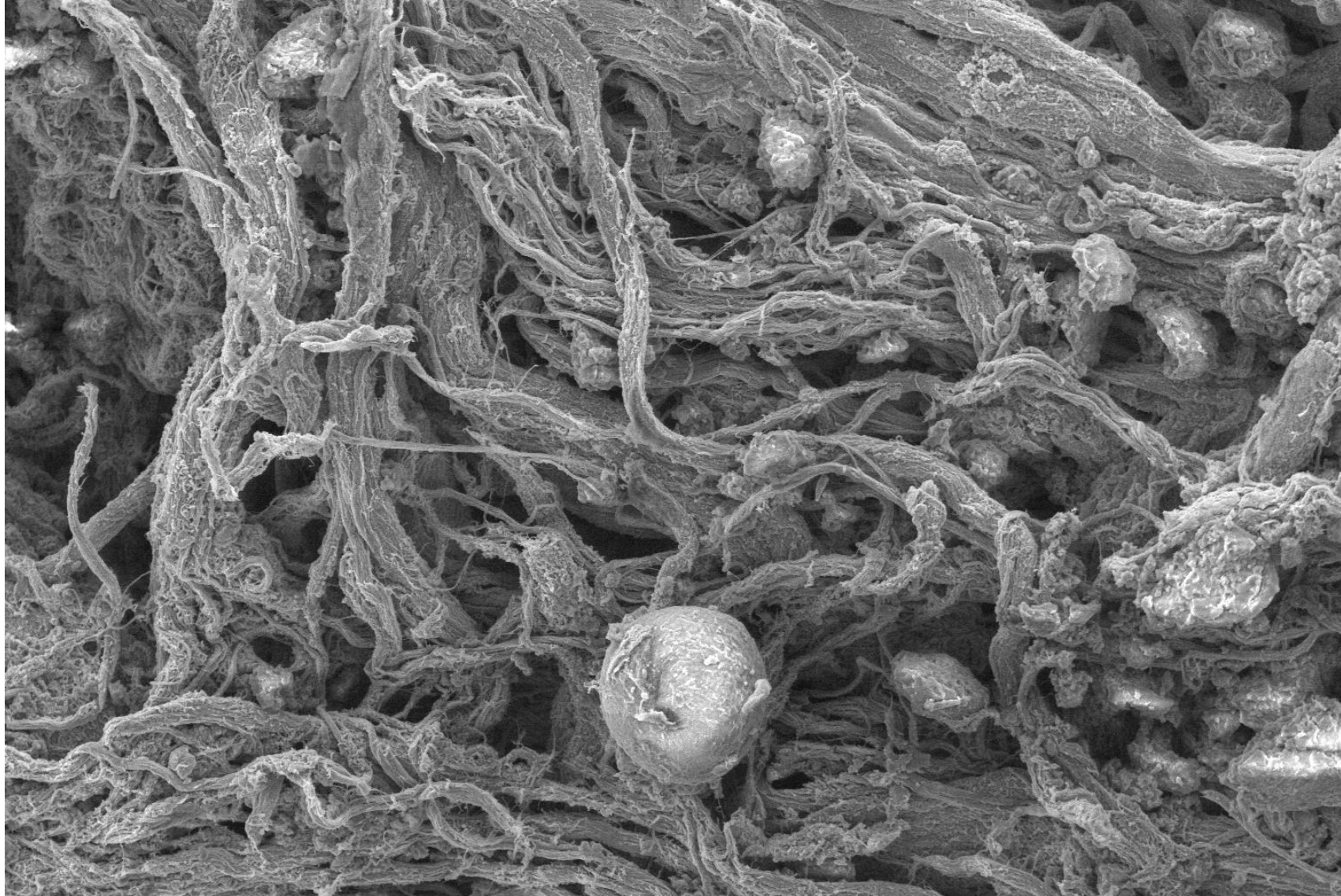
Glioblastoma Cultured Cells

MNTC SEM Images



Agarose Beads
in Mouse
Heart Tissue

MNTC SEM Images



Single Agarose
Bead in Mouse
Heart Tissue

	HFW 127 μ m	use case Standard	7/29/2022 10:37:21 AM	WD 9.9 mm	mag 貝 1 000 x	spot 7.0	det LVD	curr 50 pA	HV 5.00 kV	30 μ m Apreo	
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How To Get Started

Contact us for services: mntcuofl@louisville.edu

Get trained and become a User:

<http://louisville.edu/micronano/users/how-to-become-a-user>



UNIVERSITY OF
LOUISVILLE[®]

MICRO/NANO TECHNOLOGY CENTER

visit us online at
[louisville.edu/micronano](https://www.youtube.com/watch?v=tFotQJcpFQ&feature=youtu.be)

<https://www.youtube.com/watch?v=tFotQJcpFQ&feature=youtu.be>

