



Sparks Brain Preservation Monthly Update - January 2026

New Registered Clients This Month (Sign Ups and/or Memberships): 4

Week of December 29th

We practiced our brain preservation techniques on two body donors and one donated dog this week.

We performed 3D analysis on FIB-SEM data from one of the human brains we preserved for research studies, using the ImageJ plugin TrakEM2. We found that we were able to trace the neurites across space. This will be a part of a future research project.



Week of Jan 5th

We practiced our brain preservation techniques on two body donors and one donated dog this week.

We received a 3 day training from an Applications Engineer at Zeiss on how to use our Crossbeam electron microscope. The Applications Engineer will return in a few months once we have had more time to practice using it with our samples.

As one part of this, we performed Scanning Transmission Electron Microscopy (STEM) imaging on rat brain samples that we previously performed the sample preparation on. It turns out that our samples were sectioned too thick for ideal imaging, but the staining appeared to be adequate. We then troubleshooted the problem and learned how to cut 50 nm thin sections using our ultramicrotome.

We also performed FIB-SEM nanotomography of a *Drosophila* brain sample that had been fixed, stained, and embedded by a collaborator. The run completed after 26 hours. It was

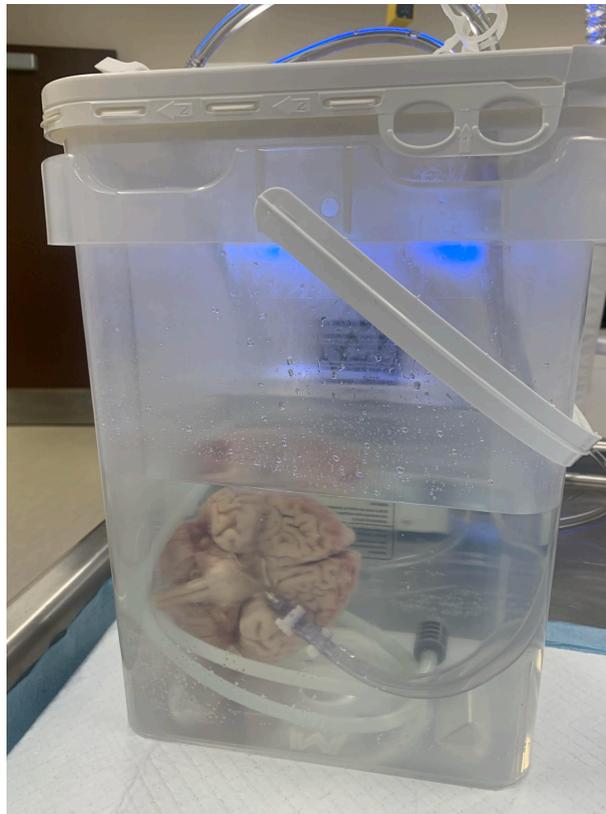
interesting to look at the resulting ultrastructural images from the *Drosophila* brain, which our collaborator described as “alien,” e.g. because it lacks myelin, has especially thin neurites, and has different synaptic structure.

A new page was created at <https://sparksbrain.org/rapidResponse.html>, explaining our new approach for remote cases.

Week of Jan 12th

We practiced our brain preservation techniques on one body donor this week.

We tested out a prototype for *ex situ* perfusion of the brain, building on one of the studies our lead researcher Andy did in 2022: <https://pubmed.ncbi.nlm.nih.gov/37284166/>. This might be useful as an additional preservation modality after *in situ* perfusion of the brain, or for when *in situ* perfusion is not possible.



Andy’s talk at the SBP Open House was put online, on our new YouTube channel: <https://www.youtube.com/watch?v=v4XkGOIGXbM>.

Week of Jan 19th

We practiced our brain preservation techniques on four body donors this week.

We organized a training session at our facility this week from Tuesday to Friday, for three members of Resurgence Biomedical Sciences (Aaron Drake and two others). We trained these

professionals in how to perform aortic cannulation and perfusion (which they were already experienced in), as well as brain extraction.

Week of Jan 26th

We practiced our brain preservation techniques on two body donors and one donated dog this week.

We created a new web page at <https://sparksbrain.org/organizationalStability.html>, laying out our Advisory Board of Directors.