

Instrument Highlight

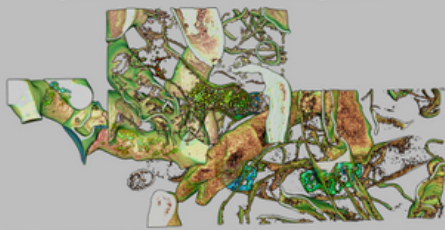
Helios Cryo FIB-SEM

The high-resolution **Helios CX5 ThermoFisher Scientific Dual Beam Scanning Electron Microscope**, equipped with a Gatan Octane Elite Energy Dispersive X-ray Spectroscopy (EDS), is retrofitted with a low temperature (cryo) Aquilos specimen stage for **imaging at both room and cryogenic temperatures**, and at gradually decreasing temperature.



One of the two of its kind (currently in USA), the instrument's **resolution is 7.0Å** and can slice ultra-thin sections to an unprecedented 3.0-5.0 nm. Its transfer station is modified to directly load the specimen prepped at the dual beam to the cryo holders of Transmission Electron Microscope for Tomography analysis. See below for an example of high-resolution data obtained on this instrument.

Electron density map of a sectioned region of mesh of filamentous bacterial cells generated in cryo Dual Beam Helios CX5. The sliced regions show unknown granular densities and membranes bifurcating the cells.



Specimen prepared by Dr. Kalyani Jasula of Straight Lab (BioBio, TAMU). Data collection and Image processing by Dr. Anindito Sen (MIC, TAMU).

Contact: Andy Sen

WHAT'S NEW?

Free samples of fluorescent antibodies and dyes

abberior has kindly provided us with free samples of their STAR, LIVE, and FLUX dyes. Supplies are limited and will be handed out on a **first-come, first-serve** basis.

Claim yours here!

<https://microscopy.tamu.edu/claim-your-free-abberior-fluorescent-antibody-or-dye-sample-here/>

We are #5 and #2 in the nation

By comparing all imaging centers in the nation, ChatGPT has recently ranked us 5th in **most advanced instrumentation** that are accessible 24/7, following MIT, Stanford, Harvard, and UC Berkeley, and 2nd in **affordable rates**, following UC Irvine. We are proud to continue to offer some of the best imaging services in the nation.

MIC NEWSLETTER

October 2025

ILSB 1143

microscopy.tamu.edu

Every month the MIC will send out a newsletter with up-to-date announcements, instrument highlights, and upcoming events. See previous newsletters on our website, [here](#).

STAFF HIGHLIGHT

Dr. Andy Sen

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ILSB 1133

Expertise: Life & Material Sciences. Cryo- and Room Temp Electron Microscopy.



Dr. Sen joined the MIC in 2018 and is an **expert in Cryo-Electron Microscopy and structural studies of macromolecular protein complexes**, having worked in the field for 26 years. During his time, he has helped develop therapeutic medicines against dreadful diseases like breast cancer. He has collaborated with researchers all over the globe, including ThermoFisher Scientific, Purdue University, Toyo University in Japan, and Teesside University in the UK, and is currently collaborating with five TAMU research groups from five different departments. Several of these collaborations have produced publications in journals of international repute and R01 and R21 grants that are currently under review.

Dr. Sen helps run and maintain several instruments in the MIC including the **Tecnaï Cryo TEM** and the **Helios Cryo FIB-SEM** and its supporting sample preparation instruments. He encourages research groups at TAMU and outside to explore possibilities of using these instruments for their research work and invites them to collaborate with him for support of their research and grants.

Using the MIC? Please cite us by our
Research Resource ID in your paper -
RRID:SCR_022128.

October



Submit by October 31, 2025

**October 14 - 31,
9 AM - 5 PM**

Course fee per person

TAMU: \$300

Other Universities: \$500

Industry: \$1,000

Payment due by Oct. 13

RSVP here!



Spots limited to 16 people

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UPCOMING EVENTS

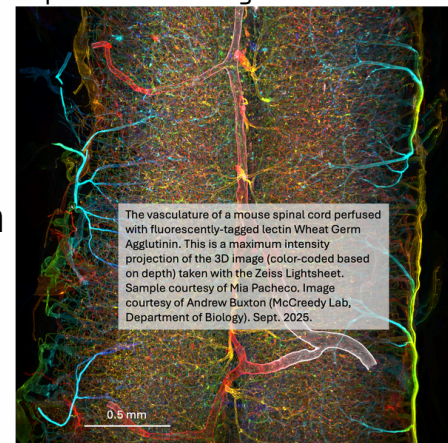
Picture of the Month

Submit an image taken with
an MIC instrument to be
displayed on our website!

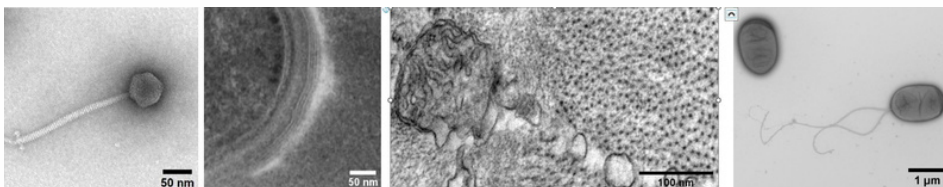
More information:

<https://microscopy.tamu.edu/picture-of-the-month/>

September POM by Andrew Buxton



Short Course: TEM Sample Preparation



Learn standard transmission electron microscopy (TEM) sample preparation theory and procedures for biological and soft matter samples through both **lectures** and **hands-on sessions**.

WEEK 1

Oct. 14 - 17

Overview of principles;

Sample dissection and fixation

WEEK 2

Oct. 21 - 14

Sample sectioning with

ultramicrotomes and glass knives

WEEK 3

Oct. 27 - 31

Sample staining and imaging;

Issuing of course certificates

More information: <https://microscopy.tamu.edu/event/short-course-tem-sample-preparation/>