

# CCMR Newsletter

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## Message from the Director

Dear Colleagues,  
Welcome back to the fall semester and our first CCMR newsletter.

I am writing to update you regarding the status of the CCMR Shared Facilities. Despite the recent declination of the Center's proposal to the NSF, we anticipate continued operation of the CCMR Shared Facilities, with little change to your day-to-day research experience, in the coming academic year.

We are fortunate to have Cornell support and continued use of NSF's committed funds to the MRSEC that will help mitigate the negative impact of the loss of funding on users of the Facilities during this funding transition. The CCMR Shared Facilities will continue to be a resource for numerous researchers within and outside Cornell.

Thank you for your past use and support of the Facilities. Please continue to engage the expert CCMR staff and facilities in your ongoing research, as we look forward to serving you in the future.

If you have any questions or concerns about the facilities, please contact Dr. Jon Shu or me.

Best wishes,  
Frank

Frank Wise, Director  
Cornell Center for Materials Research



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## Upcoming Facility Events

### XPS Info Session

Speaker: John Wright, CCMR Clark Materials Staff  
Clark Hall, Room 609

**Tuesday, August 29th from 11:35-1:05pm**

**OR**

**Wednesday, September 6th from 11:15-12:45pm**

FOR MORE  
INFO AND TO  
REGISTER,  
SCAN QR CODE



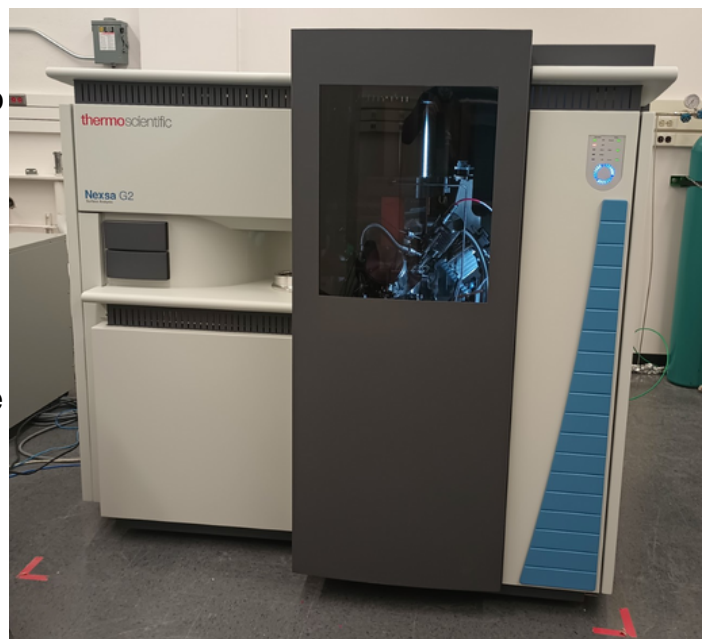
## Welcome Kevin Silverstein

Kevin is a physicist who came to Cornell in April 2023. Kevin works as research support staff in the Bard Materials Facility along with Mark Pfeifer. He is the primary manager of the Raman microscopes, optical spectroscopy, and soft materials testing techniques. Kevin's office is in Thurston Hall 113. Feel free to stop by and welcome Kevin!

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## Two New Instruments: Nexsa XPS...

Users are consistently impressed by the capabilities of our new XPS system, a Thermo Scientific Nexsa G2. The automation, speed, and integration of the new system make XPS characterization easier, faster, and more capable. The importance of compositional and chemical characterization of materials, and the versatile ability of XPS to characterize a wide variety of materials, have made the Nexsa XPS system a popular choice amongst researchers from a diverse array of fields.



## ...and Andromeda!



In 2022, CCMR installed a new Thermo Scientific Spectra 300 STEM with an X-CFEG cold field emission source. Known in CCMR as the “Kraken,” it enables sub-atomic imaging of samples using the EMPAD detector, and, using its electron energy loss spectrometer, enables the characterization of the chemical bonding, oxidation states, and electronic properties of materials at the atomic scale. The CCMR has now expanded its world-class microscopy capabilities with the installation of the new Andromeda STEM (also a Spectra 300). In addition to all the capabilities of the Kraken, the Andromeda incorporates a Lorentz lens nearest the sample (instead of an electromagnetic lens), enabling imaging of magnetic nanostructures without introducing magnetic field into the sample. A newly designed electron energy loss spectrometer (currently in the development stage) will also be added to the Andromeda. Research in novel materials, batteries, and the growing applications of ptychography are but some examples of the research in progress.

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## CCMR Recognition of DMR-1719875



Please remind graduate students and post-docs working on Shared Facility Instruments to continue to recognize CCMR and to use "The authors acknowledge the use of facilities and instrumentation supported by NSF through the Cornell University Materials Research Science and Engineering Center DMR-1719875."

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