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## JEOL USA MICROSCOPY NEWS | DECEMBER 2022

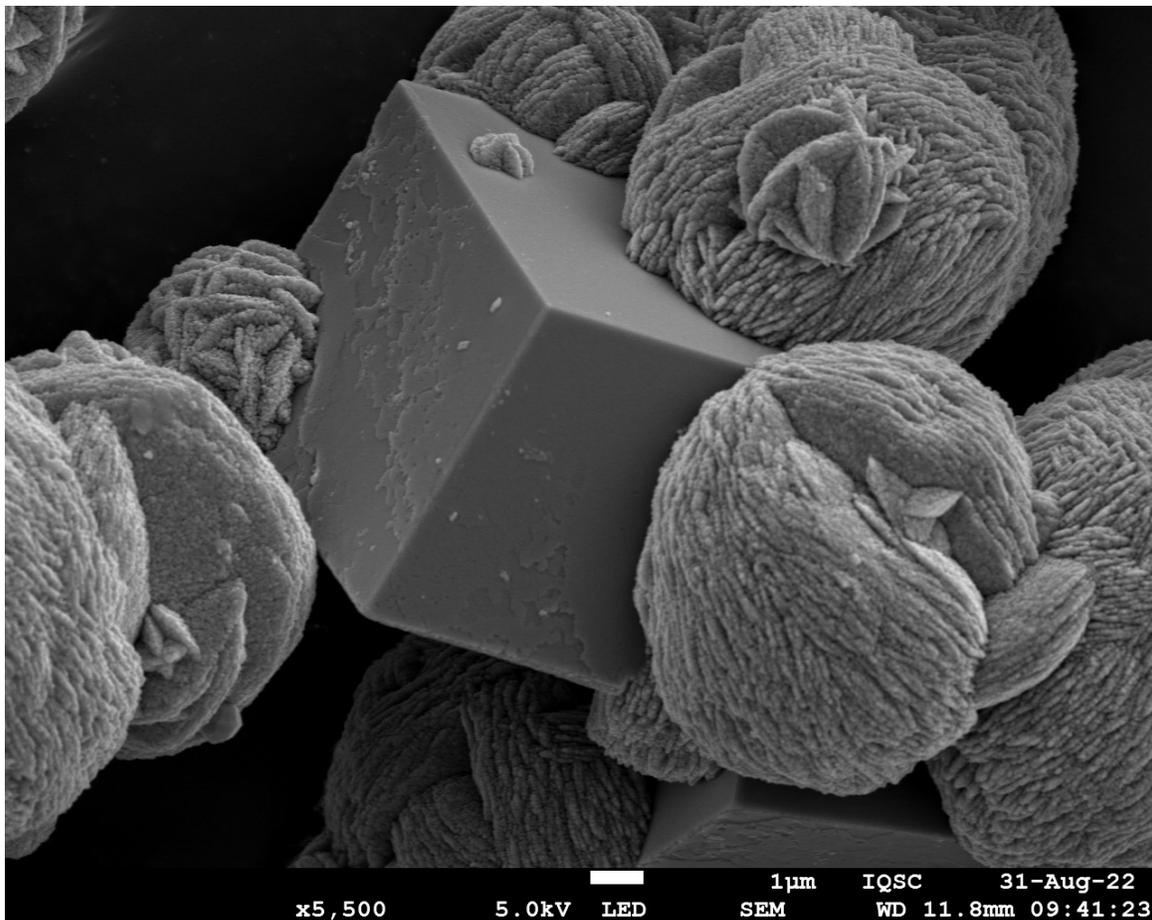
SEM | TEM | EPMA | Sample Prep | NMR | Mass Spec | FIB | E-Beam | Elemental Analysis



## Happy Holidays from JEOL

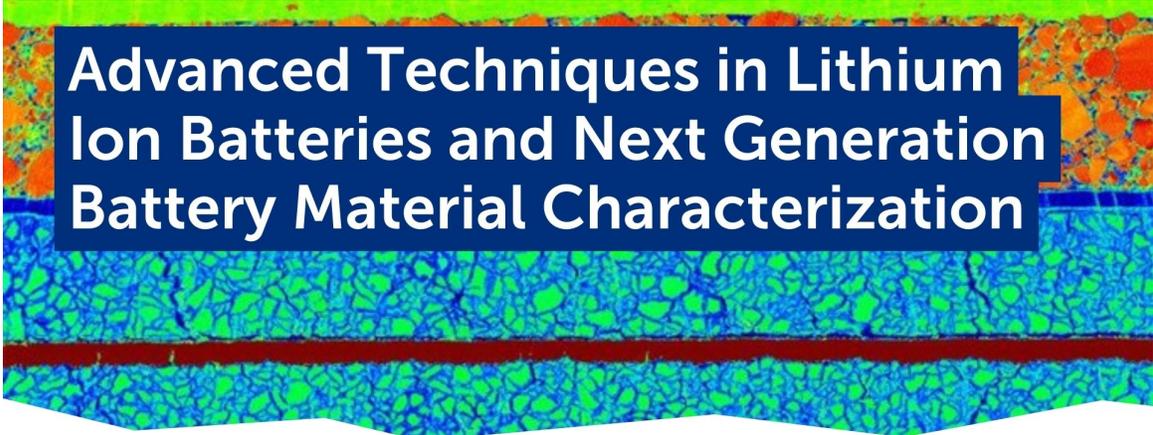
Our [2022 Image Contest](#) is coming to a close, and JEOL customers continue to amaze us by sharing images from their microscopes. Some even get in the holiday spirit. Vijayasankar Raman, University of Mississippi, submitted "Christmas MicroTrees" a microarray of 3D-printed polymer microneedles.

We'll announce our December winner and our Grand Prize SEM/EPMA and TEM winners at the end of the month. We look forward to the 2023 Image Contest!



### November 2022 Winner

Magic Cube with Wool: Geometric shapes of calcium carbonate, chemical reaction with clay; Credit: Marcio de Paula, São Paulo University (IQSC/USP); JEOL JSM 7200F SEM.



# Advanced Techniques in Lithium Ion Batteries and Next Generation Battery Material Characterization



WEBINAR SERIES

27 October	2PM EDT
06 December	2PM EST
12 January	2PM EST

Our popular battery imaging and analysis webinars will conclude in January. You can [register for the January 12 webinar or watch the recorded versions for SEM/EPMA and TEM applications here](#).

**Webinar 1: Solutions for Imaging & Microanalysis of Lithium Ion Batteries Using SEM, EPMA, SXES, and Auger**

**Webinar 2: STEM Imaging and Spectroscopy of Energy Materials**

**Webinar 3: NMR Techniques to Determine Local Structure and Ion Dynamics in Lithium Ion Batteries**

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## Field Service Spotlight – Noel Black

JEOL prides itself on customer service and support, and the praise we hear about individual field service engineers. When a customer let us know that his FSE's help allowed his lab to continue with cutting edge research, we decided to spotlight Noel Black, a true problem solver. In addition to routine service and maintenance on newer SEMs, he keeps older microscopes performing, no matter the age or complexity of the issue.



Noel joined JEOL 25 years ago to work in the Austin area on wafer inspection tools and eventually Auger and microprobes. His experience in component level troubleshooting makes him a natural when it comes to issues with older SEMs. And it's not just fixing a problem. He says, "We get creative when components are no longer available. We try to save parts to keep the older scopes alive and running."

He says he still feels humbled when it comes to the awe-inspiring work being done by the customers he meets. "JEOL treats its customers and service engineers like family. I believe very strongly in an overall team effort. It's the strongest tool we have when figuring out a way to help a customer solve a problem."

[Learn more about JEOL service and support.](#)

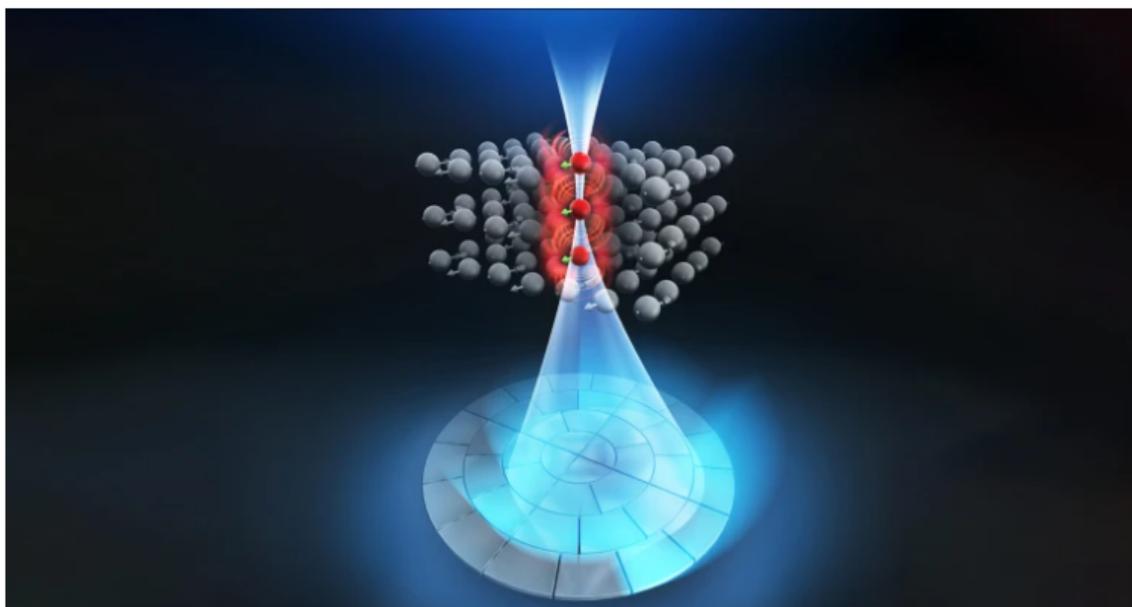


Image depicting atomic-level, magnetic-field observation by magnetic-field-free atomic-resolution STEM.

## Atomic Magnetism Finally Caught on Camera

By developing a TEM that generates only very low magnetic fields at the sample, researchers in Japan and Australia have succeeded in directly imaging an atomic magnetic field for the 1st time. Magnetic-field-free atomic-resolution STEM. [Link to article in Nature Communications.](#)



“It is remarkably easy to use, one can become quickly familiar with the NeoScope's capabilities and limitations.”

**-JEOL NeoScope User**

*Simple and user-friendly, with up to 100,000x magnification and EDS analysis, the NeoScope benchtop SEM is always appreciated for how easy it is to use. [Learn more.](#)*

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## Microscopy in the News and Recent Publications

*Do you have a recent published paper or great results to share? We'd love to hear from you! Send a link to your paper to [jeolink@jeol.com](mailto:jeolink@jeol.com)!*

[WNK Kinases Sense Molecular Crowding and Rescue Cell Volume Via Phase Separation](#)

[Atomic Imaging and Thermally Induced Dynamic Structural Evolution of Two-Dimensional Cr<sub>2</sub>S<sub>3</sub>" - a new joint paper published in "Nano Letters"](#)

[Dynamic hetero-metallic bondings visualized by sequential atom imaging](#)

[Meet the Mystery Diamond from Outer Space](#)

[Widening the limit of capacitance at high frequency for AC line-filtering applications using aqueous carbon-based supercapacitors](#)

[A Possible Game Changer for Next-generation Microelectronics](#)

### View JEOL Webinars on Demand

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