

Field of View

FOCUSING ON UPCOMING EVENTS

- Did you know GEM is on social media? Check out @georgiaelectronmicroscopy on Instagram to see what we are up to!
- GEM is partnering with elementary and middle schools in surrounding counties to participate in the first national Ugly Bug contest put on by the University of Oklahoma! Check out the [Ugly Bug website](#) for more information!

The Fine Print

MICROSCOPIC NOTES

- The Leica UC6 is working again after having the motor assembly replaced. Please request for a refresher if you have not been trained on this ultra microtome.

Beam Me Up, Scotty

SEE WHAT'S ON STAGE AT GEM

Microbial Neighbors

Dr. Kurt Dahlstrom's lab within the Department of Microbiology focuses on the interaction and composition of communities that include both microbes and fungi. Most prominently, the lab focuses on the study of *Paraburkholderia edwinii*, which allows fungus to grow in environments that contain anti-microbial compounds. The lab recently submitted bacteria to be imaged, and we were able to capture this micrograph of intertwining extracellular appendages through negative staining.



Scanning the Scene

A TOPOGRAPHIC LOOK AT THE EM WORLD

Eurasian Stone-curlew

The Eurasian stone-curlew is a migratory bird found across northern Africa, the Mediterranean, Iraq and Iran. The diets of these birds largely consist of whole prey such as insects, rodents, amphibians or reptiles. However, the morphological structures that support this varied diet have been

understudied. Recently, scientists used SEM to uncover the unique structure of the stone-curlew's oropharyngeal cavity. The unique arrangement of a non-protusible tongue, laryngeal mound, salivary glands, and features of the beak explain how this particular bird can occupy an ecological niche and how it has evolved to support its diet. Read more about this tasty article [here](#).

The Objective Lens

UNDENIABLY INTERESTING EM TOPICS

Energy-dispersive X-ray Spectroscopy (EDS)

EDS is a unique microscopy method that allows elemental analysis of a sample. With the exception of H, He, and Li, elements within a sample can be determined by using the X-ray peaks of excited electrons. These X-rays are generated when the electrons interact with your sample, and the specific energy of each X-ray is different for each element. Both the Hitachi SU9000 and S3900 are capable of doing EDS here at GEM. The SU9000 has a windowless EDS system that allows for increased resolution.

Read more about this topic [here](#) and [here](#).

Fully Charged

CURRENT EVENTS, LITERALLY

Southeastern Microscopy Society and GEM Workshop



GEM has completed another successful Bio TEM workshop. The participants will be bringing their newfound EM knowledge back to organizations in Utah, Florida, and Georgia. Good luck! Additionally, from May 11-13, UGA hosted this year's annual SEMs meeting at the Georgia Center. There were a record number of participants for the student competition award with 15 entries! Topics ranged from "ATL2-mediated homotypic membrane tethering" to "near-infrared luminescent hybrid coatings for anti-counterfeiting textile applications." Not to mention, there was a vote for our new SEMs logo! Overall, the poster sessions, speakers, and workshops were a success. Stay up-to-date with all things related SEMS [here](#).