

YSU Electron Microscopy Facility

The YSU Electron Microscopy (EM) Facility was built in 2009 largely through a grant from the Ohio Third Frontier program. The \$2.1 million grant was used to redesign part of the fifth floor of Ward Beecher Hall to accommodate two state-of-the-art electron microscopes: a JEOL JEM-2100 Analytical Scanning/Transmission Electron Microscope (STEM/TEM), and a JEOL JIB-4500 Multi-Beam Scanning Electron Microscope. As of today the EM facility has been expanded by the addition of two new SEMs located in room 1440 of Moser Hall. One of the new instruments is JEOL JSM-7600F, a high resolution field emission SEM with electron diffraction capability, and the other is JEOL JSM-iT300LV, a variable pressure instrument useful in the study of biological samples. The facility has a specimen preparation lab that can offer a variety of equipment to prepare various EM specimens, especially solid and hard materials.

The EMF provides three basic types of service: **Education and training**, **Equipment access for trained users** and **Full service microscopy for pilot studies**. All are available to anyone with an interest in electron microscopy: graduate and undergraduate students, post-doctoral researchers, faculty, staff and non-YSU users including collaborators and other external users.



YSU Center for Innovation in Additive Manufacturing

The YSU Center for Innovation in Additive Manufacturing was opened in 2014 and is committed to establishing a leadership position in additive manufacturing and developing YSU as the best place in the world for educational opportunities on this breakthrough technology. The center features high-end 3D printers including an ExOne M-Flex printer and an ExOne X1-Lab printer. YSU is one of the several universities in the world with this specific equipment fully installed and operating. YSU played a central role in the federal government's decision in summer 2012 to select downtown Youngstown as the site of the first National Additive Manufacturing Innovation Institute, now called America Makes. YSU students and faculty are regularly engaged in America Makes activities. The center combined with YSU's proximity to America Works resulting in strong connections and partnerships, means that YSU students will receive a level of instruction and hands-on, real-world research and development, and interaction with industry leaders in 3D printing, that is truly unique and world class.

