From Macro- to Nano-: Multiscale Microscopy and Materials Characterization using Correlative Tools

Nicolas Briot
Electron Microscopy Center, University of Kentucky, Lexington, KY

Abstract

As the need for increasingly complex materials continues to increase, the imaging and characterization capabilities are required to not only be able to extract information at the nanometer scale, but also to examine the same material at the micrometer and even millimeter scale. In the recent past, correlative tools have been implemented to enable the study of extremely small regions of interest and characterize them in a larger, macroscopic context by observing the exact same locations at various length scales, with different equipment and techniques.
The Electron Microscopy Center (EMC) at the University of Kentucky offers access to and training on multiple major pieces of equipment for electron microscopy, X-ray imaging (microCT) and elemental/chemical analysis. The correlative tools available across the different instruments will be presented, in addition to the multiscale characterization capabilities.

Biography of Presenter

Nicolas Briot completed his undergraduate studies at the University of Burgundy in Dijon, France and worked for 2 years in the automotive industry before joining Dr. T. John Balk's research group in 2009. He joined the Electron Microscopy Center during his last year as a PhD student in 2014 and, after graduation, became a full-time staff member. His focus is the training of users and assistance to researchers on scanning electron microscopy imaging and analytical techniques, focused ion beam and microCT.