Advancing particle detection in charged particle beam microscopes

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In this presentation, I will detail the application of new detectors and detector concepts for the detection of particles in charged particle beam microscopy systems. Two relatively unconventional forms of microscopy, Low Energy Electron Microscopy (LEEM) and Helium Ion Microscopy (HIM) will be used to illustrate how the application of e.g. pixel detectors like the Medipix2 can fundamentally advance the capabilities of these techniques when compared to more conventional detection methods involving MCPs.