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ChemiSEM – Real-time problem solving for SEM-EDS

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Abstract

Join our workshop where we will discuss a novel method for real-time quantitative mapping within a tightly integrated SEM-EDS system. By combining super-short dwell times, advanced peak fitting and quantification routines with novel segmentation approaches, complex challenges can be resolved near instantaneously. With the Thermo Scientific™ Axia™ ChemiSEM™ SEM, BSE and SE images are acquired simultaneously with the EDS X-ray data and used to register detected X-ray photons to the features seen in the electron images, using machine vision algorithms to analyse the contrast and shape. Subsequently, this information is used to segment the area of interest into a hierarchy of object-based super pixels, delivering real-time chemically accurate information into the SEM workflow. This workshop will describe each of these processes, set alongside the more conventional approaches to SEM-EDS quantitative mapping in the context of time to data and chemical accuracy.