## Artificial-Intelligence-Driven Characterization of Crystallographic Interfaces from Electron Microscopy (12 min talk + 3 min discussion)

Thursday, 15 April 2021 10:45 (15 minutes)

Characterizing crystallographic interfaces in synthetic nanomaterials is an important step for the design of novel materials. Trained materials scientists can assign interface structures of materials by looking at high-resolution imaging and diffraction data obtained by aberration-corrected scanning transmission electron microscopy (STEM). However, STEM datasets cannot be fully exploited due to the lack of automatic analysis tools. Here, we present AI-STEM, a newly developed AI tool, based on a a Bayesian neural network, for accurately extracting the key features of (poly)crystalline materials from atomic-resolution STEM images. It achieves excellent predictive performance for identifying crystal structure and lattice misorientations on experimental images.

## **Poster title**

**Primary authors:** YEO, Byung Chul (Pukyong National University); Dr LIEBSCHER, Christian (Max-Planck--Institut für Eisenforschung); Mr LEITHERER, Andreas (Fritz-Haber-Institute); Prof. SCHEFFLER, Matthias (FHI); GHIR-INGHELLI, Luca (Fritz Haber Institute of the Max Planck Society)

**Presenter:** YEO, Byung Chul (Pukyong National University)

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