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## Lecture "Machine-learning aided atom probe tomography: status and (possible) directions"

Tuesday, 14 September 2021 15:00 (1 hour)

Atom probe tomography (APT) is a materials analysis technique that provides sub-nanometer resolution compositional mapping. The data is in the form of a point cloud containing often millions of atoms, and to each of these points is assocaited an elemental nature. By interrogating the point cloud, the local composition of a material or a phase of a specific microstructural feature can be reported. APT is often referred to as "data-intensive" technique, and has long made use of many clustering-type techniques (DBSCAN, NN etc.) to facilitate data extraction, which are all now often classified as belonging to machine-learning.

In this presentation, I will review some of the recent developments from MPIE in the application of machinelearning techniques to atom probe analysis workflows –i.e. beyond just extraction of data from the point cloud –targeting faster and more efficient, reliable and reproducible data analysis.

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