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Lecture ”Structuring, analyzing, and harvesting big data in materials science electron microscopy”

Friday, 17 September 2021 15:00 (1 hour)

Every day, experimental materials science data is being collected in thousands of laboratories around the world. However, the diversity of instruments, vendor software packages and (proprietary) data formats, lab cultures, and the focus mostly on new discoveries causes most of this data to end up in a black hole in terms of accessibility to the scientific community (including in many cases the lab in which the data was acquired). Using the example of transmission electron microscopy we will present our attempts to encourage scientists to annotate and contribute more of their data to the scientific community and benefiting themselves in the process. We are striving to achieve this by being able to offer relevant online data processing and analyzing capabilities and tools to annotate data in more and more automated ways. As more and more data is being accumulated, big data techniques can be applied to benefit from the added value that sharing of experimental data sets produces.

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