

Abstract Submitted
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Moving Research into the Classroom with the Electron Microscopy Database¹ PAUL VOYLES, University of Wisconsin, Madison — Due to the strongly interdisciplinary nature of research in nanotechnology and materials, a course on transmission electron microscopy (TEM) must often serve student from a very broad range academic disciplines, level of background, and research interests. Someone in the class will want to learn about all the possible capabilities of the TEM, which span diffraction, spectroscopy, and imaging. Research students learn best from real-world examples, which are usually drawn from the research of the instructor, but very few instructors have the breadth of research and instrumentation needed to obtain high-quality examples of all the possible combinations of techniques and materials. I have therefore developed the Electron Microscopy Database (EMdb, <http://tem.msae.wisc.edu/emdb/>) as part of the education plan of my NSF CAREER project. The goal of the EMdb is to enable TEM teachers to easily exchange high-quality TEM example data and associated homework problems. This serves the NSF education goals of promoting excellence in research training and of bringing cutting-edge research into the classroom, and has significantly improved my own teaching.

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