



SEMINAR

3D imaging of dislocations in the electron microscope

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11.00am – 12 noon
Science Lecture Theatre S11, Building 25

Abstract

For over 50 years, images of dislocations in the electron microscope have been two-dimensional projections of an object that is extended in three-dimensional space. This talk will present our work to uncover the three-dimensional nature of these defects by using weakly diffracted electron beams to recover the dislocation position within a crystal. It will examine the nature of the reconstructed 'dislocation' object and its spatial fidelity to the dislocation core. Further, we show that, with STEM-based imaging, dislocations can be recovered with more relaxed diffraction conditions, but with some penalty imposed on the three-dimensional spatial resolution. I conclude this talk by examining the potential uses of these reconstructed 'dislocations' and speculate on where dislocation tomography might be profitably employed.

Convenor: Associate Professor Joanne Etheridge
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Visitors are most welcome: Please note that there is a designated Visitors Car Park (N1) clearly ground-marked by white paint and tickets, at a cost of \$1.4/hour for up to 3 hours, available from a dispensing machine. This high-rise carpark is located on the following Clayton Campus Map, Ref. B2.

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