



SEMINAR

Atom Probe Tomography of Materials

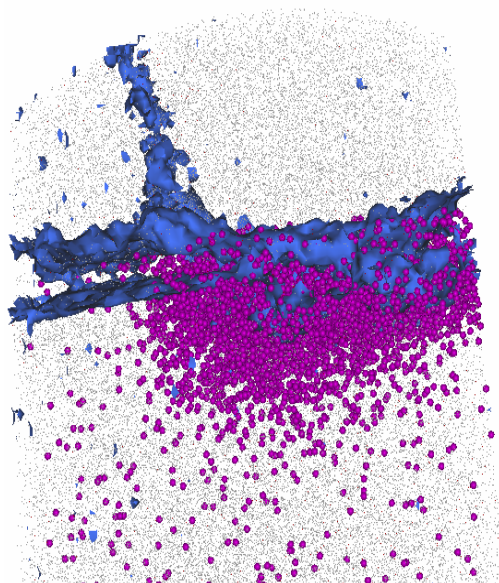
Dr Thomas Kelly

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Friday 8 February 2008, 10:30 am – 11.30am
Science Lecture Theatre S11, Bldg 25

Abstract

Atom probe tomography provides three-dimensional structural and compositional analysis of materials at the atomic scale. In recent years, it has been applied to materials characterization



(Arsenic atoms (purple) implanted into the source/drain of a transistor. Blue feature is an isoconcentration surface for oxygen which delineates the gate dielectric on the left and the silicon and polysilicon surfaces.)

challenges in the metals, data storage, and semiconductor industries. Specimen preparation advances have made it routine now to extract and analyze specimens from bulk materials including advanced alloys, device wafers and even finished components. Major developments in LEAP technology by Imago Scientific Instruments have led to greater facility for running specimens and greater detail in quantitative analysis. These data are revealing important new information about processing effects and correlations with properties. In this talk, examples will be given of how this capability is having impact on a wide variety of materials including metals, magnetic media, semiconductors, ceramics, and even synthetic organics and polymers.

Convenor: Dr. Joanne Etheridge

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