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Atomic layer deposition of high-k metal oxides.

Abstract
In this seminar the principles of atomic layer deposition will be introduced highlighting the advantages and disadvantages of the process and how the need for ever shrinking and energy efficient electronics has given it a key niche in technology. The presentation will then focus on one key aspect, the growth of high k metal oxides, illustrating the progress made to date and where development is still required.

Biography
Ian Povey studied Chemistry at the Manchester University (UMIST) where he received his BSc in 1989 and Ph.D. for spectroscopic studies of III/V semiconductor growth mechanisms in 1992. He continued studying the mechanisms of chemical vapour deposition at the University of Leicester, employing gas kinetics and laser induced fluorescence to identify radical intermediates. In 1994 he took a joint research position at the Physical Chemistry Institute and IBM, Zürich where he performed quantum beat spectroscopy of radicals and the chemical beam epitaxy of high temperature superconducting oxides. In 1996 he was appointed to a Research Fellowship at Cambridge University investigating gas phase radical species in the atmosphere by lidar. In 2004 he joined Tyndall National Institute, University College Cork, where he manages the atomic layer deposition activities of the institute; studying aspects of process control, materials properties and mechanisms of growth.