Friday 9 Oct 2015, 2pm (venue TBA)	Martin Attfield (Manchester)	Crystal Growth, Morphological Control and Materials Discovery of Metal-Organic Frameworks Revealed by Atomic Force Microscopy

Understanding the crystallisation of nanoporous metal-organic frameworks (MOFs) is critical in their metamorphosis from novel to applied functional materials. Some of the questions in this regard include the formation of the structure, especially surrounding the void space, and determining routes to control the crystal properties of MOFs. Real time observations at the nanoscale during growth, obtainable using atomic force microscopy (AFM), can reveal answers to these problems. Here we present the results of the first in situ AFM growth studies on a variety of MOFs that reveal a mechanism for surface crystal growth, information on the growth species involved, a modulator-free route to control crystal morphology and the discovery of a new MOF.