Organic molecules as precursors and adsorbates on nanostructured graphene

Peter Beton

School of Physics and Astronomy, The University of Nottingham, University Park, Nottingham, HG7 2RD Peter.Beton@nottingham.ac.uk

The formation of hydrogen-bond stabilised rows and two-dimensional networks of perylene and coronene derivatives on graphene terminated Rh(111) will be discussed focussing on the influence of moiré structures on molecular organisation. In addition the use of small molecules as solid-state precursors for graphene formation will be discussed. High temperature approaches in which molecules are completely decomposed prior to graphene formation will be contrasted with low temperature routes in which specific bonds are broken and reformed leaving some or all of the precursor molecule in tact.