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Atomic Force Microscopy Studies of Liquid/Solid Interfaces: Stability
and Dynamics of Thin Liquid Films

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ABSTRACT OF THE TALK

In recent years, there has been an explosion of interest in the behaviour of liquids in confined geometries, especially due to the exciting developments in the fields of microfluidic devices and of nanotechnology. One of the most powerful tools available to study the stability and dynamics of thin liquid films is the atomic force microscope (AFM). In this talk, Dr Neto will review the principles of AFM both as a force sensing and an imaging tool, and illustrate its potential with results of her research performed on liquid/solid interfaces. These include studies of the boundary conditions of flow of liquids at solid surfaces,¹ and pattern formation in thin polymer films². The latter investigation has led to a new strategy to produce surfaces with spatially localised features of controlled surface chemistry,³ with potential applications to the patterning of proteins and cells in biology and biotechnology.

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