Visit Report
The National Physical Laboratory
14th March 2012

The Society's visit to the Open Day at the National Physical Laboratory on 14th March was an undoubted success. The investment on display, both in the impressive buildings and the advanced equipment and technology in the Laboratory, was varied enough to provide interest for all visitors.
The NPL Caesium Fountain Clock is used to define the second and to contribute to the measurement of Universal Coordinated Time. NPL determines the standard metre – no longer by metal standard bars, but by using laser interferometers; and it holds the UK's Standard Kilogram – the last SI unit to be determined by a physical object.
These SI standards one would expect, but it is the other metrology that fascinated; the use of laser scanners and other optical systems for three-dimensional measurement of complex components like the conical couplings on the end of drill lines used in the oil industry, car doors, and turbine blades. Or measuring the size and concentration of airborne particles. Or 3-D microscopy to measure the wear on metal cutting tools. Or the Electron and Ion Beam Microscopes that are used to investigate, or cut into, surfaces 10,000 times smaller than a human hair.
NPL tackle a huge variety of measurement systems required by a wide range of industries – to research and develop measurement systems from scratch, and to improve, test and calibrate these systems.