

Bristol ChemLabS

**Dr Tom Podesta, Bristol ChemLabS Teaching Laboratory Manager
and Dr David Smith, Bristol ChemLabS CETL Manager**

The Bristol ChemLabS Centre for Excellence in Teaching and Learning was established to help promote and raise standards in the teaching of practical chemistry.

Refurbishment of the University of Bristol's chemistry teaching laboratories presented the opportunity to completely redevelop the existing practical courses. The new courses were developed through consultation with employers and other stakeholders and focus on the development of practical skills. The practical courses are self contained and are no longer linked directly to lecture courses, removing many of the constraints and frustrations that were, in the past, imposed by timetabling.

Central to the Bristol ChemLabS project has been the development of an interactive on-line Dynamic Laboratory Manual that helps students prepare thoroughly before each practical session. The Dynamic Laboratory Manual includes background information as well as formative and summative assessments to help students develop an understanding of the chemistry that they will be studying. In addition, video clips and simulations allow students to observe and practice the techniques that they will be using. Virtual instruments also give students the confidence to use sophisticated equipment. A demonstration version of the Dynamic Laboratory Manual is available on-line at <http://newmole.chm.bris.ac.uk/dlm-demo17a/>.

The developments have allowed a change in both the method and balance of assessment. Because students are now better prepared for their practical sessions, it is possible to perform more assessment face-to-face within the laboratory. As a result, students are no longer required to produce long write ups following each experiment. Instead, the skill of scientific writing is addressed through a purpose-designed course. Students are assessed on their achievement within the laboratory and the quality of their practical skills rather than on their report. This approach is not only a more efficient, but also a more effective method of assessment. As a consequence, students and staff enjoy practical classes more and benefit from the ability to focus on the practical work itself

Although the Bristol ChemLabS project focuses on the teaching of chemistry, many of the innovations that have been introduced are applicable to practical teaching in other scientific disciplines.