

## **Chemistry for All: widening participation in chemistry**

The Royal Society of Chemistry (RSC) has launched a £1 million five year project, called *Chemistry for All*, aiming to widen participation in chemistry. The project, working with partner universities, aims to explore and overcome barriers to studying chemistry for a number of target groups of students, through a programme of specially designed interventions.

### **Aims and objectives of Chemistry for All**

#### **Aim**

To influence the UK government, and university and school leadership, such that the chemistry undergraduate population demographic reflects that of the wider population.

#### **Objectives**

- To contribute to the knowledge base on the appropriate methodologies for studying the impact of longitudinal interventions (whether neutral, positive or negative) on target students from widening participation backgrounds.
- To inform future Government practice and raise awareness in the UK Government and university and school leadership of the barriers to progression in chemistry for target students.
- To provide insights into the success, or otherwise, of the intervention activities in overcoming barriers to progression in chemistry.

#### **Why is the project needed?**

Chemistry as a school subject can lead to a wide range of interesting and economically important careers, as well as being intellectually challenging. Chemistry underpins solutions to global challenges from environmental and climate problems to medicine, food technology and geological studies.

But, chemistry is less likely to be studied by certain social groups. Female students are less likely than males to continue studying chemistry at postgraduate level and over 70% of undergraduate chemistry students are white. Most undergraduate UK chemistry students have parents in managerial or professional occupations (upper or lower). The percentage of young students



entering UK higher education from lower socioeconomic backgrounds for all subjects is 30% compared with 27% for chemistry.

### **What does the project involve?**

Students taking part in the *Chemistry for All* project will experience a five year programme of activities in their schools, places of informal learning and universities. The focus of the activities will be on chemistry and on raising the academic aspirations of students who may not traditionally consider studying chemistry.

The activities will start in September 2014 with the first cohort of targeted students then in Year 8 (aged 12-13). A second cohort of students will start in September 2015, to take part in the programme of activities for the remaining four years of the project. The activities will be run by teams at four UK universities selected by the RSC for their relevant experience and innovative approaches to widening participation in chemistry. Each university will work with six local schools.

A separate research project run by a team from The Institute of Education, University of London (IoE), will explore the impact of the longitudinal intervention on the students who take part, following them from Year 8 through to Year 12, and possibly to undergraduate study, training or work. Control schools are also important as part of this study, to allow comparisons with the schools taking part in the intervention activities.

### **Why should my school take part as a control school?**

Data will be collected from students in control schools so this can be compared with data from students in intervention schools. The data collected from control schools will be on students' perceptions and experiences of their chemistry education.

Control schools will be provided with feedback about how students have responded to questions. For example, if you have any particular interest in how certain student groups responded e.g. boys and girls or the difference between those on FSM compared to those who are not, the researchers will be happy to provide this for you.

### **What does being a control school involve?**

The following data collection will take place in control schools:

**Student surveys:** In year 1 (2014-2015) we would like online surveys administered to **all Year 7** and **Year 8** students in either their science classes or within form time. The surveys do not have to be administered on the same day or week; we only ask that all Year 7 and Year 8 students complete the surveys **before October half term**; we want the survey completed before students have had much secondary chemistry/science teaching. We will not administer the survey again until year 2 (2015-16) of the project; we will continue with the survey each year for a total of 5 academic years. We will provide teachers with a set of brief instructions to read out to students. All answers will be confidential and if a student wants to withdraw from the study at any point, this is fine. Each survey will take on average about 30 minutes to complete.

The benefit of an online survey is that we can provide you with feedback about how your students answered much sooner (within the same term) than if you use paper-based surveys. A second benefit is that students will feel more comfortable about anonymity. Paper-based surveys cost a great deal more because of transcribing of entries and this results in errors too. Finally, this reduces the burden on teachers in collecting, collating, storing and sending back the surveys to us.

We do not expect teachers to do anything else other than spend a minute reading out a set of instructions and overseeing their class as they complete the survey.

If you would like to directly contact colleagues who will be implementing and analysing the surveys they can be reached using the following contact details: Professor Michael Reiss, [m.reiss@ioe.ac.uk](mailto:m.reiss@ioe.ac.uk), Professor Shirley Simon, [s.simon@ioe.ac.uk](mailto:s.simon@ioe.ac.uk) and Dr. Tamjid Mujtaba, [t.mujtaba@ioe.ac.uk](mailto:t.mujtaba@ioe.ac.uk) / 07875 303 213.