



THE SALTERS' INSTITUTE ANNUAL REVIEW 2007

TWENTY FIRST CENTURY SCIENCE

The national launch of Twenty First Century Science took place in September 2006. The aim of the revised specifications of this suite of courses, comprising GCSE Science, GCSE Additional Science and GCSE Additional Applied Science, is to provide alternative approaches to educate students with varying interests and needs within science. There has been very positive feedback from schools in 2007 and 1,480 centres entered students for GCSE Science in July 2007, a total of over 100,000 candidates.



Nuffield
Curriculum Centre

THE UNIVERSITY *of* York



To enable a smooth transition into the teaching of Twenty First Century Science, a number of training courses have been developed by the team at the University of York Science Education Group and Nuffield Curriculum Centre. A number of trainers were employed to deliver training courses to hundreds of teachers and technicians, also visiting schools requiring extra support. In June 2007, three successful residential courses were run in York, Reading and Manchester.

Further explanation of the course was given in Autumn 2007 when a series of short videos were made aimed at teachers, school managers and parents who want to know more about the Twenty First Century Science approach. These videos can be viewed on the course webpage at www.21stcenturyscience.org

Twenty First Century Science has attracted worldwide attention with several countries showing great interest in all aspects of the courses. In January 2008, Professor Robin Millar gave a workshop to staff at the Leibniz Institute for Science Education at the University of Kiel in Germany and has also been invited to give talks in Tokyo, Japan, Hong Kong and Australia this year.





2007 saw a huge increase in the number of Camps held jumping from eleven in 2006 to sixteen this year! The Camps were hosted by eleven universities with 800 Year 10 students participating, some travelling from as far afield as Portugal, Germany and Belgium.



Six of the Camps were the traditional 4-day Camps, which were held at Birmingham, Leeds, Manchester, St Andrews, Ulster and York. There were ten shorter Camps, held back-to-back from Monday to Wednesday and Wednesday to Friday, four of which were hosted by Nottingham and Sussex for the second year running and another four Camps by Bath and Bristol for the first time. The back-to-back Camps were again supported by GlaxoSmithKline and focused on pharmaceutical chemistry.

The final two back-to-back Camps were hosted by Imperial College London where the Salters' Institute is working in partnership with the Royal Society of Chemistry's Aimhigher initiative, Chemistry: The Next Generation (C:TNG) which aims to encourage greater uptake of students from disadvantaged schools.



"My daughter attended the St Andrews Camp 6 or 7 years ago and had a brilliant time. At the time she had not decided on what subject to study but did indeed decide on chemistry. She is now in the 4th year of a chemistry degree at Edinburgh and still loving it!"

"I met like minded people and was inspired to take control of what I wanted to be and what I knew I could achieve".

"I was overwhelmed by the enthusiastic response from my two pupils. They loved every minute of it and didn't want to go home! They really enjoyed the activities and made great friends from other schools".

"The students were all so motivated by the Camps that they have resolved to continue their science studies at university. At least two of my past nominees have progressed to Oxford".



MESSAGE FROM THE CHAIRMAN

From a Chairman's perspective perhaps the most impressive and encouraging feature of the past year has been the apparently seamless transition to a completely new team under Audrey Strong in a year of continued high activity with more numerous and more diverse Chemistry Camps at 11 Universities, a maintained high level of Festivals in 47 Universities and at the same time intensive work at York on updating all our A-level Science Courses to meet a tight deadline later this year. Also on the curriculum development front, we are waiting with anticipation on hard figures for the uptake of 21st Century Science and the results from the related examinations.

In summary a very busy year where we once again acknowledge and appreciate the sterling support we have enjoyed from our major partners without whom we could not accomplish so much.

Dr Peter Doyle CBE FRSE



SPONSORS FOR 2007

GlaxoSmithKline

ABPI

The Armourers and Brasiers' Company

AstraZeneca

The Basketmakers' Company

BioRad

Chemistry: The Next Generation

The Clothworkers' Company Croda

The Dyers' Company IChemE

The Company of Merchant Adventurers of the City of York

Rolls Royce plc

The Royal Society of Chemistry

Sigma Aldrich

Victrex

SPONSORS FOR 2007

The Royal Society of Chemistry

Aughinish Alumina Ltd
British Nuclear Fuels plc
Ciba Specialty Chemicals
GlaxoSmithKline

Irish Pharmaceutical and Chemical Manufacturers Federation
Procter & Gamble Technical Centres Ltd
Roche Ireland Ltd

SALTERS'
Festivals
of Chemistry



Fifty-five Salters' Festivals of Chemistry were held at forty-seven universities throughout the UK and Ireland in 2007. Five universities hosted more than one Festival which included, once again, the University of Bath which hosted two Festivals and the University of Manchester which hosted three. The University of East Anglia, the University of Plymouth and University College London held two Festivals for the first time. Following a break for a complete refurbishment of their labs, the University of Bristol were back on board again this year.

The morning activity was The Salters' Challenge which is a competitive practical activity requiring no advance preparation by competing teams. In 2007 during this challenge, named "A Salty Tale," the teams became 'analytical chemists' and had to identify several chemicals using flame tests for metals and test tube reactions for salts. The University Challenge took place in the afternoon. This was an activity chosen by the University.

A chemical demonstration was featured at most Festivals followed by a Prize Giving.

"My students had a wonderful time and are very privileged to have had the experience of working in an undergraduate science laboratory".

"The lecture was amazing and we all learnt a lot from the experiments".

"The Festival has greatly helped our knowledge of chemistry and it has also opened our eyes to just how much is involved with the chemistry side of life".



"It was particularly gratifying to hear from a recent year 11 leaver about how much he had enjoyed the day on the same event some years before. Clearly, such events have a most positive impact, even when they don't win anything".



SALTERS' INSTITUTE ANNUAL AWARDS CEREMONY

Friday 21 November 2008

Prizes and Certificates will be presented by the Master of The Salters' Company to all Awardwinners of the following:

Salters' Graduate Prizes
Salters-Nuffield Advanced Biology Prizes
Salters' Advanced Chemistry Prizes
Salters Horners Advanced Physics Prizes
Salters' City & Guilds Prizes



MESSAGE FROM THE DIRECTOR

The Institute conducted a wide-ranging survey of its activities early in 2007, and in looking forward five years particular attention has been paid to:

- The major review undertaken by the Qualifications and Curriculum Authority prior to the deployment of new specifications in 2008. This has affected the Salters' A levels in Chemistry, Physics (with the Horners Company) and Biology (with the Nuffield Foundation). The percentage shares enjoyed nationally by these A2 programmes in 2007 were Chemistry (16.7%), Physics (7.9%) and Biology (4.9%).
- The promotion and development of the Twenty First Century Science at GCSE which was estimated in 2007 to have been taken by over 100,000 pupils in 1,000 schools. Special attention is presently being given to the appropriate assessment of this very successful package of courses.
- The professional development of science teachers by supporting those attending courses at the National Science Learning Centre at the University of York.
- Active consideration is to be given to finding ways in which the Salters' concept of context-based learning might be extended to Key Stage 3, namely to the teaching of 11-14 year-olds. The Institute seeks to extend its role in science education to cover the full secondary schools range from 11 to 18.

The Salters' Festivals of Chemistry and Salters' Chemistry Camps have had another successful year, and in 2008 Festivals and Camps will be run at 45 and 11 universities respectively. This is an important part of the outreach work of the Institute to schools.

The Institute's wide-ranging activities are a tribute to the hard work of the Institute staff at Salters' Hall and our many partners and sponsors.

Sir David Harrison CBE FREng



2007 EVENTS CEG SEMINAR

Thursday 1 February 2007

The Seminar focused on The Royal Society of Chemistry's *Chemistry for our Future* project which seeks to enhance the understanding between school and university chemistry; help smooth the transition to higher education; inform higher education curriculum development and encourage a wider take-up of chemistry. The Seminar was attended by over 50 people from academia, government, education and industry. A report on the findings of the Seminar has been published and is available from our website.

INSTITUTE RECEPTION

Friday 2 November 2007

Three presentations were given to a record number of over 150 former Salters' Awardwinners, Institute 'Friends' and their guests. A buffet style supper was served and Mr Ian Dunne from Do Science Ltd. completed proceedings with an entertaining and amusing chemical demonstration.

SALTERS' INSTITUTE ANNUAL AWARDS CEREMONY

Friday 23 November 2007

More than 150 people attended the Ceremony where Awards and Certificates were presented for the following:

Salters' Graduate Prizes
Salters' National Awards for Science Technicians
Salters-Nuffield Advanced Biology Prizes
Salters Advanced Chemistry Prizes
Salters Horners Advanced Physics Prizes
Salters' City & Guilds Prizes

The Master of The Salters' Company, Mr Nicholas Blackwell, presented the Awards, and the highlight of the Institute year was rounded off with a buffet style luncheon.

The Salters' Institute is the flagship charity of The Salters' Company