

Annual Review 2014/15



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The Salters' Institute is the flagship charity of the Salters' Company which ranks ninth in the order of the Twelve Great Livery Companies in London.



A MESSAGE FROM THE CHAIRMAN OF THE INSTITUTE

In 2018 the Salters' Institute will celebrate the Centenary of its founding in 1918. In preparation for this historic milestone we have been thinking about how we can both celebrate the Centenary and plan ahead – if not for the next 100 years, then certainly for the next ten.

Central to this planning will be the new Director of the Salters' Institute, Anthony Tomei CBE, former Director of the Nuffield Foundation. Anthony has unparalleled experience, not only of running a charitable foundation, but also of science education which Nuffield has done so much to support. Anthony took over in June 2015 from Sir David Harrison, who has directed the Institute for the last 22 years.

The Institute is a landmark in chemistry education, and most of that positioning has been achieved during David's directorship. We owe him much for his wise guidance and shrewd judgement. The great achievements of the Salters' Institute recorded in this 2014 Annual Review owe so much to the foundations laid under Sir David's direction.

David would in turn be the first to recognise how much we owe to the Institute staff under Audrey Strong's leadership, and to the team in the Science Education Group at York, led until this year by Robin Millar, and now by Judith Bennett. We thank them all.



SALTERS' Festivals of Chemistry

in partnership with



In 2015, 49 Salters' Festivals of Chemistry were held at 38 Universities throughout the UK and Ireland between March and June. The Festivals were again run in partnership with the **Royal Society of Chemistry**. Please [click here](#) for a list of the **2015 Salters' Festivals of Chemistry** dates and locations.

Students participated in two Practical Challenges during the day. In the morning they tackled **The Salters' Challenge, "Trouble at the Salt Mine"**, which was a forensic practical activity involving chromatography and test tube reactions and during the afternoon, they embarked on the **University Challenge** which was chosen by each University.

Most Festivals also featured a fun "chemical magic" demonstration. Judges made their decisions and Prizes were awarded to the top 3 schools in both challenges. Fun prizes and certificates were presented to all participants.



The following quotes from students and teachers give a flavour of the Salters' Festivals of Chemistry:

"Thank you for a fantastic experience yesterday, it was really amazing to see all the pupils so engaged and interested in what they were doing..."

"We loved the day and the pupils keep talking about it..."

"Three of our girls who did the Festival six years ago are planning on reading science at University..."

"We learnt lots about working in a team when performing the practical experiments..."

Entries for the Salters' Festivals of Chemistry 2016 open on:

Tuesday 1 December 2015

To enter a team for the Salters' Festivals of Chemistry from the date above or for further information please visit:

www.festivalsofchemistry.co.uk



SALTERS'

Chemistry Camps

9 Salters' Chemistry Camps took place at Universities across the UK in **June and July 2015**. Over 500 students participated this year.

All the Camps had a varied practical programme of practical chemistry, fun lectures, chemical demonstrations and time to relax or socialise. Each Camp was three days long with students staying in the Halls of Residence. Additionally, the Camps at Bath, Manchester, Sussex and York included a Materials activity, sponsored by the Worshipful Company of Armourers and Brasiers.



Here are a selection of quotes from students and parents about the Salters' Chemistry Camps:

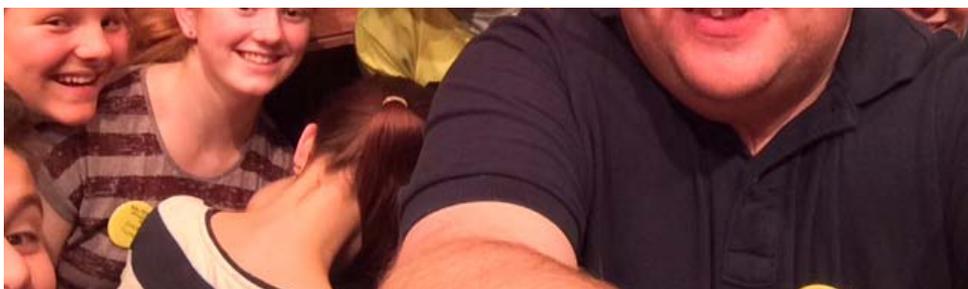
"What a wonderful and valuable experience my daughter had..."

"It was an incredible opportunity to be able to work in a University laboratory and visit the colleges..."

"She came back enthused and could not stop talking about the various experiments she had undertaken..."

"Thank you for organising such an interesting and amazing Chemistry Camp, I really enjoyed myself and learnt lots more about Chemistry..."





SALTERS' CHEMISTRY CAMPS COME TO A CLOSE AFTER A FANTASTIC 18 YEARS!

The Salter's Chemistry Camps have been running for 18 years with a total of 185 Camps taking place, hosted by 15 different Universities across all parts of the UK and 9,500 students have had the opportunity to participate. This has been a very successful project, but in order that the Institute can develop new projects in the run up to the Institute's Centenary in 2018, as well as planning to expand the Festivals programme, it has been decided to end the Camps programme with immediate effect.

We would like to thank everyone who has been involved with making the Salter's Chemistry Camps so successful over such a long period, which includes University staff, Teacher Mentors and not least the thousands of students who participated.

We now look to the future and in addition to the new and exciting Institute projects now in the pipeline, the Chemistry Camps continue in India where we have just held the first two Camps in Bangalore and Kuppam with many more planned over the next few years as part of the "Inspirational Chemistry Programme" sponsored by Dr Yusuf Hamied and in collaboration with the Royal Society of Chemistry.

For further information about the Salter's Chemistry Camps please visit:

www.chemistrycamps.co.uk

Chemistry Camps in India



Inspirational Chemistry Programme

The Salter's Institute has undertaken an exciting new project working with the Royal Society of Chemistry (RSC) to deliver a joint five year "Inspirational Chemistry Programme" in India. This

project has been sponsored by Yusuf Hamied, leading Indian philanthropist and pioneer in the pharmaceutical industry.

The RSC and the Salters' Institute hope to enhance the skills and knowledge of Indian Chemistry teachers and inspire students to study Chemistry at University by applying their own expertise in education and combining this with the experience of partners in India.

From 2014-2018, the aim is to:

- Provide Chemistry Camps for 1,600 of the brightest students from all backgrounds
- Directly develop the knowledge and skills of over 400 talented Chemistry teachers
- Work with these teachers to reach 8,000 teachers in a "train the trainer" model



Chemistry Camps India

The first two Chemistry Camps in India ran successfully in July 2015. Audrey Strong and Fleur Layzell travelled to India to help the Chemistry Camps Co-ordinator, Bhakti Dhamdhare, with the organisation and delivery of the Camps.

The first Camp was hosted by the **Indian Institute of Science (IISc)** in the city of **Bangalore** in Karnataka and the second Camp was held at **Agastya Creativity campus** in the more rural area of **Kuppam** in Andhra Pradesh. **120 students from local Government schools participated** in the Camps which followed a format specially adapted for India. Participants enjoyed 3 days tackling hands-on practical activities and lectures, staying overnight in hostel accommodation. The Institute received positive feedback from staff and students involved with the Camps and the events were publicised in local press.

Two more Camps are being organised for December 2015 at **Vellore Institute of Technology (VIT University)** in **Tamil Nadu**, and the **Indian Institute of Science Education & Research (IISER)** in **Pune**, with further Camps planned over the next few years.

To view the photos from the Chemistry Camps in India (and all UK Camps!) [click here to visit the Camps Gallery](#)



SALTERS-CLEAPSS

National Awards for Science Technicians



These National Awards are held in partnership with **CLEAPSS**, an advisory service providing support in science and technology for a consortium of local authorities and their schools.

The Winners of the **SALTERS-CLEAPSS National Awards for Science Technicians 2014** were, as pictured above from left to right, Paula Lindsay, West College Scotland; Lyn Payne, Pimlico Academy; Judith Runnalls, Perins School and Usha Khamar, The Compton School.

The aim of these Awards is to acknowledge the immense contribution that science technicians make to the success and well-being of their schools, and in particular, their science departments. The Awards are **open to science technicians in schools and colleges within the UK who have a total of five or more years experience in schools and colleges (either full or part-time).**

The 2014 Awards were also supported by:

The Association for Science Education

The Institute of Physics

The Royal Society

The Royal Society of Chemistry

The Society of Biology

For further information about these Awards please visit our website by clicking on the link below:

[SALTERS-CLEAPSS National Awards for Science Technicians](#)

Curriculum Development



In September 2014, Professor Judith Bennett took over from Professor Robin Millar as Salters' Professor of Science Education and leader of the University of York Science Education Group.

The last year has been a very busy year for all four curriculum projects. The three A-level projects, Salters Advanced Chemistry, Salters Horners Advanced Physics and Salters-Nuffield Advanced Biology have all been in the process of undergoing revisions to update material and also bring the courses in line with new Government requirements for A-level courses. These revisions see the publication of Salters Advanced Chemistry in its fourth edition, and Salters Horners Advanced Physics and Salters-Nuffield Advanced Biology in their third editions. New books and supporting material for the first year of the courses are already available, with publications for the second year of the courses coming out in late 2015.

Twenty-First Century Science, the GCSE course, is currently also undergoing major revision, with new materials coming out over the next year. A major feature of the revisions has been the production of electronic resources to support the courses.

It is very encouraging to see all UYSEG's courses coming out in new editions, and very rewarding to know that the work has been, and continues to be, valued by so many teachers. Looking back at examination entries for the Salters' courses over the years, we have now reached a point where over 1,000,000 students have taken national examinations (A-levels and GCSEs) in Salters' courses.

The group also has plans for a new course for students aged 11-14. With so much emphasis being given in recent years to the need for science teaching (and teaching in other subjects) to be underpinned by research evidence, now is an ideal time to take on the challenge of how high-quality research evidence can be built effectively into curriculum materials. Such evidence can, for

example, help teachers with the challenge of teaching difficult ideas in science, and use strategies that are likely to be most helpful in engaging their students' interest in science. UYSEG has over 30 years of experience of developing highly regarded curriculum materials, and so is very well placed to undertake a major new development that will strengthen links between research and practice, and have a positive impact on the experiences of young people in their science lessons.

Staff in UYSEG would like to take this opportunity to express their gratitude and thanks to Sir David Harrison, former Director of the Salters' Institute, for all his support in his twenty-two years as Director. They also very much look forward to working with his successor, Anthony Tomei.

Professor Judith Bennett - New Salters' Professor of Science Education

Judith's background is as a chemistry teacher, having studied for a first degree in Chemistry-with-Education and trained as a teacher at the University of York. She taught for eight years, mainly in London, during which time she studied part-time for an MA and then PhD in science education at King's College in London, focusing her work on gender issues in science education. It was during this time that she first encountered and used the original Salters' Chemistry materials being developed at the University of York. Shortly before completing her PhD, the opportunity arose to join the science education team at York. Since that time, she has worked on Salters' projects and continued to develop her research interests in ways in which under-represented groups can be encouraged to study science. From 2006-2014, she was head of the Department of Education at the University of York. Professor Bennett was delighted to be appointed to the role Salters' Professor in 2014.

Institute Events

SEMINAR: Skills for the Chemical Industry - Training the Teachers

On 3 March 2015, a seminar focusing on the "Skills for the Chemical Industry - Training the Teachers" was hosted at the Chemistry Centre at Burlington House. This was a follow up to the seminar "Skills Needs for the Chemical Industry" which was hosted at Salters' Hall in June 2013

This event was a collaboration between the Gatsby Charitable Foundation, the Royal Society of Chemistry and the Salters' Institute. The seminar brought together more than 50 participants from the Further Education (FE) sector and the Chemical industry in addition to policy-makers and other stakeholders.

The desired outcomes of the seminar were:

- A better understanding of the training needs of those who teach vocational Chemistry in FE
- A better understanding of how to improve contact between FE teachers and employers
- Identification of case studies of good practice
- A written report with case studies and policy recommendations

Presentations were given by Professor Geoff Hayward from the University of Cambridge, on the national survey he and his colleagues carried out which provided an explanation about what Science, Engineering and Technology (SET) teachers currently do, their experiences and the improvements they would like to see in FE; Jenifer Burden, on behalf of Dr Ron Thompson, the University of Huddersfield, on what this report meant for initial teacher education and professional development of FE teachers of vocational Chemistry; Dr Donna Connor, Sellafield Ltd and Andy Stag, Altus Science Ltd, who provided examples of how their companies engage with FE including examples of barriers and success experienced; Julie Hizzett, Newcastle College and Heather Aspinwall, Wirral Metropolitan College, who also provided examples from the FE perspective.

Anthony Tomei, Director of the Salters' Institute then led discussions focusing on core questions. Feedback from these discussion formed key recommendations for FE colleges, policy-makers and industry which were published in the post-seminar report written by Ian Jones, Jinja Publishing and produced by the RSC. [Click here to review this report.](#)

Institute Awards Ceremony 2014

This prestigious annual event celebrates high levels of excellence within the science education sector. This year the Ceremony took place at **Fishmongers' Hall** on **Thursday 20 November 2014**. 200 guests attended the Prizegiving Ceremony and lunch reception.

We were very pleased to welcome **Lord Sainsbury of Turville**, who delivered a keynote address

and presented the Awards at the Ceremony. During his address to the audience, Lord Sainsbury commended the Salters' Institute saying it ***“was in the vanguard of support of Chemistry education, and laterally Biology and Physics”*** and talked about his work with the Gatsby Foundation which he said has ***“supported science and engineering which cover every aspect of life and hold the key to solving problems on the planet in the coming years such as feeding the population and renewable fuels”*** He also commented that ***“Science can provide a good career - by making a contribution to society by following exciting and rewarding careers to combat global challenges”***.



Awards were presented for the **Salters' Graduate Prizes, SALTERS-CLEAPSS National Awards for Science Technicians, Salters-Nuffield Advanced Biology (SNAB) Prizes, Salters Advanced Chemistry (SAC) Prizes, Salters Horners Advanced Physics (SHAP) Prizes, Salters' City and Guilds Prizes and Salters' Prizes for Exceptional Achievement in Physical Sciences**. To view the lists of Prizewinners, please [click here](#) to visit our website.



A MESSAGE FROM THE DIRECTOR OF THE INSTITUTE

The Institute's curricular programmes at the University of York are now under the leadership of Professor Judith Bennett and last year has seen the completion of the A level specification reviews in Chemistry, Biology and Physics. It has been a busy time with operational consequences for schools, universities, examining bodies, publishers and regulators; and not least the next generation of students facing new examinations.

The Institute's UK programmes of Festivals of Chemistry and Chemistry Camps have continued and, as reported last year thanks to the generosity of Dr Yusuf Hamied, Chemistry Camps in India run in partnership with the Royal Society of Chemistry have now been launched.

This is my last report as Director of the Salters' Institute and I count it to have been a great privilege to have served for the last 22 years. The Institute has the essential capacity for innovation and change and without doubt this will continue under my successor Mr Anthony Tomei CBE, a former Director of the Nuffield Foundation. The Institute's work with schools and universities throughout the

United Kingdom is supported and coordinated by its hard-working staff in London led by Mrs Audrey Strong; and their labours have continued from temporary premises during the extensive refurbishment of Salters' Hall. The Institute expects to return to its own quarters early next year.

Sir David Harrison CBE FREng (Director 1993-2015)

If you have any comments or suggestions please contact Stephanie Mearns on tel: **020 7628 5962 ext. 260** or email: publicity@salters.co.uk

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