Outreach Newsletter: December 2023

Welcome to the December edition of our Outreach newsletter!

Please do pass this on to anyone who may be interested in receiving this bulletin. They are very welcome to subscribe using this link. If you wish to be removed, please email outreach@chem.ox.ac.uk.

Thank you!

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Christmas Chemistry Conference 2023 – A Quantum Christmas Robin [REPEAT]

On Tuesday 12th December 15.45-16.45 we’ll be hosting a Christmas Chemistry Conference both online and in person at Trinity College, Oxford for KS5 (16-19 yrs) students, parents and teachers showcasing some of the cutting-edge research in the field of Chemistry.

Priority for in-person spaces will be given to local state schools working with Trinity College, but other schools (and those further afield) are welcome to apply for surplus places. Please apply by 11:00, 12th December to attend online. For attendance in person, applications must be received by 11:00, 5th December at the latest. Tickets will be allocated weekly, so the earlier the requests are made, the more likely they will be fulfilled.

About the Speaker:

Professor Peter Hore FRS is Professor of Chemistry at the University and Fellow of Corpus Christi College. His research interests centre on trying to unravel the biophysical mechanism that allows migratory songbirds to detect the direction of the earth’s magnetic field as an aid to navigation. In this lecture, Professor Peter Hore will discuss the theory that the birds’ magnetic compass relies on a quantum mechanism in their eyes that is much more sensitive than previously thought possible.

KS5 Chiral Chemistry Workshops [UPDATE]

We would like to announce the 2023–2024 academic year dates for our Chiral Chemistry workshop. This is our online workshop for UK state school KS5 Chemistry students and teachers, which is delivered by our Department Ambassadors. Dates and times have been designed to avoid interruption of lessons. The session focuses on 3D shapes, chirality, the role of chirality in biological systems and the resources available to research chemists looking at proteins, such as the main protease in SARS-CoV-2, the latter being an active area of research in our Department. There is also an opportunity to ask our Ambassadors questions about their research and their academic careers to date. Students may attend without a teacher, provided we have a teacher contact.
The workshop will be delivered on the following dates/times (please note the workshop is running at a slightly earlier time than last year):

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Please note that places for Chiral Chemistry are limited to students from state schools in the UK, Isle of Man and Channel Islands. Where we are oversubscribed, we will prioritise places for students who meet our widening participation and access criteria. Further information about this can be found at [https://www.ox.ac.uk/about/increasing-access](https://www.ox.ac.uk/about/increasing-access).

**Catch up:**

**KS5 Autumn Chemistry Conference [REPEAT]**

Thank you to those of you who attended our Autumn Chemistry in September. Our own Professors Claire Vallance and Tom Brown shared some fascinating insights into current research into molecular collisions and mRNA vaccines, and responded to questions from our audience. In case you missed it, you can catch up on the conference via the link!

**Future Events:**

**Chemistry Race [NEW]**

The fifth Chemistry Race will be held on Saturday 10th February 2024 at the Department of Chemistry at University of Oxford. This competition is for teams of 3–5 UK sixth form students (one team per school), featuring a series of questions on contemporary chemistry concepts and research, completed against the clock!

Registration opens at 12pm on Monday 4th December. Places are first-come-first-serve. You can find more information on the Chemistry Race (along with past papers for practice) [here](https://www.ox.ac.uk/about/increasing-access).
School / Community Workshops **[UPDATE]**

**Online Primary Workshop: Plastic Fantastic?**
This workshop is for a class of students in Years 5/6 (England and Wales), P5/6 (Scotland) and P6/7 (NI) in a UK primary school. Co-led with the class teacher, the students will interact with Oxford Chemistry ambassadors via MS Teams, whilst undertaking small-scale investigations using materials which have been sent to the school in advance.

The following dates are now available to book for the workshop:
- Tuesday 16th January, 13:30-14:30
- Thursday 8th February, 13:30-14:30
- Tuesday 5th March, 13:30-14:30

**Oxford College Workshops **[REPEAT]**

You are warmly invited to request a College Workshop when arranging a group visit with a College. Find out about your link colleges here. *If you do not hear back from your link college within 14 days, do get in touch directly with us.*

**Unlock the OxBox – Graffiti Game**
A new puzzle box workshop for Year 9 (13-14 yrs), featuring a series of practical and theoretical problems. Minimum of 12 students, state schools please.

**Unlock the OxBox – Poison Puzzle**
This is for KS4 (14-16 yrs) and is a series of practical and theoretical chemistry problems. Minimum of 12 students, state schools please.

“It is fantastic for the students to have this opportunity to apply their knowledge to a problem-solving activity and so enjoyable for them.” – Teacher

**Unlock the OxBox – The Lab Lurker**
A series of practical and theoretical chemistry problems for KS5 (16-19 yrs) students, which would suit a class where at least half of the students are studying A-level (or equivalent) in Chemistry. Minimum 12 students (at least six studying Chemistry A-level, or equivalent), state schools please.

*You can mix and match Graffiti Game, Poison Puzzle and Lab Lurker puzzle boxes for groups including Year 9, KS4 and KS5 students, as long as there is a minimum of 12 students in total (a minimum of three from a Key Stage is required).*
Other Opportunities:

Oxford Astrophoria Foundation Year in Chemistry [REPEAT]

The University of Oxford's Astrophoria Foundation Year is a fully funded one year course for UK state school students who have experienced disadvantage or disruption during their education. It is also for students that have been unable to meet the academic entry requirements for their chosen undergraduate degree programme (e.g. A*A*A for Chemistry). The requirements for Chemistry programme are AAB at A-level. A number of other qualification types are also accepted.

Students who successfully apply for Chemistry with Foundation Year and pass the course at the required level can progress automatically onto the Chemistry undergraduate degree at Oxford. Applications are submitted through UCAS and the deadline to apply is on 31 January 2024.

Find out more about the programme and its eligibility criteria here.

UK Chemistry Olympiad 2024: Register Now! [REPEAT]

Registration is now open for the 2024 RSC UK Chemistry Olympiad. This competition for UK students (aged 16–18) aims to test knowledge, develop creative thinking and problem-solving skills, and push students to excel in Chemistry. Supporting resources and past papers are available in advance on the first round written test in January.

Registration is open to all members of Teach Chemistry – a free scheme to provide additional support to secondary education teachers and technicians. Members can register their school or college through their Teach Chemistry account (you do not need to provide student names at this stage). Further info on this can be found here.

Register here. Registration will close on 7 January 2024.
RSC Women in Chemistry [REPEAT]

In-between our scheduled RSC Women in Chemistry events, a reminder that there are lots of exciting opportunities to participate in practical work, including Science Clubs. Do keep an eye on our website and Twitter for further information on future events and activities!

Work experience [REPEAT]

It is with regret that we are unable to offer work experience placements in the 2023–24 academic year. We do understand that many students are keen to undertake work experience having had these opportunities severely curtailed in the pandemic. We are hopeful to be able to offer placements in the future, which will be advertised via our website. Please do not send us unsolicited requests for work experience opportunities in the meantime, thank you.

St John’s Year 12 Inspire Programme [NEW]

Applications are now open for the St John’s Year 12 Inspire programme. This is a programme open to Year 12 non-selective state school pupils in the South and South East of the UK (within the link regions of St John’s and Somerville colleges, along with the Oxford for South East regional consortium).

The programme will include online talks from Oxford academics, online skills sessions covering topics on the admissions process, and a Virtual Summer School (with the opportunity to join an in-person summer school at St John’s College, Oxford).

You can apply for a place on the 2023–24 programme here.

Balliol College Insight Talks [NEW]

Booking is now open for Balliol College's Insight Talks - a series of online talks aimed at post-16 pupils with an interest in science. Each talk will be taught by an Oxford University postgraduate student, giving the audience an insight into their particular research specialism.

Although aimed primarily at year 12 and above, passionate KS4 pupils may also find these talks interesting. Talks currently listed explore areas such as the Neuroscience of Food or the Causes and Treatment of Obesity.

You can book onto these talks here.
Exeter Plus [NEW]

Applications are now open for the Exeter Plus Year 12 Programme for non-selective state school students in the UK. The programme will consist of both in-person visits to Exeter College and online academic activities. Travel costs will be covered by the College, and in-person sessions will take place on Saturdays or during school holidays.

The deadline for applications is 11am on Monday 8th January 2024. You can find further information and apply here.

Hirsch Lecture & Teacher CPD Workshop [NEW]

The University of Oxford Department of Materials will be hosting their biennial Hirsch Lecture (preceded by a CPD workshop) on 12th January 2024, 1:30pm-5:30pm.

This year’s lecture ‘Neofossils: bio-based plastics to sequester CO₂’ will be given by Professor Anthony J. Ryan OBE from the University of Sheffield. The preceding workshop aims to showcase the latest developments in Materials Science and make available resources developed for hands-on experiments in schools. Light refreshments will be provided.

Further information on the event can be found here. Applications are now open – please use this form to register. The deadline for registration is 15th December 2023, with places allocated on a first-come-first-serve basis.

Uncover Engineering: Year 10 Residential Programme [NEW]

Uncover is a 4-day residential programme for girls and Black African and Caribbean heritage students in year 10 who are interested in exploring Maths and Physics in an Engineering context at university level. This will include engineering-focused activities and workshops, along with recreational activities and a glimpse into Oxford college life (including a formal dinner).

There are two Uncover programmes: one for girls or students who identify as a girl or non-binary; and one for students of a Black African and Caribbean heritage. Priority will be given to students from social and economic backgrounds underrepresented in Higher Education. Successful applicants will also be invited to participate in a follow-on programme.
The residential will take place between 9th and 12th April 2023 at Lady Margaret Hall College and the Department of Engineering Science. Further information and an application link can be found here. Applications are open from now until 22 December at 5pm.

Learning Resource: [NEW]

Featured resource: Unlocking more sustainable futures with green chemistry

Showcasing the work of the Williams and Gouverneur groups at Oxford Chemistry, this article focuses on using ‘green chemistry’ to achieve sustainability goals, including research into solving global plastic pollution to improving performance of rechargeable electric car batteries. Researched and written by Isabel Williams, a former Masters Student at the University of Oxford.

You can read the article here. For further resources for engaging younger audiences in polymer batteries and sustainability, try our Power UP! activities produced as part of RSC Women in Chemistry: Making a Difference.