DEPARTMENT OF CHEMISTRY

UNIVERSITY OF OXFORD

Outreach Newsletter: November 2026

Welcome to the November 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 for reading!

Contents

Click to view

Upcoming Events

Autumn Chemistry Conference *(KS5)* [UPDATE]

Chiral Chemistry Workshops *(KS5)* [REPEAT]

Compounds of Interest *(KS5)* [NEW]

Oxford College Workshops *(Yr9-12)* [REPEAT]

Effective delivery of practical work – In-person course *(Teachers)* REPEAT]

Other Opportunities: Applications to Oxford

Oxford University Islamic Society *(ALL)* [REPEAT]

Oxford Online Maths Club *(Yr 12 & 13)* [REPEAT]

Preparing for Oxford Physics *(Yr 12 & 13)* [REPEAT]

Bright Matter *(Yr 11 & 12)* [NEW]

Other Opportunities: Enrichment and CPD

RSC Women in Chemistry *(Yr 6-9)* [REPEAT]

PERIODically Podcast *(ALL)* [REPEAT]

Centre for Personalised Medicine Art Competition [REPEAT]

Engineering Study Day *(Yr 11)* [REPEAT]

Disrupt It! Reimagining Industries through Technology and Innovation: Poster Competition *(Yr 11 or 12)* [REPEAT]

Frontier Science Programme *(Yr 12)* [NEW]

Insight into Science *(Yr 11 & 12)* [NEW]

Learning Resource:

Ingenious "molecular movie" reveals how penicillin works [NEW]



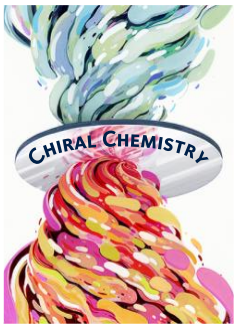
Upcoming Events

Autumn Chemistry Conference [UPDATE]



Thank you to all those who attended our seventh Autumn Chemistry Conference on Thursday 24th September. We had a great turn out accompanied by excellent talks by Professors Yimon Aye and Grant Ritchie. If you missed the event or would like to watch the talks again, the recording will be made available soon our website.

KS5 Chiral Chemistry Workshops [REPEAT]



We would like to announce the 2026-2027 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.

REQUEST A SPACE

Wednesday 4th November 2026	15:45-17:00
Thursday 10th December 2026	15:45-17:00
Thursday 21st January 2027	16:45-18:00
Tuesday 9th February 2027	16:45-18:00
Wednesday 3rd March 2027	15:45-17:00

Compounds of Interest - Explore Oxford Chemistry Research [NEW]

Compounds of Interest is a new series from Oxford Chemistry, designed to connect the chemistry students learn at A-level (or equivalent) with areas of active research in the Department. The series offers a range of free films and learning resources for students and teachers, with opportunities to explore the research at different levels.

Classroom Connections

Via a YouTube video, our researchers introduce an area of their research, explaining the chemistry involved, its links to the A-level curriculum and its wider importance. Each film is accompanied by a YouTube *In a Nutshell* short, providing a quick introduction to the topic. Find our YouTube playlist here.

the playlist.

Research Companions

These accessible articles explore published research and its wider scientific and societal significance, providing further reading for students, teachers and anyone interested in chemistry. Here is our latest research companion.

The Lit Lab - Learning Resources

Students can explore an A-level-appropriate adaptation of a published research paper, including curriculum links, explanatory notes and discussion questions. These resources can be used independently or to support classroom teaching. Here is our latest Lit Lab.

The Lit Lab - Live Webinars

UK state school A-level Chemistry students and teachers are invited to join free, 45-minute online sessions with Oxford researchers to discuss the adapted paper, ask questions and explore the research further. Sign up to our next webinar here.

Please note that for Chiral Chemistry and Compounds of Interest: The Lit Lab places are limited to students from state schools in the UK, Isle of Man and Channel Islands, and 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

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. Please note, the inclusion of one of our workshops is subject to the college's capacity to host your visit. Please do copy us (outreach@chem.ox.ac.uk) into any correspondance with the College team regarding the inclusion of one of our workshops. *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 puzzle box workshop for Year 9 (13-14 yrs), featuring a series of practical and theoretical problems. Minimum of 12 students from UK state schools.

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 from UK state schools.

"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 - Lab Lurker

A series of practical and theoretical chemistry problems for KS5 (16-19 yrs) students. 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), from UK state schools.

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).

Effective delivery of practical work – In-person course [REPEAT]

What: Want to feel more confident when delivering practical work and managing your classroom during experiments? This **one-day, in-person** course aims to increase teachers' confidence in delivering practical work as well as developing strategies for managing their classroom during practical work. The course is designed to be delivered **on a date agreed with your school.**

When: Monday 8th September 2025 – Friday 18th December 2026 (flexible dates).
How: Find out more and sign up here.

Other Opportunities: Application Support for Oxford

Oxford University Islamic Society [REPEAT]

The Oxford University Islamic Society (OUISoc) is expanding its outreach efforts to support prospective Muslim students applying to Oxford. Their dedicated Access Team runs a range of initiatives designed to ease the transition to higher education, address common misconceptions, and involve parents in the process. To stay up to date with upcoming opportunities, events, and resources, join the OUISoc Access Mailing List.

Who it's for: Muslim students in sixth form, regardless of background or level of spirituality, as well as teachers and school staff supporting them. Stay connected: Join the OUISoc Access Mailing List. For more information, visit OUISoc's website or email the Access Team directly at: ouisoc.outreach@gmail.com.

Oxford Online Maths Club [REPEAT]

What: The Oxford Online Maths Club is a weekly livestream that is free, interactive, casual, and relaxed, and the livestreams are recorded so that you can watch back afterwards if you can't make it to the live broadcast on Thursday afternoons. The regular host is Dr James Munro, and they often have current Oxford students answering questions in chat and appearing on the livestream to talk about maths.

Who: The club is mostly aimed at people about to apply to university or about to start a Maths course, but everyone's welcome and there's no registration needed.
When: Live each Thursday at 17:00-18:00 (UK time).
How: Find out more here.

Preparing for Oxford Physics [REPEAT]

What: The Department of Physics' new online course 'Preparing for Oxford Physics' is designed to help students build their problem-solving skills and looks ahead to all parts of the admissions process, including the ESAT, interviews and beyond. While the course is physics focused, they welcome students interested in studying other related subjects at university, such as engineering. The course consists of a series of live, online webinars in June / July and September/ October along with summer assignments, videos and an additional interview focused session in December. It's open to everyone, and is free to take part in.

Where: Microsoft Teams.
When: June to December 2026.
Who: Young people who are in Year 12, or equivalent, in June 2026 and in Year 13, or equivalent in October 2026, and are considering applying to Oxford or other competitive universities.
How: For more information and booking details please see here.

Bright Matter [NEW]

What: This programme aims to support students in developing their interest in STEM subjects at university, introducing them to STEM at Oxford and its application process, and to build a network of peers with whom to connect. We aim to boost confidence, provide a sense of belonging and opportunities to engage with current students, academics and staff at Oxford. The programme will consist of 14 online sessions introducing each subject area with a description of studying that subject at Oxford, and a twenty-minute academic taster session.

Students who attend at least one of our online sessions will be invited to register their interest in attending an academic taster day at one of the constituent colleges, further selection criteria may apply.

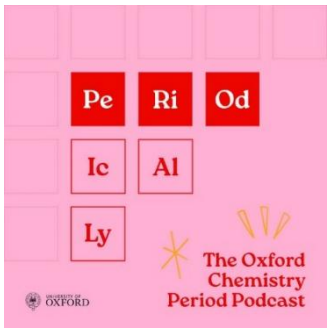
Who: Bright Matter is open to women, trans and non-binary students in Year 11 and 12 with an interest in studying STEM subjects at university. It is run jointly by St Anne's, Mansfield, Magdalen, St Catherine's, St Hilda's, Christ Church, Oriel, Wadham, and Worcester Colleges.
When: Chemistry – Tuesday 19th January 2027.
How: Join here.

Other Opportunities: Enrichment and CPD

RSC Women in Chemistry [REPEAT]

A reminder that there are resources for practical challenges, information about research and profiles of team members available via their website. These are particularly suitable for Science Clubs in schools, community groups, such as Scouts and Guides, as well as for enjoyable holiday challenges.

PERIODically Podcast [REPEAT]



PERIODically is a podcast created by undergraduate and postgraduate Chemistry students at the University of Oxford to discuss their experiences of how having a period has affected their time studying Chemistry. The podcast aims to discuss how the physicality and intensive nature of studying Chemistry can be affected by symptoms of periods (such as cramps, mental health and medical issues) and seeks to shed light on these problems, tackle stereotypes and misconceptions, and start a conversation on how study can be improved for those with periods. You can find further information and links to listen here.

Centre for Personalised Medicine Art Competition [REPEAT]

The Oxford Centre for Personalised Medicine is asking young people in Years 7-9 to create art about talking to family about health and genetics. Sometimes, personalised medicine involves tests that find strong genetic risk factors that might run in families. For example, a person with a heart problem might have tests to explore why this happened, and this might show they have a genetic risk factor that made them much more likely to have heart problems.

Entrants can make a drawing, a painting, a collage, a sculpture – anything goes as long as it's something you can take a photo of. Every entrant gets a certificate, and there are cash prizes for the best artworks. Group entries as well as individual entries are welcomed. More details here, including a short video about the competition, and downloadable information for teachers.

Engineering Study Day [REPEAT]

What: The University of Oxford's Department of Engineering Science and St Hilda's College are collaborating in running an Engineering Study Day for Year 12s in January. Students will get the opportunity to learn about Oxford's Engineering course, receive application advice, have a tutorial with Engineering tutors, explore the city, and stay overnight in an Oxford college. Overnight accommodation, including breakfast, will be provided for free in St Hilda's College on Thursday 7th January.

Who: Year 12 students from UK state schools who are studying Maths and Physics A Level and who are on track to receive A*A*A.

When: 7th-8th January 2027.

Where: St Hilda's College and the Department of Engineering Science.

How: Deadline to sign up is Friday 27th November, sign up here.

Disrupt It! Reimagining Industries through Technology and Innovation: Poster Competition [REPEAT]

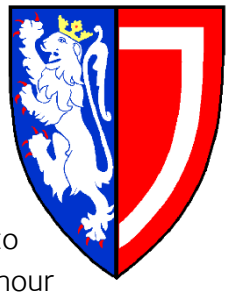
What: Oxford Edge, Centre for Entrepreneurship and Innovation, and Christ Church Access are delighted to announce a poster competition on the theme of 'Disrupt It! Reimagining Industries through Technology and Innovation'.

Who: The competition is for UK pupils from state-maintained schools in Year 11 or 12.

When: Shortlisted finalists and one supporter will be invited to a celebration day at the Oxford Edge and Christ Church on **Wednesday 10th March**.

How: Submissions are now open (till **5th January 2027**). Find out more here.

Frontier Science Programme [NEW]

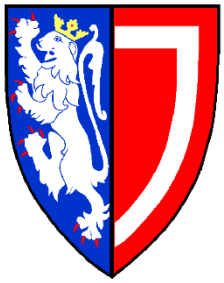


What & When: The Frontier Science Programme is a broad Science programme consisting of 10 x 2-hour online sessions which are delivered on Tuesday evenings from 5.00-7.00pm from Tuesday 2nd February to Tuesday 8th May followed by a residential Wednesday 18th-Friday 20th August 2027. Students must be able to attend all aspects of the programme and be committed to completing the preparatory work before each online session which takes 1-2 hour per week.

Who: The Frontier Science Programme is aimed at Year 12 or equivalent students from state schools who are seriously interested in Studying at Oxford.

How: More details including a recording of the online open evening which explains how the programme works can be found here along with the application form. If you have any further questions, please email outreach@balliol.ox.ac.uk

Insight into Science [NEW]



What: Balliol Colleges Insight Talk Series consists of online academic sessions in which Oxford University Graduates introduce topics that link to their own research. Sessions take the form of workshops, and students will have the opportunity to ask questions. These are super-curricular programmes which will introduce participants to new areas of knowledge.

Who: The programmes are aimed towards students in Year 12, and interested Year 11s. These events are free, and open to any interested applicants.

When: Insight into Science Talks 2026–2027:

- Aerospace Engineering — it's not Rocket Science! — Tuesday 10th November 2026 4.00–5.00pm.
- Wind Turbines — Generating and Producing Wind Energy — Monday 23rd November 2026 4.00–5.00pm.
- From Rocks to Robots: Engineering the Modern Mine — Tuesday 1st December 2026 3.45–4.45pm.
- Planning a Space Mission — Wednesday 2nd December 2026 4.00–5.00pm
- Extra-terrestrial Constructions Using Microwaves — Monday 7th December 2026 3.45–4.45pm.
- The Search for a Theory of Quantum Gravity — Thursday 10th December 2026 3.00–5.00pm.
- Exploring Mars — Tuesday 26 January 2027 4.00–5.00pm.

How: Sign up to each individual talk via their website.

Learning Resource:

Ingenious "molecular movie" reveals how penicillin works [NEW]

Researchers from the Ineos Oxford Institute for antimicrobial research, University of Oxford and international collaborators have revealed previously unseen rapid chemical stages in the formation of β-lactam antibiotics like penicillin, offering insights that can support future antibiotic development. The findings have been published in Nature Catalysis.

In the new study, researchers from the University of Oxford in collaboration with partners from Diamond Light Source, Lawrence Berkeley National Laboratory, PAL-XFEL and SLAC National Accelerator Laboratory have used X-ray free-electron lasers to observe the enzyme isopenicillin N synthase, or IPNS as it converts its linear peptide substrate into the ring system of penicillin.

The new study shows, in unprecedented detail, how the enzyme IPNS achieves an exceptionally complex transformation in a single step. This resolves a long-standing mechanistic question that has remained unanswered for more than four decades. Find out more here.

