LIYSF

66th london international
youth science forum

66TH LONDON INTERNATIONAL YOUTH SCIENCE FORUM

23RD JULY – 6TH AUGUST 2025

'STAND UP FOR SCIENCE'

LIYSF

THE LONDON INTERNATIONAL YOUTH SCIENCE FORUM (LIYSF)

Founded in 1959, LIYSF aims to give a deeper insight into science (STEM) and its applications, for the benefit of humankind and to develop a greater understanding between young people of all nations.

LIYSF is an impartial, accredited not-for-profit social enterprise. We are part of a diverse international network of social enterprises – the Social Enterprise Mark is an independent guarantee that we put the interests of people and the planet above financial gain.

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Professor Clare Elwell: [2018 – Present]

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**bold typography denotes Nobel Prize winners.*

Memorial Scholarships awarded to commemorate
George McGowan, John Needle & Tim Rooke

Former Directors
George McGowan & John Needle

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HRH
THE PRINCESS ROYAL

BUCKINGHAM PALACE

As Patron of the London International Youth Science Forum, it gives me great pleasure to welcome you to this, the sixty-sixth edition.

There is an immeasurable value in assembling here in person, not merely to absorb knowledge, but to form lasting bonds with fellow young students from every corner of the globe. The experience that lies ahead over the coming two weeks is one of profound connection. You are about to create your own international fellowship, united not only by a shared curiosity but by the noble pursuit of science itself. It is often through such common purpose that the strongest ties are forged - ties that transcend borders, languages, and cultures, becoming lifelong sources of inspiration and collaboration.

In our modern era, the relevance of scientific discovery and technological advancement to the well-being and progress of humanity has never been more acute. As participants of this Forum, you will gain remarkable insights into how science shapes our world for the better.

May you take full advantage of the extraordinary opportunities before you. Engage deeply, listen intently and contribute generously. The connections you make here, both intellectual and interpersonal, will endure long after the Forum concludes.

I hope that you enjoy and make the most of your time at LIYSF over the coming two weeks.

Anne

HRH The Princess Royal
Royal Patron of the London International Youth Science Forum

The Prime Minister

2024 - PRESENT

10 DOWNING STREET
LONDON SW1A 2AA

I am delighted to welcome you all to this year's London International Youth Science Forum (LIYSF).

LIYSF's mission to empower young people through science resonates strongly with the UK's commitment to fostering innovation, creativity, and global collaboration. It is inspiring to hear how past participants have been shaped by their experiences here, and how the Forum continues to nurture the next generation of scientists and engineers from the UK and around the world.

This year's theme, "Stand up for Science", could not be more timely. As we face complex global challenges, from climate change to public health, the need for innovative thinking and international cooperation has never been greater. This is why I am proud to support LIYSF in its mission to promote STEM education, international collaboration, and the pursuit of knowledge. Harnessing Science, Technology and Innovation will be essential for tackling the most complex global challenges of the future, from developing the next generation of nuclear tech and heat pumps to drive the transition to Net Zero, to using genomics, early detection, and personalised medicine to keep people healthier for longer.

I have seen first-hand the ways that AI is already transforming our healthcare service, for example by rapidly pinpointing the exact location of blood clots in stroke patients - and this is just the beginning. I am really excited for the future and important role that this year's LIYSF participants will play, whether that is making the transformational discoveries we have not even conceived of yet, working in industry to translate science into real-world technologies, or bringing your innovative and analytical way of thinking into public service roles.

Please accept my warmest regards and best wishes for a successful and inspiring forum,
and the exciting opportunities it will provide for you all.

Sir Keir Starmer
The Prime Minister

Welcome

LIYSF

We are delighted to welcome you to the 66th London International Youth Science Forum, whether you're joining us in London or tuning in from across the globe. Get ready to embark on an unforgettable journey of scientific discovery, debate, and global connection.

This year's theme – *Stand Up for Science* – calls on all of us to be champions of truth, curiosity, and innovation. Science is shaping our world more than ever, from personalised medicine and artificial intelligence to clean energy and climate resilience. These complex challenges demand creative thinking, international cooperation, and cross-disciplinary collaboration, principles that have defined LIYSF for over 60 years.

Over the next two weeks, you'll have the opportunity to engage directly with world-renowned scientists and explore their pioneering work. But this isn't just about listening, it's about questioning, challenging, and expanding your perspective. The Forum is your platform to speak up and share ideas. You will stand together with fellow young scientists from over 90 countries, united by a shared passion for science and its power to drive and deliver positive change in our world.

Make the most of every moment, immerse yourself in the lectures, workshops, cultural exchanges, and discussions. Push boundaries. Ask bold questions. Build friendships and collaborations that will stay with you for life.

At LIYSF, everyone belongs. You are now part of a vibrant, global family that believes in science for a better world.

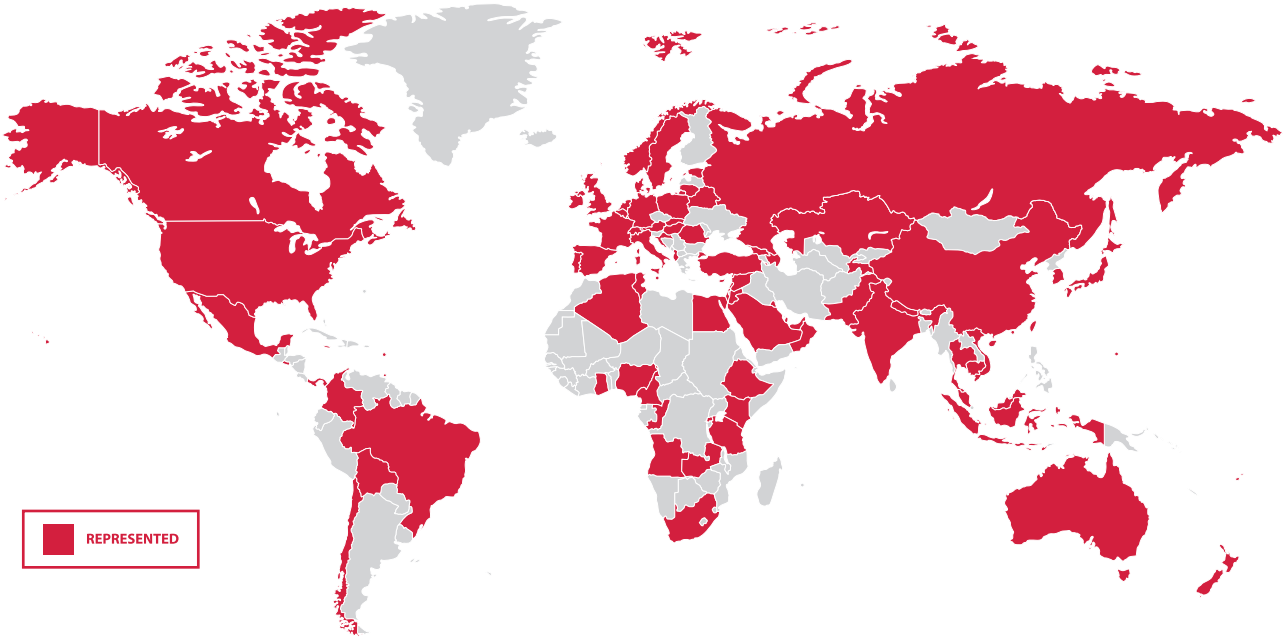
So let's get started – and let's stand up for science.

We're thrilled to have you with us. Let's change the world.

Professor Clare Elwell
President

Richard Myhill
Chief Executive

90 REPRESENTED COUNTRIES & TERRITORIES



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THAILAND
TRINIDAD AND TOBAGO
TUNISIA
TURKEY
UNITED ARAB EMIRATES
UNITED STATES OF AMERICA
VIETNAM
WALES
ZAMBIA

SCHEDULE OF EVENTS

	Morning	Afternoon	Evening
Wednesday 23rd July		Arrivals	Welcome Talk & Introductions
Thursday 24th July	Opening Ceremony & Keynote Address – **Professor Sir David MacMillan** & LIYSF President Welcome **Professor Clare Elwell**	Principal Lecture Demonstration – **Professor Kevin Fenton CBE** and LIYSF Merchandise Sale	**Molecular Mixer** – An LIYSF Science-Themed Ice Breaker
Friday 25th July	Visits to Research & Scientific Establishments in London	Principal Lecture Demonstration – **Professor Sir Steven Cowley**	Great Crossword Treasure Hunt
Saturday 26th July	Principal Lecture Demonstration – **Professor Dame Sarah Gilbert DBE**	**The Science Forum Bazaar** – Student Project Poster Board Event	Optional Guided Coach Tour of London
Sunday 27th July	Optional Visit to Stonehenge or	Hampton Court Palace	Debate Evening – **Dr Jason Nurse**
Monday 28th July	Specialist Lectures	Principal Lecture Demonstration – **Professor Michele Dougherty CBE**	Student Topics & Science Communication
Tuesday 29th July	Day Visits to Research & Scientific Establishments	Day Visits to Research & Scientific Establishments	Principal Lecture Demonstration – **Professor Ruth Misener**
Wednesday 30th July	Specialist Study Day led by **Professor Freya Blackman**	Specialist Study Day led by **Professor Freya Blackman**	Optional Theatre Night
Thursday 31st July	Day Visits to Oxford & Cambridge Research and Scientific Establishments	Day Visit to Oxford & Cambridge Research and Scientific Establishments	Rehearsals and Auditions
Friday 1st August	Alumni Specialist Lectures	Principal Lecture Demonstration – **Professor Nick Tyler CBE** & Museums	**International Cabaret** – Cultural Showcase Performance Evening
Saturday 2nd August	Principal Lecture Demonstration – **Dr Andrew Szydło**	Principal Lecture Demonstration – **Dr Gemma Bale**	LIYSF Sports Day Session
Sunday 3rd August	Optional Visits: Day Visit to Oxford or Day Visit to Cambridge	Tower of London	**Traditions of Home** – Sharing World Customs and Fashion Evening
Monday 4th August	Specialist Lectures	Optional Visits to Buckingham Palace and the London Eye	Optional Theatre Night
Tuesday 5th August	Student Debate Forum	Closing Keynote Lecture – **Professor Kelly Chibale**	Farewell Party
Wednesday 6th August	Departures		

Principal Lectures & Demonstrations | **Specialist Lectures** | **Scientific Visits** | **Social Programme** | **Optional Visits**

Keynote Address

THE PATH TO INVENTION AND DISCOVERY IN CATALYSIS

Professor Sir David MacMillan

Princeton University, USA

This lecture explores the development of asymmetric organocatalysis in Sir David W. C. MacMillan's laboratory. It covers key concepts such as chemical reactivity, catalysis, and molecular asymmetry, and examines how organocatalysis has influenced modern synthetic chemistry. The lecture highlights real-world applications of this work and discusses its role in pioneering a new area of research in the lab: visible light photoredox catalysis. Finally, it considers the broader impact of catalysis on the future of scientific research and its potential to benefit society.

Sir David W. C. MacMillan is the James S. McDonnell Distinguished University Professor of Chemistry at Princeton University and a Ludwig Distinguished Scholar. Born in Bellshill, Scotland, he earned his undergraduate degree at the University of Glasgow and completed his Ph.D. with Larry Overman at UC Irvine. After postdoctoral work with Dave Evans at Harvard, he held faculty positions at UC Berkeley and Caltech before joining Princeton in 2006. He shared the 2021 Nobel Prize in Chemistry with Benjamin List for developing asymmetric organocatalysis. In 2022, he was knighted by Queen Elizabeth II. His research centers on organocatalysis and photoredox catalysis.

He is the founder of the Princeton Catalysis Initiative, in which companies invest and can develop projects in conjunction with researchers from a wide range of areas, harvesting innovation and new knowledge. It currently involves 15 departments, 95 teaching staff, and six industrial partners. He hopes to see this type of partnership between academia and business gain space in Brazil, which would give a greater dimension to the excellence of the country's scientists and would contribute towards strengthening the pharmaceutical sector. His laboratory has played a part in the development of photoredox catalysis over the last 17 years, with more than 100 published works, of which more than 20 have been featured in Science or Nature. They aspire to continue to grow the chemist's synthetic toolbox of transformations that are novel yet highly adaptable across the many fields of science that rely upon molecule construction.

Principal Lectures & Demonstrations

24th July

A JOURNEY IN PUBLIC HEALTH LEADERSHIP, SCIENCE AND IMPACT

Professor Kevin Fenton CBE

Department of Health & Social Care

Professor Fenton will be discussing his decision to pursue a public health career and the values, priorities, challenges and opportunities that have shaped his journey to date. Linking the importance of science in public health practice, he will discuss the range of scientific opportunities available and its impact on the future of public health policy and practice.

Professor Fenton is the current President of The British Science Association (BSA). He is the Regional Director for London in the Office for Health Improvement and Disparities; the statutory public health advisor to the Mayor of London and the Greater London Authority, and the Regional Director of Public Health for NHS London. In addition, he is the President of the UK Faculty of Public Health and the UK government's Chief Advisor on HIV and Chair of the HIV Action Plan Implementation Steering Group to oversee the delivery of the new HIV strategy for England. Kevin focuses on tackling health inequalities, infectious disease prevention and control, climate justice and urban health.

25th July

FUSION ENERGY: WHY, HOW AND WHEN?

Professor Sir Steven Cowley

Princeton Plasma Physics Laboratory, USA

In a remarkable public lecture in 1920, Arthur Eddington speculated that fusion might become the ultimate long-term energy source. More than a century later, we are approaching the milestone of generating electricity from fusion for the first time. The US National Academies have urged that "the Department of Energy and the private sector should produce net electricity in a fusion plant in the United States in the 2035–2040 time frame." This is an ambitious goal—but recent breakthroughs in both magnetic and inertial fusion, combined with a surge of private-sector investment, suggest that success may be within reach. In this talk, Cowley will outline the progress made and the challenges that remain.

Steven Cowley, a theoretical physicist and international authority on fusion energy, became the seventh Director of the Princeton Plasma Physics Laboratory (PPPL) on July 1, 2018, and a Princeton professor of astrophysical sciences on September 1, 2018. Most recently president of Corpus Christi College and professor of physics at the University of Oxford in the United Kingdom since 2016, Cowley previously was chief executive officer of the United Kingdom Atomic Energy Authority (UKAEA) and head of the Culham Centre for Fusion Energy. He earned his doctorate at Princeton University in astrophysical sciences in 1985 and was a staff scientist at Princeton Plasma Physics Laboratory from 1987 to 1993. From 2011 to 2017 he was a member of the UK prime-minister's Council on Science and Technology. He is a Fellow of the Royal Society, the Royal Academy of Engineering and, was knighted by the Queen of England in June 2018.

26th July

STEP BY STEP VACCINOLOGY

Professor Dame Sarah Gilbert

University of Oxford

Vaccinology as a scientific field is over 200 years old. With modern technology we can theoretically develop, test and roll out novel vaccines in as few as 100 days in response to a novel pandemic threat. However, this is not possible or realistic for the majority of global diseases that scientists are developing vaccines for. In this lecture we discuss the decisions and challenges faced by vaccinologists when designing new vaccines, from target selection to picking the right technologies. Collectively these decisions influence whether a given vaccine will achieve is intended purpose, to stimulate a protective immune response in individuals who receive it.

Professor Dame Sarah Gilbert is the Saïd Professorship of Vaccinology, based at the Pandemic Sciences Institute, University of Oxford. Professor Gilbert's chief research interest is the development of viral vectored vaccines for influenza and for many different emerging pathogens, including Nipah virus, MERS, and Lassa virus. Her work also focuses on the rapid transfer of vaccines into GMP manufacturing and first in human trials. She was the Oxford Project Leader for ChAdOx1 nCoV-19, known as the Oxford-AstraZeneca vaccine against COVID 19.

27th July

GENERATIVE AI: A CATALYST FOR PROGRESS OR A SOURCE OF PERIL?

Dr Jason Nurse

University of Kent

Generative AI, like ChatGPT, represents a groundbreaking advancement in technology, reshaping how we interact with information. This talk delves into the transformative potential of these systems, from enhancing creativity and productivity to revolutionizing industries. However, it also explores the darker side, addressing concerns like cyber security risks, ethical dilemmas, misinformation, and privacy issues. Join us as we unravel the complexities of generative AI, offering insights and sparking debate among young scientists about harnessing its power responsibly and ethically.

Dr Jason R. C. Nurse is an Reader in Cyber Security at the Institute of Cyber Security for Society (iCSS) and School of Computing at the University of Kent. He is also an Associate Fellow at the Royal United Services Institute (RUSI) for Defence and Security Studies, visiting academic at the University of Oxford, visiting Fellow in Defence and Security at Cranfield University, a professional member of the British Computer Society, a research member of Wolfson College Oxford and a member of the Security Awareness Special Interest Group (SASIG).

28th July
JUICE, THE MISSION TO JUPITER'S ICY MOONS

Professor Michele Dougherty

UK Research and Innovation (UKRI)

JUICE – JUpiter ICy Moons Explorer – launched in April 2023. It will spend at least three years conducting detailed observations of the giant gaseous planet Jupiter and three of its largest moons: Ganymede, Callisto and Europa. Iconic missions to the outer solar system such as Voyager 1 and 2, Galileo and Cassini gave us close views of the giant planets' moons. Once considered cold, inactive mixtures of ice and rock, we now recognise these distant moons as planet-like worlds with complex histories. While the search for life in the universe once focused on Earth-like planets with atmospheres and surface water, icy moons with hidden subsurface oceans have opened new frontiers. Jupiter's largest icy moons, Europa, Ganymede and Callisto, all show signs of underground liquid water. On Earth, life is known to thrive near deep ocean hydrothermal vents. Could life similarly exist in the dark ocean floors of these moons? The European Space Agency's most ambitious mission to date aims to find out.

Professor Michele Dougherty CBE FRS FRAS is Executive Chair of the Science and Technology Facilities Council, part of UK Research and Innovation. She is a Fellow of the Royal Society and Professor of Space Physics at Imperial College London. She served as Principal Investigator for the magnetometer aboard NASA's Cassini mission to Saturn, and now leads the same instrument on JUICE. Her pioneering contributions to space science have earned numerous accolades, including the Royal Astronomical Society's Gold Medal in Geophysics, the Institute of Physics' Richard Glazebrook Gold Medal, and a CBE. She is President-Elect of the Institute of Physics and will take office in autumn 2025.

29th July
DUALITY THEORY

Professor Ruth Misener

Imperial College London

Optimisation is deeply embedded in the systems that shape our daily lives. It determines how vehicles are routed in supply chains, how timetables are managed, and how resources are allocated efficiently. Yet real-world problems are often extremely complex and difficult to solve. One of the most powerful tools in computational optimisation is the concept of duality, or, as Professor Ruth Misener describes it, "turning the mathematics inside out". In this lecture, Professor Misener will explain how duality works in practice, combining theoretical insights with real-world examples. She will also show how novel approaches to duality have sparked major breakthroughs in computer science, including in the field of machine learning.

Professor Ruth Misener is Professor of Computational Optimisation at Imperial College London, where she holds the BASF / Royal Academy of Engineering Research Chair in Data-Driven Optimisation. In 2017, she was awarded the MacFarlane Medal as overall winner of the RAEng Young Engineer Trust's Engineer of the Year competition. She also received the 2023 Roger Needham Award from the British Computer Society. Ruth leads a research group at Imperial that focuses on the intersection of optimisation and machine learning. Her team developed the Optimisation and Machine Learning Toolkit (OMLT), which won the 2022 COIN-OR Cup for outstanding contributions to open-source operations research software. Her work bridges rigorous mathematical theory and practical software engineering to deliver real-world impact across science, technology and industry.

1st August
AND YET IT MOVES...

Professor Nick Tyler CBE

University College London

Over the past 150 years or so science has climbed into an ever-narrowing world of disciplinary barriers. However, there is no single disciplinary lens that can help us understand the complex world we live in, so we have to break down those barriers and create a new way of looking at reality. Professor Nick Tyler created his laboratory to explore this transdisciplinary world to find a life of meanings that shape the way we face the world and each other. This is a laboratory to create worlds and explore how people respond to them. What happened next?

Nick Tyler CBE FREng is the Chadwick Professor of Civil Engineering at UCL and the Director of the UCL Centre for Transport Studies. Using his musician background, Nick is seeking to explain how we perceive and act in the worlds we encounter. To do this he has created a £50M massive (44,000m3) multiscale multisensorial Person-Environment-Activity Research Laboratory (PEARL) to allow him and his team to study the interactions of environments, people and their activities at life-scale, from axons and dendrites to complex urban environments and vehicles. Nick is a Fellow of the Royal Academy of Engineering, the Institution of Civil Engineers, the Chartered Institution of Highways and Transportation, and the Royal Society of Arts, was appointed CBE in 2011, and awarded the CIHT Institution Award in 2022.

2nd August
HISTORICAL HIGHLIGHTS OF CHEMISTRY

Dr Andrew Sydło

Highgate School

This lecture will look to insights into historical aspects of chemistry, considering this branch of science and how it has evolved over the ages. The lecture will consider; early ideas of the elements – Chinese, Arabic, Ancient Greek; the alchemists and their belief in transmutation; some insights into the history of the discovery of oxygen; the states of matter, particles, energy, the liquefaction of gases and the discovery of fluorine, and redox chemistry of the halogens.

Andrew Z. Szydło has a PhD in the History and Philosophy of Science (University College, London), and is an expert on the history of alchemy. His book "Water Which Does Not Wet Hands" (1994) is considered to be the standard reference work on the Polish alchemist, Michael Sendivogius. He is an internationally acclaimed teacher and demonstrator of the chemical sciences and teaches at Highgate School in North London.

Keynote Closing Lecture

2nd August
ILLUMINATING THE BRAIN

Dr Gemma Bale

University of Cambridge

Gemma is a medical physicist who creates optical technology to monitor the brain, both its activity and health, in spaces where conventional brain monitors won't fit: from monitoring newborn brain injury in intensive care, to understanding dog cognition, to searching for a biomarker of dementia. This lecture will illuminate the science and engineering behind this technology - using live demos - and take an in-depth look into the future of brain monitoring.

Dr Gemma Bale is the Gianna Angelopoulos Lecturer in Medical Therapeutics, leading the Neuro Optics Lab in the Departments of Engineering and Physics at the University of Cambridge. Her Lab is focused on pioneering optical tools to monitor relevant physiology for both basic science and medical applications and translating them into clinical research and practice. Gemma is an award-winning science communicator and is passionate about making science and engineering more accessible. Honorary Lecturer in Medical Physics at University College London

5th August
FAILING YOUR WAY TO SUCCESS

Professor Kelly Chibale

University of Cape Town, South Africa

This lecture will describe Professor Kelly Chibale's scientific journey from his undergraduate studies in chemistry to his first job in industry followed by doctoral (PhD) and postdoctoral research training in the art and science of making molecules (organic synthesis). Professor Chibale will then describe the research he currently does, why he does it and its impact. He will then finish off by going into details about challenges (personal and professional) that he has experienced and lessons learnt from these challenges, as well as give final remarks by providing words of advice based on his experiences.

Kelly Chibale is a Professor of Organic Chemistry at the University of Cape Town (UCT) where he holds the Neville Isdell Chair in African-centric Drug Discovery & Development. He is also a Schmidt Sciences AI2050 Senior Fellow, Full Member of the UCT Institute of Infectious Disease & Molecular Medicine, founding Director of the South African Medical Research Council Drug Discovery & Development Research unit at UCT, Founder & Director of the UCT Holistic Drug Discovery and Development Centre (H3D), and Founder & CEO of the H3D Foundation.

Specialist Lectures - 28th July

28.1 An introduction to automated vehicles design

Dr Amina Hamoud

University of the West of England

This lecture will provide a basic yet comprehensive introduction to the fundamental principles underlying automated vehicle systems design. Through theoretical foundations and practical case studies, students will gain understanding of how various subsystems work together to create safe, reliable automated vehicles while exploring and examining current industry challenges and emerging technologies in the space of autonomous vehicles.

Dr Hamoud is a Senior Lecturer in Systems Engineering at the University of the West of England. She is the EDI co- Lead for the School of Engineering and lead the Bristol Robotics Lab Connected and Autonomous Vehicles (BRL CAV) research group. Prior to joining UWE, Dr Hamoud worked as a Research Engineer for an Automotive Consultancy where her focus was towards developing safe Autonomous Vehicles and Intelligent Transportation Systems while completing her PhD at Loughborough University in the same area. She currently leads on several projects all under the umbrella of AI and Transport autonomy across road, air and maritime.

28.2 We are living in a microbial world, and I am a microbial girl/guy

Professor Colin Hill

University College Cork, Ireland

We are simply visitors to a world shaped by microbes. Microbes are responsible for the oxygen we breathe, for the growth of the crops that sustain us, for the recycling of waste, and for maintaining animal and human health through our microbiomes. We have as many microbes as human cells in our bodies, and this microbial 'virtual organ' acquired at birth stays with us for life. In this lecture I will try to convey some of the excitement in this multidisciplinary field of science, the promise of new therapies and strategies to sustain health and prevent and treat disease.

Colin Hill has a PhD in molecular microbiology and is a Professor in the School of Microbiology at University College Cork, Ireland. He is also a founding Principal Investigator in APC Microbiome Ireland, a large research centre of over 300 scientists devoted to the study of the role of the gut microbiota in health and disease. He is particularly interested in the effects of bacteriocins and bacteriophage on community structure and function. He has published more than 650 papers and holds 25 patents. In 2009 he was elected as a Member of the Royal Irish Academy, the highest honour for an Irish academic. In 2010 he became a Fellow in the American Academy of Microbiology and in 2010 he was jointly awarded the Elie Metchnikoff Prize for Microbiology. More than 80 PhD students have been trained in his laboratory.

28.3 DUST ON THE LONDON UNDERGROUND

Dr Justie Mak

Imperial College London

What's in the air we breathe and how does it affect our health? This lecture explores air pollution both above and below ground, with a focus on dust exposure in the London Underground. We'll look at how scientists study the health effects of occupational dust exposure, from collecting data to analysing results. We'll also explore how we can use existing data to help answer big public health questions. Come and discover how research can help protect workers, and what it's like to investigate real-world environmental health issues.

Dr Justie Mak is a post-doctoral Research Associate at the National Heart and Lung Institute, Imperial College London. She is an epidemiologist whose research spans a range of health outcomes, with a focus on respiratory diseases, especially in low- and middle-income countries. She completed her PhD at Imperial College's School of Public Health in 2025, where she investigated at the risk of occupational exposure to subway particulate matter on cardiorespiratory health in London Underground workers.

28.4 SEARCHING FOR NEW FUNDAMENTAL INTERACTIONS

Dr Luca Mantani

University of Valencia

From ancient philosophers to modern scientists, our understanding of natural phenomena relies on the concept of interactions among fundamental constituents of reality. This concept evolved over time, culminating in the construction of the most successful theory in history: the Standard Model of Particle Physics, which describes Nature at the subatomic scale. In this lecture, Dr Luca Mantani will guide you through the formulation of this model, which relies on two staples of modern science: special relativity and quantum mechanics. He will demonstrate why, despite its success, it cannot be the final theory and will discuss current efforts to discover new interactions at the Large Hadron Collider.

Dr Luca Mantani is a researcher in theoretical particle physics at the University of Valencia, with a broad interest in understanding the fundamental structure of Nature. Specifically, Dr Luca is an expert in particle collider phenomenology and the focus of his research is the identification of novel interactions among fundamental particles. Additionally, he actively conduces Dark Matter research, with a particular emphasis on indirect detection and collider production.

28.5 DESIGNING AI TO ADDRESS GLOBAL CHALLENGES

Dr Shakir Mohamed

University College London

While many are familiar with generative AI through platforms like ChatGPT, AI possesses a flexibility that allows it to be developed for many different uses and problems. This flexibility means that we can make deliberate choices about what to focus on when developing and using AI, particularly in designing AI with a public purpose to address global challenges. Today, AI encompasses many fields, including science, engineering, product design, economics, and politics. In this talk, Mohamed aims to provide a broad overview of this dynamic and exciting field, with a focus on the scientific and engineering aspects of AI design. He will specifically concentrate on two areas: learning and education, and weather and climate.

Shakir Mohamed works on technical and sociotechnical questions in AI research and development, working on problems in foundational AI, applied problems in healthcare, education and environment, and participation and responsibility. Shakir is a Research Director at Google DeepMind in London, an Associate Fellow at the Leverhulme Centre for the Future of Intelligence, and an Honorary Professor of University College London. Shakir is a founder and trustee of the Deep Learning Indaba, a grassroots charity whose work is to build pan-African capacity and leadership in AI. In 2023, Shakir was included in the TIME 100 most influential people in AI. He serves on several boards, including the oversight board of the Ada Lovelace Institute, as the Chair of the international scientific advisory committee for the pan-Canadian AI strategy, the Royal Society Diversity and Inclusion committee, and the AI field's leading conferences (ICLR, ICML, NeurIPS). Shakir is from South Africa, he completed a postdoc at the University of British Columbia, received his PhD from St John's College in the University of Cambridge, and received his masters and undergraduate degrees in Electrical and Information engineering from the University of the Witwatersrand, Johannesburg.

28.6 RADIOACTIVITY: THE GLOWING FUTURE?

Louise Natrajan

University of Manchester

Shortly after the discovery of radioactivity, it was considered a health benefit to humans yet nowadays, we now consider most radioactivity to be harmful. Radioactivity is all around us and is important in our everyday lives. However, since we are unable to see radiation, several fears about its use exist. This is particularly true for electricity generated from nuclear fission from uranium targets. Given the current global shift to investing in new nuclear power, unravelling the chemistry of radioisotopes is paramount to identifying and following the movement of the radioactive waste products in the environment. Radioactive wastes are medically useful. Dr Louise Natrajan will discuss several myths surrounding radioactivity and show that we can utilize the fluorescence of uranium to help clean up nuclear wastes in the environment and source medically useful radioisotopes.

Dr Louise Natrajan is a Reader in Inorganic Chemistry at the University of Manchester. She obtained her MChem degree at the University of York and PhD in inorganic chemistry at Nottingham University, after which she took up postdoctoral positions at the CEA, Grenoble France, and the University of Manchester. She was awarded an EPSRC Career Acceleration Fellowship in 2009, where she began her independent career at Manchester. She has successfully carved out a prominent cross-disciplinary niche focussing on the coordination chemistry and photophysical properties of the lanthanides and actinides. Her work has advanced fundamental inorganic chemistry and spectroscopy and has helped deliver practical tools for f-element recovery, environmental monitoring, healthcare sensing, and nuclear safety.

28.7 MY JOURNEY FROM AIR QUALITY TO STEM EQUITY

Dr Mark Richards

Imperial College London

This talk follows Dr. Mark Richards' path into climate research, and will cover several aspects across the physical sciences, engineering, innovation, and eventually science policy. Additionally, it is rarely considered that some of these same problem-solving approaches and techniques can also be utilised to address aspects of equity within STEM.

Dr Mark Richards has a BSc in Chemistry, and a PhD in Physics from Imperial College London. His research centred on the spectroscopic study of nitric acid vapour for atmospheric remote sensing retrievals. After working in finance for a while, Mark returned to Imperial as a Post Doctoral Researcher within the High Energy Physics Group, to manage a Technology Transfer program. He has since co-founded an Imperial spin-out technology business - specialising in wireless air sensor networks for real-time pollution mapping. Currently, Mark is the Deputy Admissions Tutor for the physics department, and Principle Investigator of a physics education research (PER) project called Strengthening Learning Communities.

28.8 THE CYTOSKELETON AND CANCER METASTASIS

Professor Victoria Sanz-Moreno

Institute of Cancer Research

Victoria Sanz-Moreno holds degrees in Chemistry and Biochemistry from the University of Oviedo and earned her PhD in Chemical Sciences from the University of Cantabria, studying Ras-MAPK signalling. She joined Professor Chris Marshall's lab at The Institute of Cancer Research as a Marie Curie Intra-European Postdoctoral Fellow and received the Applied Biosystems and EACR Research Award for her work on Rho GTPase signalling in cancer. In 2011, she began her independent research with a CRUK Career Development Fellowship at King's College London, later receiving a CRUK Senior Fellowship to investigate Rho kinase in cancer progression. She has been recognised with the BSCB Women in Cell Biology Medal and featured in Journal of Cell Science and Journal of Cell Biology.

In 2018, Victoria was appointed Professor of Cancer Cell Biology at Barts Cancer Institute, Queen Mary University of London. She was featured in the "Ruta de las Cientificas" STEM project in 2021, and in 2022 received the Estela Medrano Memorial Award, Queen Mary's VP Award for Research Excellence and the Barts Cancer Institute Research Impact Award. In 2023, her lab moved to the Breast Cancer Now Toby Robins Research Centre at The Institute of Cancer Research. Her research focuses on cytoskeletal dynamics in cancer metastasis, integrating cell biology, OMICs, mouse models and digital pathology to uncover new therapeutic targets. She is deeply committed to science communication and promoting diversity in research.

Specialist Study Day - 30th July

30.1 Understanding the data from the Large Hadron Collider

Professor Freya Blekman

DESY & University of Hamburg, Germany

Ever wondered about why the 27 kilometer Large Hadron Collider was built and what scientists do with it? Then this is the talk for you! The collider is the Swiss army knife of experiments, and investigates anything from new particles and forces to the birth of the universe. As one of the physicists who works with the enormous detectors that record the collisions of the Large Hadron Collider, Freya will not only convince you that particle physics is necessary and interesting for everyone (including tax payers), but also on the fun and social aspects of this exceptional human effort to understand the building blocks of matter.

Freya Blekman is a lead scientist at the German physics laboratory DESY and a Helmholtz Distinguished Professor of Physics at the University of Hamburg. She holds additional chairs as guest professor at Oxford University and Vrije Universiteit Brussel. She works at CERN, where she uses the data from the Large Hadron Collider, collected with the enormous Compact Muon Solenoid (CMS) experiment, to search for undiscovered physics processes and new particles. Blekman is also responsible for the communication to the outside world of the 130+ papers per year by the 3000+ person strong CMS Collaboration and has won multiple prizes for her science and for science communication.

30.2 Engineering sustainably

Professor Paul Hellier

University College London

Decades of expanding fossil fuel utilisation have resulted in devasting climate change and toxic air quality, negatively impacting environments and public health across the world. A sustainable global future that prevents the extreme impacts of greenhouse gas emissions urgently requires that energy from fossil fuels is replaced by renewable net-zero alternatives. Truly sustainable fuels must also address the pollutants and health impacts that arise from combustion engines across transport and energy sectors.

In this lecture, Professor Paul Hellier shares his research and passion for engineering responses to the global challenges of sustainable energy and air quality. Via excretion from algae, spent coffee grounds, waste wood and literal zero-carbon, he highlights the potential for maximising the benefits of renewable energy sources and reducing emissions of toxic pollutants through re-imagining and engineering future sustainable fuels. Paul Hellier is Professor of Sustainable Energy Engineering at the Department of Mechanical Engineering, University College London (UCL). With a first degree in Environmental Engineering, since completing his PhD at UCL focusing on the molecular structure of future fuels he has worked with partners across industry, academia and public authorities in the development of sustainable net-zero fuels with organisations involved in waste valorisation and fuels production, emissions control and the assessment of health impacts from combustion. Paul's research group focuses on the development of novel renewable fuels across transport sectors (road, marine and aviation), investigating in practical engines effects of fuel chemical composition on combustion and emissions.

30.3 WHAT'S SO SPECIAL ABOUT RELATIVITY?

Raymond Isichei

Imperial College London

This year marks the 120th anniversary of Albert Einstein's Annus Mirabilis (Miracle Year). In 1905 Einstein published four papers on different concepts which completely changed the way we understand the universe. The most revolutionary of these concepts was Einstein's Theory of Relativity. For thousands of years humans were mostly ignorant about space and time. For hundreds of years humans considered space as where things exist and time as being absolute and independent of space. Einstein's breakthrough was not to consider them as separate, but to consider them a unified fabric. To fully appreciate Einstein's revolution and it's incredible consequences, we're going to travel through time and space to understand space-time!

Raymond is a 2nd year PhD student in theoretical physics at Imperial college London. His research attempts to understand the mysterious relationship between gravity and thermodynamics in a variety of contexts such as black holes and cosmology. In 2023 Raymond was awarded one of only ten Bell-Burnell Graduate Scholarships in the UK by the Institute of Physics. These scholarships are awarded to highly talented students from underrepresented groups in physics to pursue a PhD in physics. Prior to PhD, Raymond completed his MSc in theoretical physics at Imperial College London where he awarded the Bayforest Technologies LTD prize for the best MSc dissertation across all physics courses.

30.4 REWIRING THE BRAIN AFTER CRITICAL ILLNESS

Dr Gideon Johnson

King's College London

What happens to the brain when someone survives intensive care? Why do some patients emerge confused, changed, or emotionally broken? In this immersive and thought-provoking session, Dr Gideon Johnson explores the hidden aftermath of critical illness, delirium, cognitive dysfunction, and emotional trauma, and how human connection, family involvement, and artificial intelligence are shaping recovery. Drawing on cutting-edge research and lived ICU stories, this session challenges students to rethink what survival means and how science, compassion, and technology can work together to heal the brain. Come ready to engage, reflect, and imagine the future of global health and human-centred care.

Dr Gideon Ugochukwu Johnson is a postdoctoral researcher, critical care nurse scientist, assistant professor and founder of the CIBS+ programme in the UK. Recognised internationally for his pioneering work on brain dysfunction and ICU recovery, he blends science, storytelling, and artificial intelligence to improve outcomes for critically ill patients and their families. A UN Peace Ambassador and speaker across four continents, Gideon completed his PhD in Brain Dysfunction and now leads work to personalise ICU survivorship using digital innovation. He is currently based at King's College London.

30.5 FORENSIC SCIENCE: CHALLENGES, BREAK-THROUGHS & WHAT NEXT?

Professor Ruth Morgan

UCL Centre for the Forensic Sciences

Forensic science is a technological success story, the last 25 years have seen unprecedented developments in our capabilities to establish what a trace is and who it has come from. Yet, we still witness miscarriages of justice and challenges to the use of science in the service of justice. This lecture will take us on a journey to explore forensic science, why these challenges exist, what the root causes of those challenges are , and how research is helping us to solve these challenges in the real world.

Ruth Morgan is Professor of Crime and Forensic Science, the Founder and Director of the UCL Centre for the Forensic Sciences, and Co-Founder and Co-Director of the UCL Arista Institute (a collaboration between the faculties of Engineering Sciences and Arts + Humanities). Ruth works at the intersection of science, technology and the humanities, with a focus on real world challenges and impact. She has acted as a Specialist Advisor to the House of Lords Science and Technology Committee during their inquiry into Forensic Science, was elected a World Economic Forum Young Scientist, and a member of World.Minds, and she serves on the Frontiers Policy Labs editorial board.

30.6 WHY SCIENTISTS SHOULD ALSO BE REVOLUTIONARIES

Professor David Nutt

Imperial College London

In this lecture, David Nutt will explore examples from history and his own present day research why scientific advances often require challenging irrational and un-scientific rules and regulations. However to do this requires courage and resilience and the support of colleagues, but can make a real difference in the way science progresses.

David Nutt is currently the Edmond J. Safra Professor of Neuro-psychopharmacology and director of the Neuro-psychopharmacology Unit in the Division of Brain Sciences. He trained at Cambridge, Guys Hospital, Oxford University and NIH in the USA. His research focuses on how drugs work in the brain and the mechanisms underpinning psychiatric disorders particularly addiction and depression. He has published over 700 research papers, 36 books and 8 government reports. He founded the charity Drug Science in 2009 and won the John Maddox prize for standing up for science in 2013. David is currently Chair of DrugScience (formally the Independent Scientific Committee on Drugs (ISCD) and President of the European Brain Council. Previously he has been President of the European College of Neuropsychopharmacology (ECNP), the British Neuroscience Association (BNA) and the British Association of Psychopharmacology (BAP). He is a Fellow of the Royal Colleges of Physicians and of Psychiatrists and a Fellow of the Academy of Medical Sciences. He is the UK Director of the European Certificate and Masters in Affective Disorders Courses and a member of the International Centre for Science in Drug Policy. In 2010 The Times Eureka science magazine included him in the 100 most important figures in British Science, and the only psychiatrist.

30.7 AN OVERVIEW OF COMPUTATIONAL LINGUISTICS

Dr Maximiliana Behnke

Microsoft

This talk explores the evolution of computational linguistics, beginning with early machine translation efforts during the 1950s and tracing the field's development to today's AI-powered chatbots. We'll examine key milestones, shifting approaches—from rule-based systems to deep learning—and how these advances have shaped the way machines process human language. This session offers an engaging overview of how language and technology have grown together.

Maximiliana Behnke is a Senior Research Scientist at Microsoft, where she focuses on optimization of large-scale natural language processing systems. With a PhD from the University of Edinburgh and experience across academia and industry, her work focuses on making AI models faster, smaller, and more efficient—paving the way for more accessible and sustainable AI.

30.8 PATHOGENS, PENGUINS AND THE PLANET

Dr Jane Usher

University of Exeter

This lecture explores the emerging threat of fungal pathogens in the context of antimicrobial resistance (AMR) and climate change. Fungi are evolving rapidly, with rising global temperatures expanding their range and virulence. Antarctica, once thought isolated, now reveals critical insights into microbial evolution under extreme conditions. We will examine how climate-driven environmental shifts may foster novel resistant strains and facilitate global spread. Understanding fungal dynamics in such remote ecosystems is key to forecasting global AMR trends and developing effective mitigation strategies in a warming world.

Dr. Jane Usher is a Senior Lecturer in Medical Mycology at the University of Exeter's MRC Centre for Medical Mycology. Her research focuses on the human fungal pathogen Candida glabrata, which poses significant health risks, particularly to immunocompromised individuals. Dr. Usher investigates the mechanisms behind this pathogen's resistance to antifungal treatments and immune responses by sequencing the genomes of highly resistant strains, aiming to enhance understanding and inform the development of more effective therapies. Dr. Usher earned her PhD in Eukaryotic Gene Regulation from Trinity College Dublin in 2007, following an MSc in Molecular Medicine and a BSc in Biology & Statistics. Her postdoctoral research includes positions at Trinity College Dublin and the University of Ottawa. In 2022, she was awarded a prestigious BBSRC Discovery Fellowship, recognizing her potential as a future research leader. Beyond her research, Dr. Usher actively engages in public science communication, participating in initiatives like the "Researching Resistance" exhibition during World Antimicrobial Awareness Week, which highlights the global challenge of antimicrobial resistance.

Alumni Specialist Lectures - 1st August

1.1 THE IMPACT OF HYDROGEN FUEL TECHNOLOGY

Maurice Brown – LIYSF 1986

Utrecht University, The Netherlands

The Hydrogen fuel cell has been around since 1839. This relatively obscure, but highly valued technology, helped power the United States Space Programme from the 1960's and still today. The technology holds great promise, as it presents a real alternative to fossil fuel energy. However, the industry will face a tough future. Promoters of this energy source must master the learning curve of the energy industry, if it is to become a feasible alternative. How does this technology work, what are its applications and what problems does it face as an industry?

Maurice Brown is from Kingston, Jamaica, studying at Campion College and the College of Arts Science and Technology. He moved to the Netherlands in 1994 and completed his Bachelor's degree in International Business Administration and Master's Degree in Business Management. He became a consultant to the aviation industry and later, held financial positions in various international companies. Currently, he is lecturer in Finance and Business Strategy at the University of Applied Sciences, Utrecht, (Netherlands) and is owner of a small company looking into promoting and exporting to developing countries.

1.2 COMPLEXITY SCIENCE - THE STUDY EMERGENT BEHAVIOURS

Enrico Caprioglio – LIYSF 2016

University of Sussex

Complex systems are characterised by collective properties that transcend those of their individual components. In other words, “the whole is greater than the sum of its parts.” In this lecture, Enrico Caprioglio will introduce the fundamentals of information theory—entropy and mutual information—and recent advancements that attempt to formalise the concept of emergence. This novel framework defines synergistic information: higher-order statistical interdependencies that arise exclusively at the collective level. The lecture will include some typical examples of this, how a detective can use synergistic information to solve murder cases, and how the human brain displays intricate emergent patterns of neuronal activity.

Enrico Caprioglio was born in Italy and, after participating in the 2016 LIYSF, he moved to the UK to study Physics. He earned his theoretical physics undergraduate and master's degrees at UCL and Imperial College London, where he specialized in quantum information theory and the theory of complexity. During these years, he returned to LIYSF as a staff member for 6 years, and co-authored a Classical Mechanics textbook published by the Institute of Physics. He is now finishing his PhD at the University of Sussex, where he uses complexity theory and computational modeling to try to understand brain function and organization.

1.3 HOW STEM CELLS SHAPE YOUR FUTURE

Licyel Paulas Condori – LIYSF 2019

University of Cambridge

In this lecture, Licyel will dive into the fascinating world of stem cells - what they are and their unique properties. She will explore how these cells "decide" their fate, the key molecular players involved, and the techniques scientists use to grow them in the lab. Attendees will also discover how stem cell research is unlocking mysteries of human development, one of biology's biggest "black boxes," and revolutionizing biomedicine, from disease modelling to cutting-edge therapies. Finally, the talk will include insights on how young scientists can get involved, with information on stem cell internships.

Licyel Lenny Paulas Condori is a Bolivian biologist currently pursuing a PhD. in Stem Cell Biology at the University of Cambridge, supported by two prestigious scholarships. She holds an MRes in Stem Cell Biology from the University of Cambridge and an MSc in Molecular Biology with honours from Belgium. Her research journey in stem cell biology began with an internship at the Harvard Stem Cell Institute (2018), where she gained hands-on experience in cutting-edge stem cell techniques. Beyond academia, she founded Microscopy for All (Microscopía Para Todos), an organization promoting STEAM (science, technology, engineering, arts, and mathematics) education for Bolivian high school students. Her work has been recognized through social impact projects in Bolivia, grants (including from the U.S. Embassy), and multiple awards. Notably, she was named one of Latin America's 100 Young Leaders in Biotechnology and has represented Bolivia at international scientific forums.

1.4 PHOTONICS SOLUTIONS TO TRANSFORM THE BRAIN

Clare Elwell – LIYSF 1984

University College London

Recent advances in neuroimaging have revolutionised how we study the human brain. One key innovation is near infrared spectroscopy, or NIRS: a portable, wearable and affordable optical method for imaging brain activity. In this lecture, Professor Clare Elwell will highlight how NIRS enables studies of brain oxygen metabolism in both infants and adults, supporting research into early autism markers and brain development. Its success in resource-limited settings has also established NIRS as a powerful tool in global health. Alongside these breakthroughs, Clare will explore the ethical considerations raised by the increasing accessibility of brain imaging and the data it generates. She will also discuss the important role of medical physicists in ensuring neuroimaging is used responsibly, both in clinical and international research contexts.

Clare Elwell is Professor of Medical Physics at University College London and Vice Dean for Impact at UCL Engineering. She develops optical brain imaging tools, with projects spanning infant development, autism, migraine and global health. She leads the BRIGHT project, which produced the first infant brain scans in Africa, and received a Brocher Foundation Fellowship in 2023 for her work on ethical neuroimaging. Clare is Past President of two major scientific societies and currently leads the London International Youth Science Forum. A Fellow of the Institute of Physics and the Royal Society for Arts, she also served as a British Science Association Media Fellow at the Financial Times. She founded the charity Young Scientists for Africa and in 2024 directed the UCL Festival of Engineering, which attracted over 10,000 attendees from industry, government and education.

1.5 PULLING BACK THE CURTAIN ON ENGINEERING PROJECT MANAGEMENT

Ndiuwem Essien – LIYSF 2013

Protolabs, The Netherlands

In today's world, the shape of manufacturing is changing rapidly, and the capabilities of what humans can achieve with AI are greater than most can imagine. The lecture will cover the career of an engineer today and the role of digital manufacturing across various industries, from space to sports science, turning ideas into reality. It will explore not only current and emerging technologies but also "old" techniques that still produce incredible and consistent results.

Ndiuwem (Simi) studied at the University of Nottingham where he graduated with a Bachelor's degree (Beng) in Mechanical Engineering an MSc in Aerospace Technologies with a focus on Manufacturing. On leaving university he worked as a Design Engineer for the Hydraulic division for 4 years at Parker Hannifin Ltd, focusing on sectional valve systems, new product design and improvements. Simi is currently a Project Management Team Lead at Protolabs, a leader in digital manufacturing, where he leads a team and co-ordinates the supply of high spec engineering parts to a global client base.

1.6 BORN PROTECTED: THE SCIENCE OF MATERNAL IMMUNITY TRANSFER

Dr Émer Hickey - LIYSF 2014

University of Exeter

Have you ever wondered how newborns are protected from infections right after birth? As placental mammals, pregnant women and their foetuses share an incredible connection during pregnancy, allowing the transfer of vital immune components. This fascinating process doesn't stop at birth; it continues through breastfeeding, providing newborns with crucial protection while their own immune systems are still developing. In this session, you will discover how immunity is transferred from mother to child during pregnancy and nursing. We'll dive into the transfer of immune cells, explore the intriguing development of microchimerism, and discuss how these processes help control infections in early life. Additionally, we will examine the emerging role of maternal vaccinations in extending neonatal immunity.

Dr. Émer Hickey is a Postdoctoral Research Fellow at the MRC Centre for Medical Mycology at the University of Exeter. Her research in the Horsnell Group focuses on understanding maternal immunity and its impact on mucosal infections caused by fungi, helminths, and bacteria. Émer first attended LIYSF as a student in 2014, where her enthusiasm for science flourished. She later returned as a staff member and served as Chief of Staff from 2019 to 2023. Today, she continues to contribute to LIYSF as a Scientific Advisor. In 2013, Émer and her teammates secured the top prize at BT Young Scientist and Technology Exhibition (BTYSTE). BTYSTE. Subsequently, the team represented Ireland at the European Union Contest for Young Scientists and the Google Science Fair, securing first place in both competitions. TIME magazine recognized Émer as one of the most influential teenagers globally. Throughout this period, she regularly spoke at outreach events such as WeDay, the Do Lectures, and Wired UK. Additionally, she presented a STEM documentary in collaboration with Coca Cola and VICE.

1.7 FUTURE-PROOFING OUR PLANET: THE RISE OF INDUSTRIAL CLIMATETECH

Simran Mohnani – LIYSF 2013

Deloitte UK

Climate intrapreneurship is about exploring alternative models to entrepreneurship; building green solutions in-house within a company's corporate venture labs, otherwise known as 'the innovation arm of the business'. Join Simran as she discusses how to build climate inventions, prototypes, MVPs (minimum viable products) and ventures by bringing together industry, academia and startups to decarbonise high-emitting sectors. Simran has worked across the innovation lifecycle: from designing bioreactors for cultured meat in R&D labs, to automating chocolate-cooling at the Cadbury chocolate factory, and digitising COVID-19 vaccine manufacturing to make factories go 'paperless'. This lecture will cover novel examples of industrial climatetech in our pursuit of Net Zero and how to build industrial green innovations at different scales.

Simran is a Chemical Engineer, Industry4.0 Consultant and ClimateTech Intrapreneur who leads Circular Economy Innovation for Deloitte UK. Prior to this, she has worked across R&D, manufacturing and consulting in designing net-zero manufacturing systems of the future: from cultured meat scaleup to lean chocolate-making and digitised COVID-19 vaccine production. She was the Malta 2013 delegate to LIYSF and credits the forum with her love and discovery of Chemical Engineering. Also a STEM ambassador, student mentor and panel speaker, she is internationally recognised for her work championing women in tech and engineering, and now serves as a One Young World ambassador, World Economic Forum Global Shaper, and UN Women volunteer in championing youth voices on climate action and educational access. She has been recognised as one of the UK's TechWomen100, JCI Malta's Top 10 under 40, Salters' Top 5 UK Chemical Engineers and the UK's Asian Woman of Achievement, and this year will be moving to the University of Stanford to pursue her MBA as an elected Fulbright scholar.

1.8 PROJECT EARTH: HOW CAN WE SUPPORT YOU TO BUILD A BETTER FUTURE

Professor Becky Parker – LIYSF 1978

Queen Mary, University of London

Project Earth is a climate accelerator for young people, empowering and supporting them to innovate. It offers advice to bring ideas to fruition and to showcase phenomenal creativity in tackling climate change and biodiversity loss. Project Earth is affiliated with the Earthshot Prize and supported by a brilliant group of expert advisors https://projectearth.global/advisors/.
In June 2026, Project Earth will be hosting 'Pitch for the Planet' at the Royal Institution. This is an opportunity for students from across the world to pitch ideas to an audience of investors, advisors, and special guests in person or online. It's an invitation to get involved with Project Earth.

Becky is Visiting Professor in the School of Physics and Astronomy at Queen Mary, University of London, teaches and is Director of Project Earth, a charity supporting young people around the world to innovate for the planet. She has helped students flourish in research in particle physics and space science but is now focused on amplifying their innovative contributions to tackling climate change. Becky was awarded an MBE in 2008.

Specialist Lectures - 4th August

4.1 Growing artificial living tissues to study & heal the human body

Dr James Armstrong

University of Bristol

The human body is a collection of specialised tissues, such as bones, muscles, skin, and brain. These tissues have highly evolved structures that enable them to perform different complex tasks. Unfortunately, all tissues are susceptible to disease, damage or ageing, and there are many cases for which modern medicine does not yet have an answer. Our laboratory is approaching this problem by growing artificial living tissues in the laboratory. The intention is that these artificial tissues can be used as living implants or as models to study how our body becomes diseased and responds to drugs. In this specialist lecture, I will describe the progress made by my laboratory and others in achieving this goal.

Dr James Armstrong is a Senior Research Fellow working in the Department of Translational Health Sciences at the University of Bristol (www.TheArmstrongGroup.co.uk). His research has been supported by three personal Fellowships: Arthritis Research UK (2015-2018), the Medical Research Council (2018-2021), and now a prestigious UKRI Future Leaders Fellowship (2021-2028). These major funding awards have enabled him to lead a programme of highly interdisciplinary and collaborative research focussed on using biomaterials, nanomaterials, and remote fields to engineer artificial tissues with structural and functional complexity. He is now expanding his research interests into engineering stem-cell-derived organoids while also seeking to translate his technologies for applied biological modelling and regenerative medicine.

4.2 What controls the earthquake behaviour of faults?

Dr Rebecca Bell

Imperial College London

Subduction zone faults produce the largest earthquakes on Earth, but recently scientists have discovered that some faults also experience slow slip events—fault movements that occur gradually without generating strong shaking. In this talk we will see results from ambitious offshore expeditions that try to address the question- Why do some faults slip violently, and others creep silently? We will learn how sound can be used to image faults kilometres underground and how deep ocean drilling can monitor slowly slipping faults. Finally, we will get a glimpse into how data science and AI may help us get to the bottom of why some faults slip in magnitude 9+ earthquakes and others slip slowly.

Rebecca Bell's fascination with volcanoes and fossil hunting along the beaches of southwest England sparked a lifelong passion for Earth sciences. She earned an MSci in Earth Sciences from the University of Oxford, followed by a PhD at the National Oceanography Centre in Southampton, where she focused on characterising active fault lines in Greece. After completing her doctorate, she worked as an Active Source Seismologist at GNS Science in New Zealand. She later returned to the UK to join Imperial College London, where she is now an Associate Professor in Tectonics.

4.3 BIOMECHANICAL SIMULATION

Dr I-Han Cheng

Imperial College London

This lecture explores the biomechanics of tibialis posterior tendon transfer for foot drop correction, focusing on how different fixation sites and routing techniques influence surgical outcomes. Using OpenSim simulations, we compare classic and modified approaches, including interosseous and circumtibial pathways, to assess their impact on dorsiflexion moment arms and mechanical efficiency. Attendees will gain insight into how the insertion point affects force transmission, alignment, and overall functional restoration. This session is ideal for researchers, surgeons, and students interested in surgical biomechanics, tendon rerouting strategies, and the use of computational modelling in clinical decision-making.

Dr I-Han (Iressa) Cheng is a medical doctor from Taiwan and an MSc candidate in Musculoskeletal Science and Medical Engineering at University College London. With a clinical background and a strong interest in biomechanics, her research focuses on musculoskeletal science, surgical simulation, and computational modelling using OpenSim. She specialises in optimising biomechanical outcomes in foot drop correction through tendon transfer surgery. Dr Cheng has presented her work internationally and is passionate about integrating engineering tools into surgical decision-making to enhance patient care.

4.4 AI IN STEM: UNLOCKING POTENTIAL & NAVIGATING RISKS

Dr Howard Haughton

King's College London

Artificial Intelligence (AI) is revolutionising the fields of Science, Technology, Engineering, and Mathematics (STEM), offering unprecedented opportunities and posing significant challenges. In this talk, we will explore how AI enhances research capabilities, accelerates innovation, and opens new frontiers in STEM disciplines. Conversely, we will also delve into the potential threats, such as ethical dilemmas, data privacy concerns, and the risk of widening the digital divide. By examining both sides of the coin, we aim to foster a balanced understanding of AI's role in shaping the future of STEM, preparing the next generation to harness its power responsibly.

Dr. Howard Haughton is an expert in quantitative financial risk with a focus on computational finance. He is a Senior Visiting Research Fellow at Kings College London. He is the EDI (Equity, Diversity & Inclusion) Champion at the Institute of Mathematics and Chair of Sporting Equals the UK's leading organisation for racial equality in sports. He has a PhD in Mathematical Computer Science and worked in risk and capital markets across prominent institutions, including JP Morgan Chase, Deutsche Bank, Merrill Lynch, and Dresdner Bank AG. He has provided advisory services to government bodies and other organisations on sustainable development, leadership, corporate governance, diversity, and inclusion.

4.5 ASTROPHYSICAL BLACK HOLES 101

Dr Jiachen Jiang

University of Warwick

Black holes are full of mystery and myth, often painted as cosmic vacuum cleaners or invisible monsters in popular culture. This lecture will peel back the fiction, using astrophysical observations from telescopes like JWST, XMM-Newton, and the Event Horizon Telescope to reveal their true nature. Through interactive demonstrations and storytelling, we will tackle questions together such as: What are black holes? Where are they? How do they evolve? How do black holes defy expectations, reshape galaxies, and even spark new stars? Astrophysical Black Holes 101 is about challenging assumptions through simple physics.

Dr Jiachen Jiang is a teaching faculty in the Department of Physics at the University of Warwick. His research focuses on black hole accretion and high-energy astrophysics, combining X-ray spectroscopy and time-series analysis to explore the environments around black holes in galaxies and X-ray binaries. He received his PhD in Astronomy at the University of Cambridge. He then has held postdoctoral fellowships at the University of Cambridge and Tsinghua University, and serves on several international telescope and mission committees.

4.6 ANTIMICROBIAL RESISTANCE: SCIENCE AND THE WAY FORWARD

Dr Anusha Karunasagar

National Health Service

Dr. Anusha Karunasagara will explore the critical issue of antimicrobial resistance (AMR), a growing global health threat where bacteria, viruses, fungi, and parasites no longer respond to medicines, making infections harder to treat and increasing the risks of severe illness, disability, and death. This lecture will delve into the mechanisms behind drug resistance, its impact on healthcare, and the importance of addressing AMR through scientific research, policy, and clinical practice. With the field's promising career prospects, Dr. Karunasagara will highlight the diverse opportunities available for those passionate about public health and combating this urgent challenge.

Dr. Anusha Karunasagara is a clinical microbiologist and researcher working in Infectious Diseases within the NHS, UK. Her main research interests include Infection Prevention and Control and using bacteriophages as a tool to fight antimicrobial resistance (AMR). She completed her medical education in 2006 and trained in Microbiology by 2010. She has worked at a pediatric hospital and Madras Medical Mission in India, where she completed her PhD. Anusha has over 50 publications, seven book chapters, and has received many awards, including SHEA's International Ambassador and Pfizer Medical Grants. She is also completing an MBA at Imperial College Business School, London.

4.7 THE MATHEMATICS OF WOUND HEALING

Professor Tanniemola B. Liverpool

University of Bristol

In this lecture, Professor Tanniemola B. Liverpool, will explore the wound healing process through a quantitative approach grounded in thermodynamics, continuum mechanics, and statistical mechanics. Using data from live imaging of a fruit fly pupal wing, Professor Liverpool will examine cell shape deformation, division, and migration - key behaviors in re-epithelialization. The lecture highlights how math, physics, and biology collaborate to reveal the organizing principles behind the complex cellular dynamics driving tissue regeneration.

Professor Tanniemola B. Liverpool is based at the Applied Mathematics Institute of the School of Mathematics at Bristol, where he has worked for the last 17 years. He obtained his undergraduate and PhD degrees from the University of Cambridge. He has also worked at several academic institutions in France, Germany, and the UK. His research primarily involves mathematical descriptions of complex fluids, including membranes, polymers, and gels. He is increasingly interested in the study of "soft biological matter" (DNA, proteins, the cytoskeleton, and gene regulation), and the organizing principles behind this highly interesting active (living) state of matter.

4.8 MICROBIOLOGY & YOU: INVESTIGATING THE BACTERIAL WORLD

Dr Kasia Parfitt

University of Oxford

Let's talk about the good and bad about microbes. This lecture will cover a background on microorganisms, introduce microbes on and in our bodies, and delve into the use of modern genomic techniques to trace origins of the plague (also known as the 'Black Death') over thousands of years. We will use the bacterium Neisseria meningitidis as an example and use interactive tools to investigate what happens when there are multiple cases of infection (known as an outbreak). You will be able to investigate how disease spreads globally, and we will discuss the limitations of vaccines as an intervention strategy.

Dr Kasia Parfitt is a research scientist at the University of Oxford, specialising in bacterial genomics and molecular microbiology. She has interests in a range of infectious diseases that affect human health. Her current work is investigating and developing tools for studying the epidemiology and population biology of Neisseria meningitidis, the causative organism of meningitis.

FRIDAY 25TH JULY

25.A Association Of Anaesthetists Of Great Britain & Ireland

Founded in 1932 by Dr Henry W Featherstone, The Association of Anaesthetists of Great Britain and Ireland (AAGBI) represents the medical and political views of over 11,000 anaesthetists in the UK, Ireland and internationally.

25.B Chelsea Physic Garden

Since 1673 Chelsea Physic Garden has occupied four acres of land on the edge of the Thames. First established by the Apothecaries in order to grow medicinal plants, this extraordinary garden in London has had wide reaching impact around the world.

25.C Imperial College London, Department of Aeronautics

Develop next-generation aerial robots. Use computers to solve complex fluid flow problems. Turning ideas into impact is what we live for at Imperial.

25.D Imperial College London, Department of Electrical Engineering / Energy Futures Lab

The Energy Futures Lab is the focal point for the dynamic and diverse multi-disciplinary energy research across Imperial College London. We enable funding, training and global partnerships for our researchers and students.

25.E Imperial College London, Department of Life Sciences

One of the largest life science groups in Europe, research of full breadth of modern life science activity including, Molecular Bio-sciences, Cell & Molecular Biology and Ecology & Evolution.

25.F Imperial College London, Department of Physics

One of the largest physics departments in the UK with an outstanding international reputation for excellence in research, undergraduate education and postgraduate training.

25.G King's College London, Centre for Gene Therapy & Regenerative Medicine

Based inside Guy's Hospital, the centre's research environment is enriched by expertise in pluripotent and adult tissue stem cells and includes researchers studying a range of diseases such as diabetes, skin fibrosis and acute liver failure. In the Sancho lab at the Centre for Gene Therapy and Regenerative Medicine, stem cells and organoids are used to study pancreas development and diabetes. The research group is interested in the underlying molecular mechanisms in health and disease, and in designing the tools for future diabetes treatment.

25.H London Metropolitan University – Science Centre

£30 million science centre which is home to the Superlab, a state-of-the-art teaching lab with room for 280 students. The four-floor science centre also houses modern research labs for HIV and microbiology research, as well as a forensic science lab and nmr spectrometer.

25.I London Wetland Centre

Over 100 acres of wetland sites, with extensive populations of wild birds, plants and insects. Talk to the experts about biodiversity and conservation.

25.J The Royal Institution

The Royal Institution (Ri) is an independent charity dedicated to connecting people with the world of science with over 200 years of history. At the L'Oreal Young Scientist Centre students will undertake a magnets and motors workshop, seeing a demonstration of Faraday's original electric motor and then building a simple battery powered motor that uses similar principles.

LONDON SCIENTIFIC VISITS

25.K Sonic Healthcare UK

Sonic Healthcare UK is the largest provider of Independent Pathology Services in the UK. They are leaders in consultant-led diagnostics, innovation, value, and long-term investment in healthcare provision. With over 30 years of experience in the UK pathology market, they have been partnering with the NHS for over 20 years.

25.L University College London, Jill Dando Institute of Security and Crime Science

Visit the first Institute in the world devoted to crime science. Research is concentrated on new ways to cut crime and increase security.

25.M University College London, Faculty of Engineering

The Engineering Faculty is uniquely international. Our students and staff join us from over 120 nations – as do our academic and business partners. Our teaching programmes are designed to engage students and give them the skills to address the world's challenges. We have pioneered new teaching methods for undergraduates and involve our postgraduates with our cutting-edge, highly-rated academic research. The graduates we educate progress to a wide range of roles, within engineering and technology sectors and beyond.

25.N University College London, PEARL

A visit to the Person-Environment-Activity Research Laboratory in Dagenham. PEARL is a place in which we explore the ways in which people interact with their environments. Within our facility, we can simulate life-sized environments under controlled conditions, manipulating its ground, lighting, soundscape and smell so that we can examine how people interact. Learning about how we respond to such conditions then allows us to design the world in a way which is healthier and more sustainable for all.

TUESDAY 29TH JULY

29.A Airbus UK

Core activities at Filton include the design, engineering and support for Airbus wings, fuel systems and landing gear integration.

29.B Bristol Robotics Laboratory

Bristol Robotics Laboratory (BRL) is the most comprehensive academic centre for multi-disciplinary robotics research in the UK. It is a collaborative partnership between the University of the West of England (UWE Bristol) and the University of Bristol, and home to a vibrant community of over 450 academics, researchers and industry practitioners. The primary mission of BRL is to understand the science, engineering and social role of robotics and embedded intelligence. In particular, the key challenges surrounding adaptive robotics, namely: dealing with people and their unpredictability, unstructured and uncertain environments, and equipping robots for flexible roles.

29.C Cardiff University

Cardiff University is a prestigious institution located in the vibrant capital of Wales. Known for its world-leading research and high academic standards, the university offers a diverse range of programs across science, engineering, humanities, and health. Cardiff is particularly renowned for its research impact and commitment to innovation. universities.

29.D Diamond Light Source

Diamond Light Source is the UK's national synchrotron. It works like a giant microscope, harnessing the power of electrons to produce bright light that scientists can use to study anything from fossils to jet engines to viruses and vaccines. Diamond is one of the most advanced scientific facilities in the world, and its pioneering capabilities are helping to keep the UK at the forefront of scientific research.

29.E Jealott's Hill Research Centre

Jealott's Hill International Research Centre is the largest site in the global Research and Development network of Syngenta Group. Our talented, multinational workforce employs cutting-edge technology platforms and integrated science approaches to drive the delivery of innovative solutions to challenges in sustainable agriculture.

29.F John Innes Centre, Norwich Research Park

An independent, international centre of excellence in plant science and microbiology working to generate knowledge of plants and microbes through innovative research to benefit agriculture, the environment, human health and well-being.

29.G University of Kent

The University of Kent is excited to welcome you to their beautiful Canterbury campus, situated on a hill above the city centre. The day will feature a variety of STEM talks and workshops, giving you a chance to learn more about how topics such as forensic science and physics are taught and researched there, as well as a chance to see some of the fascilities. There will also be time for a tour of the campus, alongside a Q&A with current science students.

29.H McLaren Technology Centre

The McLaren Technology Centre is home to the McLaren Group, consisting of McLaren Racing and McLaren Automotive. McLaren Racing competes in five racing series: Formula 1, INDYCAR, Formula E, Extreme E, and F1 Sim Racing. At the MTC, we primarily focus on F1. The F1 team consists of Technical, Operations, Race Team, Central Services and Commercial - all of which contribute to our success in races.

NATIONAL SCIENTIFIC VISITS

29.I National Space Academy

National Space Academy delivers a programme that uses inspirational contexts from across space science, exploration, astronomy and satellite applications.

29.J University of Nottingham, School of Chemistry

Meet world-leading researchers in Sustainable Chemistry at the University of Nottingham! Hear the latest research in electrochemical energy storage and conversion for the development of batteries, and how enzymes can be applied to the field of biofuel production. Experience what it is like to work in a modern undergraduate teaching laboratory, and visit research facilities on two different campuses. Home to the award-winning Periodic Table of Videos YouTube channel, meet some of the presenters and see some of the filming locations!

29.K Oxford Population Health

Oxford Population Health, part of the University of Oxford, focuses on understanding health and disease through multidisciplinary research. It aims to improve global health by studying population trends, risk factors, and interventions, fostering innovative solutions to health challenges worldwide and training the next generation of health scientists.

29.L University of Sussex, School of Life Sciences

Sussex has world-changing impact in many areas, including renewable energy, drug design and quantum chemistry. Biology is for those who are curious about the natural world and who want to understand the past, present and future of life on Earth, seeking solutions to some of the most important problems facing humanity – from managing environmental change to controlling disease.

29.M University College London, Mullard Space Science Laboratory

Exploiting the capabilities of rockets and spacecraft as platforms for scientific instruments it strives to understand our physical environment and our place in the Universe.

29.N UK Regeneron

Regeneron is a leading global biotechnology company focused on inventing and developing life-transforming medicines for serious diseases. Founded in 1988 by physician-scientists, it now employs over 12,000 people worldwide. Regeneron's innovative approach has resulted in multiple approved therapies and a robust pipeline of investigational treatments, most developed in-house. The company's cutting-edge technologies support rapid drug discovery and development. Regeneron also leads one of the largest human genetics initiatives globally and contributes to global health efforts through rapid-response platforms. Its medicines are available in over 100 countries and studied in clinical trials across approximately 60 countries.

THURSDAY 31ST JULY

31.A BMW Mini Plant Oxford

Experience production and take a look behind the scenes with our experts. The products made by BMW Group inspire with unique design, dynamic and agility. It is exciting and fascinating to experience live production.

31.B University of Cambridge, Human Anatomy Centre, Department of Physiology, Development and Neuroscience

Human dissection at Cambridge dates back over 450 years in colleges such as Gonville & Caius, and Magdalene, and 2016 marked the 300th anniversary of the establishment of the Anatomy School in Queens' Lane in 1716. Today, Cambridge continues to offer students the irreplaceable experience of full-body dissection in the Functional Architecture of the Body course. The Human Anatomy Centre is actively engaged in anatomical research in collaboration with clinicians and other specialists in Cambridge and at other institutions in the UK.

31.C University of Cambridge, Milner Therapeutics Institute

The Milner Institute provides a unique interactive and multifaceted environment for therapeutic innovation where academics, pharma and biotech work side-by-side. In the Milner, researchers are developing their own research programme and target discovery pipeline. The methods and approaches fostered are disease-agnostic and are currently applyed in oncology, respiratory disease, metabolic disorders, infectious disease, inflammatory bowel disease and CNS diseases.

31.D University of Cambridge, Neuro Optics Lab

The Neuro Optics Lab is a multidisciplinary research group that operates jointly between the Department of Engineering and Department of Physics at the University of Cambridge that develops and validates new optical methods to monitor brain function and metabolism non-invasively. The lab focuses on near infrared spectroscopy (NIRS)-based methods to perform in-vivo monitoring of metabolic markers such as haemoglobin oxygenation, mitochondrial function and blood flow. Researchers at Milner are interested in pioneering tools and techniques to monitor relevant physiology for both basic science and medical applications, from developing wearable brain monitoring for dementia diagnosis and monitoring, to building new optical methods to measure seal physiology non-invasively.

31.E NIHR Cambridge Biomedical Research Centre

Visit Cambridge and find out about the latest health research on the Cambridge Biomedical campus. Attend a tour, hear about getting into medicine and medical research, take part in an interactive workshop on Genomic research and causal inference and finally have group chats with Early Cancer Institute researchers.

31.F University of Cambridge, Scott Polar Research Institute

The Scott Polar Research Institute (SPRI) was founded in 1920, as a memorial to Ct. Robert Falcon Scott, RN, and his four companions, who died returning from the South Pole in 1912 and is the oldest research institute of its kind. Now part of the Geography Department at the University of Cambridge, SPRI's mission is to enhance the understanding of the polar regions through scholarly research and publication, educating new generations of polar researchers, caring for and making accessible its collections and projecting the history and environmental significance of the polar regions to the wider community.

OXFORD & CAMBRIDGE SCIENTIFIC VISITS

31.G Culham Science Centre, UK Atomic Energy Authority

The Culham Centre for Fusion Energy (CCFE) is the UK's national laboratory for fusion research, owned and operated by the United Kingdom Atomic Energy Authority (UKAEA). CCFE hosts the world's largest magnetic fusion experiment, JET (Joint European Torus), on behalf of its European partners along with MAST (Mega Amp Spherical Tokamak), the UK's magnetic fusion experiment.

31.H HR Wallingford

HR Wallingford has been involved in research and consultancy to solve water-related challenges worldwide for 70 years. The company has impressive physical modelling facilities which include seven wave basins, used to build and test scale models of ports, harbours and beaches. It also has numerous wave flumes, the largest of which, the Fast Flow Facility, can house a tsunami simulator, or be used to test the stability of renewable energy foundations. The company's UK Ship Simulation Centre offers virtual reality ship simulation, used for pilot training, but also as part of port and harbour design where simulating vessel navigation plays a vital role in the design process.

31.I Univerity of Oxford, Oxford Botanic Garden and Arboretum

Our collections house over 5,000 plant species, some of which grow nowhere else. Join leading researchers and educators at Oxford Botanic Garden for insights into our interdisciplinary research and conservation during its 400th anniversary year.

31.J University of Oxford, History of Science Museum

The History of Science Museum houses an unrivalled collection of historic scientific instruments in the world's oldest surviving purpose-built museum building. By virtue of the collection and the building, the Museum occupies a special position, both in the study of the history of science and in the development of Western culture and collecting.

31.K The Oxford Museum of Natural History

Oxford University Museum of Natural History was established in 1860 to draw together scientific studies from across the University of Oxford. Today, the award-winning Museum continues to be a place of scientific research, collecting and fieldwork. Highlights in the collections include the world's first scientifically described dinosaur – Megalosaurus bucklandii – and the world-famous Oxford Dodo, the only soft tissue remains of the extinct dodo.

PROGRAMME VENUES

Blue Halls of Residence
Hall Host: Candela Tejedo Raga

Prince's Gardens

Queen Alexandra's House

Red Halls of Residence
Hall Host: Montserrat Hermosillo Ortiz

Metrogate House

Astor Hyde Park

Yellow Halls of Residence
Hall Host: Joseph Blake

Copthorne Tara Hotel

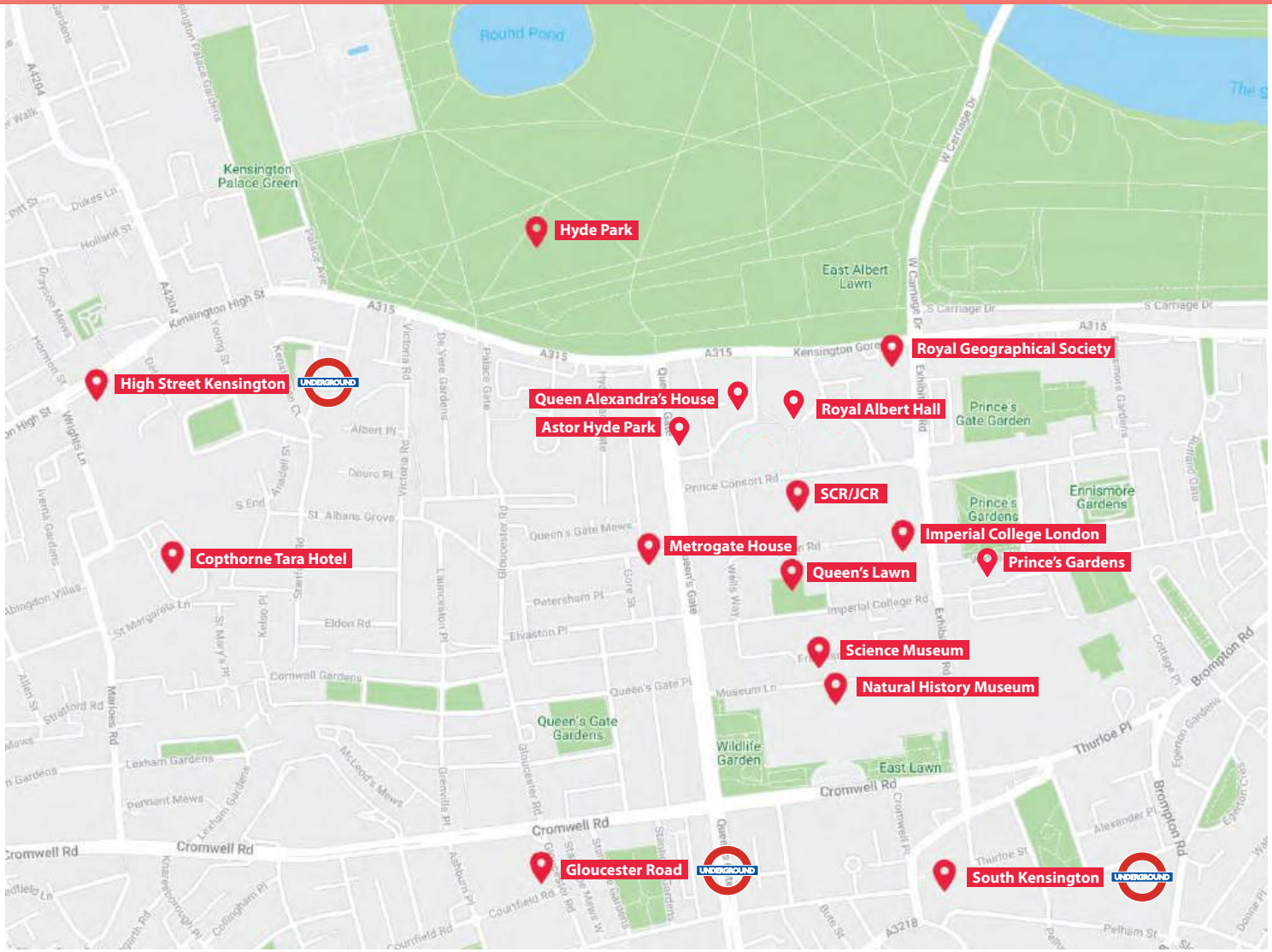
Programme Venues

Imperial College London

Royal Geographical Society

Copthorne Tara Hotel

LIYSF CAMPUS MAP



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LIYSF is proud to work in association with many world-wide organisations, some of these include:

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Youth Science Canada
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SUPPORTING ORGANISATIONS

LIYSF is very proud to have the support across the globe of: National Government Offices, British Council Offices, National and International Science Competitions, Science Organisations, Foundations, Schools and Universities. We are truly grateful to all organisations for their work in nominating and supporting students to attend, a selection of them are shown here:

Akademeia Foundation	***Poland***
ASDAN	***China***
ASTRA DK	***Denmark***
British American Foundation of Texas	***USA***
British Council School Madrid	***Spain***
British School of Brussels	***Belgium***
Brookhouse International School	***Kenya***
Campion College	***Jamaica***
Cathedral and John Connon School	***India***
Celia Allen	***Guernsey***
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Colegio Jean Piaget	***Brazil***
Dublin City University	***Ireland***
Engineering UK	***UK***
English School	***Cyprus***
The Estonian Research Council	***Estonia***
Federazione delle Associazioni Scientifiche e Tecniche	***Italy***
Foundation Jeunes Scientifiques Luxembourg	***Luxembourg***
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GC School of Careers	***Cyprus***
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National Science Museum (NSM)	***Thailand***
National Youth Science Forum	***Australia***
OKSEF / BUCA	***Turkey***
Polish Children's Fund	***Poland***
RED Science & Technolody Youth Activities Network	***Mexico***
SACGC	***Kuwait***
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Swedish Federation of Young Scientists	***Sweden***
Swiss Youth in Science	***Switzerland***
Technologie & Innovation	***Austria***
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The Senior School	***Cyprus***
Young Scientists for Africa	***UK, Africa***
Youth Science Canada	***Canada***
Yuteh International School	***Taiwan (ROC)***

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Imperial College London, the Royal Geographical Society, Queen Alexandra's House, Metrogate House, Astor Hyde Park and the Copthorne Tara Hotel for hosting our students.

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LIYSF

The next edition of LIYSF:

67th London International Youth Science Forum

19th July – 1st August 2026

LIYSF CIC, 85 Great Portland Street, London, W1W 7LT, UK

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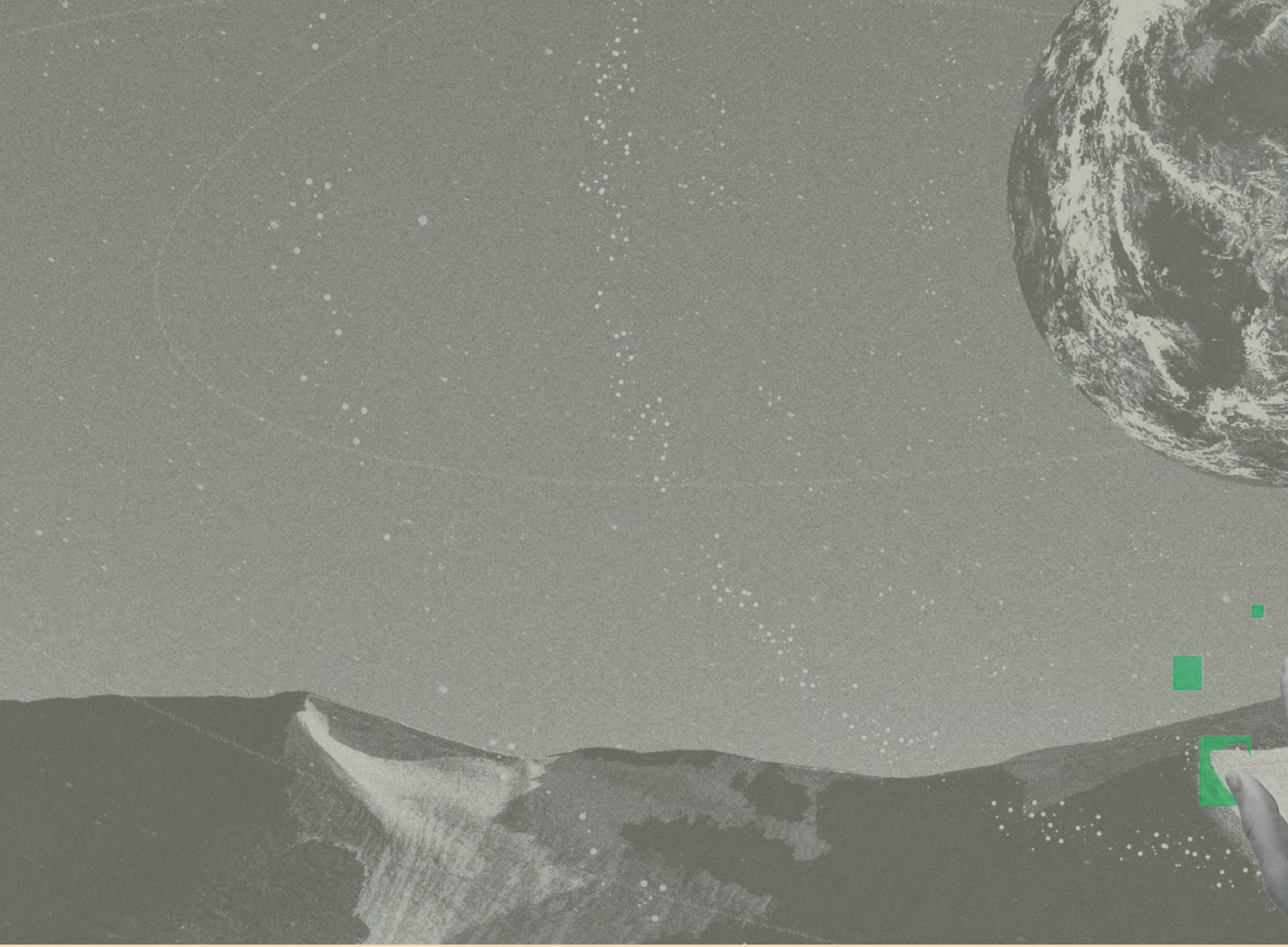

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