OXCEP

ACADEMIC MEDICINE COURSE IN PRECISION MEDICINE



2025

6/7 - 19/7

“The greatest medicine of all is teaching people how not to need it.”

– Hippocrates

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A Note of Welcome from the Vice-Chancellor



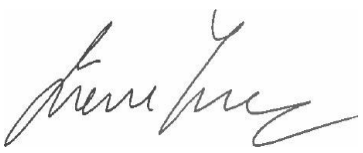
Dear colleagues,

On behalf of the University of Oxford I am delighted to welcome you to the Academic Medicine Course in Oxford. The theme of the Course for 2025 is 'Artificial Intelligence in Precision Medicine', and it gives me pleasure to introduce Professors Alan Silman and Stephanie Dakin of Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences as your Course Directors over the next one or two weeks.

The Oxford Chinese Economy Programme (OXCEP) was established at St Edmund Hall Oxford in May 2013, with the aim of promoting the study of economic development of Chinese communities around the world. This was followed by the introduction of an annual two-week summer course for international senior medics, with an inaugural cohort in July 2016. The Course had evolved to partner with multiple Oxford colleges and departments in 2024, for keeping up with the times, trends and technologies of lifelong learning experience. Over the last twelve years, OXCEP has collaborated with top universities and research institutes in Asia on academic initiatives, such as visiting studentship, visiting fellowship, distinguished speaker lectureship and international conference in Oxford.

As a Professor of Anaesthetic Neuroscience in the Nuffield Department of Clinical Neurosciences I am delighted that senior medical colleagues from a range of important organisations, hospitals, and universities from across Asia are represented on this Course. I very much hope you enjoy your time in Oxford, and that you find the Course insightful, fruitful, and productive to help further your own medical research and clinical practice on your return home.

I would like to wish you the very best for an enjoyable and memorable Oxford experience.



Vice-Chancellor Professor Irene Tracey CBE, FRS, FMedSci

The City of Oxford

Oxford is a diverse and historic city, just a short distance to the west of London. It's a major British and European centre for the arts, science, technology and innovation, and a fantastic place to live and study.

For centuries, scholars, artists, writers, scientists and film-makers have found inspiration in Oxford's spectacular architecture—the city's famous 'dreaming spires'. Oxford's complex history has given rise to its unique character. Around the splendid, medieval core of the ancient University and its colleges, there's a bustling, welcoming modern city.

Oxford is one of the most culturally diverse cities in the UK, with a vibrant and cosmopolitan community. Home to two major universities, it has some 40,000 students, almost a quarter of the city's population, who come from all over the world.

The city is a fantastic centre for arts and culture, with a vibrant nightlife. Take in classical concerts in the Sheldonian Theatre or a live gig at the O2. Browse ancient Egyptian artefacts in the Ashmolean Museum, or contemporary visual art at Modern Art Oxford. Catch a debate at the Oxford Union, comedy at the New Theatre, or Shakespeare in the Bodleian's Old Schools Quadrangle. Cheer on your college sports teams in the University Parks or from the banks of the River Isis (as the Thames is known in Oxford) in Summer Eights.

In Oxford, you're never far away from green spaces—there are parks, gardens and meadows throughout the city, which is also surrounded by rolling countryside. The rivers running through the city give rise to Oxford's famous traditions of rowing and punting, with miles of scenic waterways to enjoy.

Importantly, Oxford is also well known as a safe city. The Complete University Guide ranks Oxford in its top ten safest student cities.

The University of Oxford



The central University

Oxford has a distinctive collegiate structure. Students and academics benefit from belonging both to the University, a large, internationally-renowned institution, and to a college or hall, a small, interdisciplinary academic community.

The central University is made up of many different sections, including academic and administrative departments, libraries and museums.

There are roughly 100 major academic departments, which are overseen by the four academic divisions: Medical Sciences; Mathematical, Physical and Life Sciences; Humanities and Social Sciences.

Each department organises teaching and research in a different subject area, from Anthropology to Zoology. There are also many smaller, specialist research centres and sub-departments.

Vice-Chancellor

Professor Irene Tracey, CBE, FRS, FMedSci, became Vice-Chancellor of the University of Oxford on 1 January 2023. She was previously Warden of Merton College, Oxford, her alma mater. She is also Professor of Anaesthetic Neuroscience in the Nuffield Department of Clinical Neurosciences.

The colleges and halls

The University has 44 colleges. This includes five permanent private halls (PPHs), which were founded by various Christian denominations and still retain their religious character. Oxford's colleges are small, multidisciplinary communities. Each one has students, academic staff and administrative staff. Most colleges offer meals, libraries, accommodation, sports, events and other opportunities to enrich your Oxford experience. The colleges have much in common, but each has its own character and history.

All graduate students belong to a department or faculty and a college or hall, except those taking non-matriculated courses. Supervision and teaching will be provided by your academic department, so no matter which college you belong to, this won't limit your access to potential supervisors or teaching staff; your course content is the same.

The role of the colleges and halls and the University in student life

Almost every student at Oxford is a member of a college. Most colleges admit both graduate and undergraduate students.

Admissions

* The undergraduate admissions process is co-ordinated by the University, but colleges are ultimately responsible for selecting and admitting their undergraduate students.
* The University admits graduate students, but once they have been offered a place by the University, graduate students are also selected by a college.

Facilities and resources

* Colleges provide accommodation, catering, social spaces, pastoral care and other facilities for their students.
* The University provides centralised student services, including careers and counselling, as well as resources such as libraries, laboratories and museums.

Teaching

* Colleges organise tutorial teaching for undergraduates. Tutorials are central to studying at Oxford, giving students an opportunity to discuss and explore their subject in small groups with an expert in the field.
* The University supervises graduate students and examines graduate theses.
* The University determines the content of degree courses, and organises lectures, seminars and lab work for both undergraduate and graduate students.
* The University sets and marks examinations, and awards degrees to students.

Freedom of speech

Free speech is the lifeblood of a university. It enables the pursuit of knowledge. It helps us approach truth. It allows students, teachers and researchers to become better acquainted with the variety of beliefs, theories and opinions in the world. Recognising the vital importance of free expression for the life of the mind, a university may make rules concerning the conduct of debate but should never prevent speech that is lawful.

Inevitably, this will mean that members of the University are confronted with views that some find unsettling, extreme or offensive. The University must therefore foster freedom of expression within a framework of robust civility. Not all theories deserve equal respect. A university values expertise and intellectual achievement as well as openness. But, within the bounds set by law, all voices or views which any member of our community considers relevant should be given the chance of a hearing. Wherever possible, they should also be exposed to evidence, questioning and argument. As an integral part of this commitment to freedom of expression, we will take steps to ensure that all such exchanges happen peacefully. With appropriate regulation of the time, place and manner of events, neither speakers nor listeners should have any reasonable grounds to feel intimidated or censored.

It is this understanding of the central importance and specific roles of free speech in a university that underlies the detailed procedures of the University of Oxford.

History of the University of Oxford

Oxford is a unique and historic institution. As the oldest university in the English-speaking world, it can lay claim to nine centuries of continuous existence.



Here's a timeline of key dates:

* 1096 - Evidence of teaching
There is no clear date of foundation but teaching existed at Oxford in some form in 1096.

* 1167 - A Paris ban
Oxford developed rapidly from 1167, when Henry II banned English students from attending the University of Paris following a quarrel with Thomas Becket.

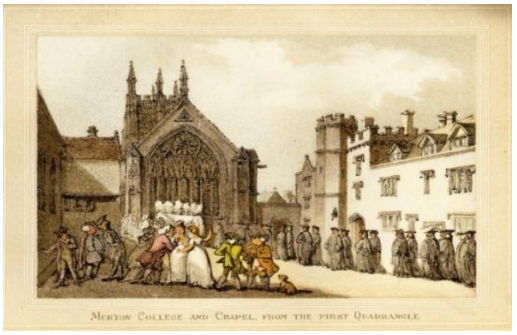
* 1188 - notable visitor
In 1188, the historian Gerald of Wales gave a public reading to the assembled Oxford dons (university lecturers, especially at Oxford or Cambridge). As a royal clerk to the king and two archbishops, Gerald of Wales travelled widely and wrote extensively.
Oxford developed rapidly from 1167, when Henry II banned English students from attending the University of Paris following a quarrel with Thomas Becket.

* 1190 - First overseas student
In around 1190 the arrival of Emo of Friesland, the first known overseas student, set in motion the University's tradition of developing international scholarly links.

* 1214 - The title of Chancellor
By 1201 the University was headed by a 'magister scholarum (head of an ecclesiastical school) Oxonie', on whom the title of Chancellor was later conferred in 1214, and in 1231 the Masters were recognised as a universitas or corporation.

* 1249 - First colleges
During the 13th century, rioting between town and gown (townspeople and students) hastened the establishment of primitive halls of residence. These were succeeded by

the first of Oxford's colleges, which began as endowed houses or medieval halls of residence, under the supervision of a Master. Established between 1249 and 1264, University, Balliol and Merton Colleges are the oldest.



Merton College and chapel, from the first quadrangle, 1775-1827

* 1355 - Tributes from kings

Less than a century later, Oxford had achieved eminence above every other seat of learning, and won the praises of popes, kings and sages by virtue of its antiquity, curriculum, doctrine and privileges. In 1355, Edward III paid tribute to the University for its invaluable contribution to learning. He also commented on the services rendered to the state by distinguished Oxford graduates.

* 14 to 17th C - Religious and political controversy

Early on, Oxford became a centre for lively controversy with scholars involved in religious and political disputes. John Wyclif, a 14th-century Master of Balliol, campaigned for a Bible in English, against the wishes of the papacy. In the 16th century, Henry VIII forced the University to accept his divorce from Catherine of Aragon, and the Anglican churchmen Cranmer, Latimer and Ridley were later tried for heresy and burnt at the stake in the city.

The University was Royalist during the Civil War and Charles I held a counter-Parliament in the University's Convocation House. In the late 17th century, the Oxford philosopher John Locke, suspected of treason, was forced to flee the country.

* 18th C - Scientific discovery and religious revival

The 18th century became an era of scientific discovery and religious revival. Edmond Halley, Professor of Geometry, predicted the return of the comet that bears his name. John and Charles Wesley's prayer meetings laid the foundations for the Methodist Society.

* 1833 - The Oxford Movement

From 1833 onwards, the Oxford Movement sought to revitalise the Catholic aspects of the Anglican Church. One of its leaders, John Henry Newman, became a Roman Catholic in 1845 and was later made a Cardinal. In 2019 he was canonised as a saint.

* 1860 - A famous debate

In 1860 the new University Museum was the scene of a famous debate between Thomas Huxley, champion of evolution, and Bishop Wilberforce.

* 1920 - Women become members
From 1878 academic halls were established for women, who were admitted as full members of the University from 1920. By 1986, all of Oxford's male colleges had changed their statutes to admit women and, since 2008, all colleges have admitted men and women.

* 20 to 21th C - Major research capabilities
During the 20th and early 21st centuries, Oxford established major new research capacities in the natural and applied sciences, including medicine. In so doing, it has enhanced and strengthened its traditional role as an international focus for learning and a forum for intellectual debate.

* 2020 to 2022 - A life-saving vaccine
Oxford University has been at the centre of the COVID-19 response from the very onset of the crisis, remaining at the forefront of global efforts to combat the disease and to mitigate its many effects, such as developing a vaccine and identifying treatments. By early 2022, more than 2.6 billion doses of the Oxford/AstraZeneca vaccine had been supplied to over 180 countries, with approximately two-thirds going to low and middle-income countries. The vaccine is estimated to have helped prevent 50 million COVID-19 cases, five million hospitalisations, and saved more than one million lives.



Professor Sarah Gilbert and Professor Andrew Pollard, who were key figures in the development of the Oxford AstraZeneca vaccine

The Coat of Arms of the University of Oxford



The coat of arms of the University of Oxford depicts an open book with the inscription Dominus illuminatio mea (‘The Lord is my light’—also the opening words of Psalm 27), which has been in use since at least the sixteenth century.

The inscription is surrounded by three golden crowns, whose origin is not known exactly; it may be connected with Thomas Cranley, Warden of New College from 1389 to 1396 and Chancellor of the University in 1390, who adopted them for his personal use in c. 1386. They were also given by Richard II to Rebert de Vere, 9th Earl of Oxford, when he made him Duke of Ireland in 1386. Three crowns were also associated with King Edmund the Martyr, King Arthur and Jesus Christ.

The coat of arms has been in existence since around 1400, varying in appearance over the centuries. The number of seals and the text, for example, have both varied. The modern version of the arms in which they are not placed on a shield, but rather surrounded by a garter bearing the text ‘UNIVERSITY OF OXFORD’, was designed in 1993 and is a registered trademark.

Facts and figures about the University of Oxford

Oxford at a glance

* There are more than 26,000 students at Oxford, including 12,470 undergraduates and 13,920 postgraduates.
* Oxford has one of the lowest drop-out rates in the UK: figures published for 2019/20 academic year of entry by the Higher Education Statistics Agency show that only 0.9% of Oxford students dropped out, compared with a UK average of 5.3%.
* 93% of Oxford undergraduates and 95% of Oxford postgraduate leavers in 2020-2021 were in high-skilled employment or further study 15 months after leaving (Russell Group is 88% and 90% respectively). Median salaries are £32K and £35K respectively.
* Every year more than 15,000 students enrol on courses at the Department for Continuing Education, making Oxford University one of the largest providers of continuing education in the UK.
* The University of Oxford contributes around £15.7 billion to the UK economy, and supports more than 28,000 full time jobs. £611 million is generated by the University's contribution to tourism, and £6 billion from the impact generated by the spending of the University and its colleges (2018/19).

Oxford international

* International students make up 46% of our total student body - more than 12,000 students - including 23% of undergraduates and 65% of graduate students.
* Students come to Oxford from more than 160 countries and territories. The largest groups of international students come from the USA, China, Germany, Canada, India, Australia, Hong Kong, Singapore, Italy, France, and Netherlands.
* Oxford University Press (OUP) is the largest and most successful university press in the world. It has offices in more than 50 countries and publishes works in some 100 languages.
* Every year millions of students use OUP's English Language Teaching materials to learn English.

Oxford research

* The Research Excellence Framework (REF) assesses the quality of research in UK Higher Education Institutions. When the UK Funding Bodies published the outcomes of REF 2021 in May 2022, results showed Oxford's submission had the highest volume of world-leading research[1]. Highlights of the submission can be found on the Oxford REF 2021 webpages.
* Oxford's research activity involves more than 2,000 academic staff, more than 5,900 research, teaching and research support staff, and more than 7,000 graduate research students (figures as at 31 July 2022).
* At postgraduate level, 54% of students at Oxford are reading for degrees by research.
* Oxford's total research income is consistently the highest of any UK university. In 2021/22 the University earned £711.4 million in external research funding. When the block grant for research from Research England is added, the University's research income totals £865.7 million.
* Oxford University through Oxford University Innovation (OUI) is the UK leader in generating spinout companies, creating ten for the academic year 2021-2022, plus five

more startups and social ventures. Overall, OUI has created over 300 companies, more than any other UK institution.
* OUI is also the most prolific university filer of patents in the UK, with close to 5,000 under management, and receives more income from intellectual property than UK peers.
* During the academic year ending July 2022, OUI completed 1,157 commercial deals, signed 531 academic consultancy deals, and returned £13.2 million to researchers and the University.
* Oxfordshire is one of Europe's leading centres of enterprise and innovation, with particular strengths in biosciences and new technologies, and many of the region's high-tech companies have links with the University.

Undergraduate admissions and access
* Entry to undergraduate courses at Oxford continues to be very competitive: there are usually only around 3,300 places, and over 23,000 people applied to start in 2023.
* That means Oxford receives, on average, over seven applications for each available place.
* The majority of Oxford's UK undergraduates come from state schools. Over 67% of UK students admitted in 2023 were from the state sector.
* The University conducts over 20,000 interviews with around 10,000 applicants over the two-week interview period in December.
* Oxford, through its outreach work, reaches more than 75% of UK schools with post-16 provision - that's almost every school that fields candidates capable of making a competitive application to Oxford.
* Every year, more than 1,000 year-12 state school students from across the UK participate in Oxford's free online programme UNIQ, aimed at helping students underrepresented at Oxford find out what it's like to study here and make competitive applications to the University. Many participants will also attend a residential in Oxford.
* Since its launch in 2010, UNIQ has supported over 14,500 participants and during the last five years (2018-2022) UNIQ participants, from disadvantaged backgrounds and state schools, were more likely to receive an offer to study at Oxford (30% all UNIQ applicants versus 20% all other UK applicants).
* In 2023, 35 UK state school students who have experienced severe personal disadvantage or disruption during their education received offers for the first Astrophoria Foundation Year – a fully funded, supportive and academically challenging one-year course with the opportunity to progress onto their chosen undergraduate degree at Oxford without the need to reapply.

Financial support for undergraduates
* Oxford offers one of the most generous financial support packages for UK undergraduates from the lowest-income backgrounds.
* Oxford offers non-repayable bursaries of up to £5,800 p.a. to eligible UK resident students as part of its Crankstart Scholarship programme.
* For students who are not eligible for, or do not take up, a Crankstart Scholarship, Oxford Bursaries of between £4,000 and £1,000 p.a. are provided to eligible undergraduates from the lowest income families every year.
* Eligible UK students who are care-experienced or estranged (studying without family support) can also apply for an additional non-repayable annual bursary of up to £3,000.

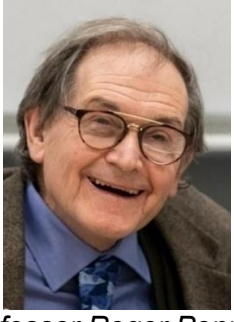
* Oxford centrally spends more than £8.5 million on financial support to undergraduates from lower-income households annually.

Postgraduate admissions and support

*Graduate students make up around 50% of the total student body at Oxford.
*450 postgraduate courses received applications for year of entry 2022/23 (including part-time variants).
*For 2022/23 entry, over 37,500 applications were received for some 6,056 postgraduate places.
*More than 34,000 applications were for full-time courses and 3,683 for part-time study.
*For the 2023/24 academic year, the University expects to be able to offer around 1,000 full or partial graduate scholarships for new students.

Oxford awards and rankings

* Oxford was ranked first in the world in the Times Higher Education (THE) World University Rankings for 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024 and 2025 - a record nine consecutive years.
* In the Times Higher Education (THE) World University Rankings by subject for 2025, Oxford was, for the 14th year running, ranked first in the world for medical and health subjects. It was also ranked first in the world for computer science for the seventh year in a row.
* Oxford University secured the top place in the QS World University Rankings 2025 in three subjects: English Language and Literature, Anatomy and Physiology and Geography.
* Oxford University is ranked number two university in the UK in the Complete University Guide, University League Tables 2024.
* Oxford University is ranked number two in The Best UK Universities 2024 league table in The Guardian.
* Oxford's academic community includes more than 90 Fellows of the Royal Society and around 100 Fellows of the British Academy.
* In 2024, nine Oxford scientists were elected as Royal Society Fellows.
* In 2024, nine academics from the University of Oxford were elected Fellows of the British Academy.
* Oxford mathematician Professor James Maynard was named as one of four recipients of the 2022 Fields Medal, the most prestigious award in mathematics for those under 40.
* The 2020 Nobel Prize in Physics was jointly awarded to Roger Penrose, Reinhard Genzel and Andrea Ghez for their work on black holes. Roger Penrose is Emeritus Rouse Ball Professor of Mathematics at the University of Oxford, and emeritus fellow of Wadham College, Oxford.



Professor Roger Penrose

Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS)

We discover the causes of musculoskeletal and inflammatory conditions to deliver excellent and innovative care that improves people's quality of life.

The largest European academic department in its field, NDORMS is part of the Medical Sciences Division of the University of Oxford. We run a multi-disciplinary programme of research and teaching, supported by a grant portfolio worth over £230m.

Headed by Prof Jonathan Rees, we are a growing community of over 500 staff, approximately 100 post-graduate students, more than 30 professors, several university lecturers, and senior researchers . Our highly skilled team has expertise in a broad range of areas, including orthopaedic surgery, inflammation, immunology, rheumatology, medical statistics, epidemiology, data science and clinical trials.

The research work of the department takes place across three world-leading research institutes: the Botnar Institute for Musculoskeletal Sciences, the Kennedy Institute for Rheumatology and the Kadoorie Centre.

The co-location with NHS services at Oxford's Nuffield Orthopaedic Centre (NOC) puts the department in an excellent and rare position, where basic researchers work alongside clinicians. This substantially improves our research capability, improving access for researchers to patients, and facilitates the interaction between clinicians and scientists, which is essential for successful translational research. We also host and collaborate with a number of leading research units, including:

- the NIHR Oxford Musculoskeletal Biomedical Research Centre (BRC)
- the Centre for Statistics in Medicine (CSM)
- the Oxford Clinical Trials Research Unit (OCTRU)
- the Surgical Interventions Trials Unit (SITU)
- the Centre for Osteoarthritis Pathogenesis Versus Arthritis (OA Centre)
- the Oxford Experimental Medicine Clinical Research Facility (OxEMCRF)

The Botnar Institute for Musculoskeletal Sciences



At the Botnar Institute for Musculoskeletal Sciences we conduct high-quality research to discover the causes, the disease pathways, and the new treatments that will transform the lives of patients suffering with musculoskeletal conditions.

The Botnar Institute for Musculoskeletal Sciences aims to translate its world-class research into healthcare policy, transforming the lives of patients with musculoskeletal conditions. The Institute provides state-of-the-art facilities spread across three wings, the latest of which is the Marcela Botnar wing which opened in 2021. The new laboratory space includes a good manufacturing standard (GMP) clean room facility suitable for the manufacturing of biomaterials for human implantation, the first university-owned clean room in the UK.
Sharing the site of the Nuffield Orthopaedic Centre, the largest specialist academic musculoskeletal hospital in the UK, puts the Botnar in a unique position to foster the collaboration between scientists and clinicians, essential to success in medical research. The Botnar takes a multidisciplinary approach to medical research, bringing together orthopaedic, rehabilitation and rheumatology clinical scientists, bone oncologists, laboratory scientists, epidemiologists, engineers and statisticians. It also hosts the nationally recognised Oxford Clinical Trials Research Unit (OCTRU) and the Centre of Statistics in Medicine (CSM), providing excellent statistical support to all aspects of clinical research.
The Institute's research is funded by a grants portfolio worth over £96m. Major supporters include the NIHR, the Medical Research Council, the Wellcome Trust, Versus Arthritis, Cancer Research UK and the European Commission). Home to around 350 staff and postgraduate students, the Institute fosters an international and friendly atmosphere.

Our History

The department builds on a remarkable history of scholarship that extends back to 1937 when Lord Nuffield endowed the first chair of orthopaedic surgery in the United Kingdom as part of his colossal benefaction towards the University’s Medical School.

It was during the Great War that William Morris, later Lord Nuffield, became interested in the work of G. R. Girdlestone, a young RAMC surgeon who treated injured soldiers on the grounds of the former Wingfield Convalescent Home in Headington. Substantial

benefactions resulted from this friendship leading to the further development of the orthopaedic hospital, today's Nuffield Orthopaedic Centre, and the establishment of the first chair of orthopaedic surgery in the country.

H. J. Seddon succeeded Girdlestone and led the department through the turbulent years of the Second World War. He was followed by J. A. Trueta, a military surgeon exiled from Spain, witnessing the development of penicillin in Oxford. Recognising the multiple inter-relationships of orthopaedic surgery with genetics, clinical medicine, surgery, metabolic diseases, biochemistry and engineering, R. B. Duthie established the Oxford Orthopaedic Engineering Centre (OOEC) in the 1970s. His successor, J. Kenwright, realised the need for a building dedicated to research into musculoskeletal health and thereby laid the foundations for the Botnar Research Centre, the University's Institute of Musculoskeletal Sciences.

Under A. J. Carr, the department's research activities have further flourished and expanded, making it one of the largest musculoskeletal research departments globally. Current head of department, Jonathan Rees took over the leadership of NDORMS in April 2022. He is working closely with all our staff and students to deliver world class research and new discoveries to improve the lives of people suffering with musculoskeletal pain and disability.

<u>The Kennedy Institute for Rheumatology</u>



The Kennedy Institute of Rheumatology is a biomedical research centre uniquely bringing together discovery science and early-stage clinical research, to develop transformative new therapies for chronic inflammatory and musculoskeletal conditions. The Institute is broadly focused on five thematic areas of immunity and microbes, inflammation biology, tissue remodelling and repair, computational biology, and clinical translation and experimental medicine. Its research is relevant for a range of common diseases such as arthritis, inflammatory bowel disease, fibrosis, and cancer.

The Institute has capacity for up to 260 staff and students who work collaboratively across 25 research groups. This enables a multidisciplinary approach of molecular and cellular biology, combined with analysis of disease models, patient tissue samples and longitudinal clinical data. Collectively, these studies seek to uncover the biological processes that maintain tissue health and how these pathways break down in disease.

Research at the Institute is supported by a suite of platforms, as well as through strategic partnerships with other basic and clinical research centres within the University of Oxford and Oxford University Hospitals, across the UK and internationally. Scientific platforms provide access to state-of-the-art technologies including the Oxford-Zeiss Centre for Excellence and other advanced microscopy and imaging facilities, mass and flow cytometry, as well as capabilities for microbial genomics and functional microbiome studies made available through the Oxford Centre for Microbiome Studies.

Complementing a strong programme of lab-based research, the Institute has established a core of expertise and technologies in data science including single cell genomics, statistical genetics, computational biology, and research informatics. A recent extension to the Institute building with a new third floor creates additional space purposely designed for computationally intensive research.

The Kennedy Institute is historically linked to the Kennedy Trust for Rheumatology Research but also receives funding from numerous other sources including Versus Arthritis, the Wellcome Trust, UKRI, the European Commission, and a variety of industry partners.

The Institute was formed in London in 1965 as the Mathilda and Terence Kennedy Institute of Rheumatology. In 2011, the Institute joined the University of Oxford as an independent constituent Institute within Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS).

The Kadoorie Centre

Trauma and emergencies are huge issues for patients, the NHS and society more broadly. Oxford Trauma and Emergency Care seeks to improve patient care by designing and testing new treatments and new treatment pathways. They aim to deliver better outcomes for patients and more efficient care within the NHS and other healthcare system worldwide.

They run a few clinical trials and related studies in trauma and emergency care to guide best practice in the field. Their work informs practice and policy in the NHS and internationally through bodies such as the National Institute for Health and Care Excellence (NICE) guidelines.

Oxford Trauma and Emergency Care is based in the Kadoorie Centre located at the John Radcliffe Hospital but has collaborations across the University and outside.

St Edmund Hall



St Edmund Hall, affectionately known as ‘Teddy Hall’, and one of the oldest colleges at the University of Oxford.

As the last standing medieval Hall in Oxford, dating back to at least the thirteenth century and are known for our friendly atmosphere, and sporting and creative traditions. Located in the heart of Oxford, it is one of the largest colleges with around 400 undergraduates and 300 postgraduates. The students are supported by its wonderful community of almost 200 academic and non-academic staff. The Hall is also proud to have a global network of 10,000 aularians (alumni) in over 100 countries who have excelled in a broad range of fields from journalism, politics and the sciences. It is historic and forward thinking and aims to become a greener, more diverse and accessible home for world leading research and teaching.

Its undergraduates come from all backgrounds and include students from both the UK and further afield. The Hall’s graduate population is an equally diverse body of students studying a wide range of subjects at master’s and Ph.D. level.

History of the Hall



The history of St Edmund Hall goes back to the thirteenth century, and it can claim to be the oldest surviving academic society to house and educate undergraduates in any university. The first documented reference to St Edmund Hall ('Aula Sancti Edmundi') is in 1317, but it may be considerably older.

The Hall takes its name from St Edmund of Abingdon, Archbishop of Canterbury, who resided and taught in a house at the western end of the present front quadrangle of the Hall when he was a Regent Master in the Arts, probably in the 1190s. The first known Principal is William Boys (c. 1315) and the latest Principals include the inorganic chemist Professor Michael Mingos (1999-2009), the molecular microbiologist Professor Keith Gull (2009-2018), and Professor of Biodiversity Kathy Wills (2018 to present).

Between the First World War and 1957 the Hall underwent gradual transformation from its circumstances as a Hall to its present status as a College. More thorough changes came through the vision, skill, and determination of A. B. Emden (Principal 1929–51). A distinguished medievalist and historian of Universities, he was resolved that the Hall's unique character should be preserved. It should expand and be reconstituted to meet modern needs, but remain the oldest surviving Hall, rather than becoming the youngest of the Colleges.

Since 1978 the Hall has admitted female students to its membership, with the first women undergraduates matriculating in 1979. By 2015, over a third of its alumni and Fellows, and almost half of its students, are women. To mark this milestone, St Edmund Hall recognised the achievements and influence of its alumnae with a number of events and initiatives throughout the 2015-16 academic year, led by the Development & Alumni Relations Office, alumni volunteers and students.

In 2019 Principal Professor Kathy Willis announced St Edmund Hall's 10-year strategy setting out how the college is going to become a greener, more diverse and accessible home for world leading research and teaching. The strategic areas of priority had been identified to keep the inspiring and historic institution robust and resilient in the coming decades.
Today, the Hall aims to establish solid foundations in the areas of education and research; access, equality and diversity; culture; estates; and finance.

Unique among the Oxford colleges by reason of its history, St Edmund Hall combines the maturity and confidence of long, rich and resilient experience as a hall with the modernity and adaptability of its new way of life as a constituent college of the University of Oxford.

St Edmund Hall Library

At a glance:

- You will need a Library Card to operate the self-issue loan equipment and a fob to access the Library building.
- The Library is open 24 hours a day, 7 days a week.
- Staff are on duty during weekdays, but the Library is run on trust and it is expected that you will behave properly throughout opening hours.



Our College Library is housed in the 12th century church of St Peter-in-the-East, one of the oldest buildings in Oxford.

The Library holds approximately 40,000 titles, including multiple copies of key textbooks which focus on the main and special subjects in Oxford undergraduate degrees.

We look forward to welcoming you to Teddy Hall and hope that you will feel at home in the Library while you are here.

Book loans and other resources

The Library operates a self-issue automated loan system and you will be issued with a Library Card at your induction to operate it. All the books have security tags attached to them, and an alarm will sound if you leave the Library carrying a book that has not been checked out properly.

You may borrow up to 20 books for the duration of your time in Oxford . All books borrowed must be returned by **Friday 18th July 2025**.

All books are the responsibility of the borrower to whom they are issued and remain so until they are checked back in. Please do not borrow books on someone else's behalf or lend books to any other person.

All of the St Edmund Hall library collection is listed on SOLO, the Universities online library catalogue:
https://solo.bodleian.ox.ac.uk/primo-explore/search?vid=SOLO&mode=advanced.
Instruction in searching on SOLO will be given as part of your Library induction.

Library staff will be delighted to help with access to electronic resources, either in person at the Library Enquiry Desk during staffed hours (Mon-Fri, 9-5) or via email at Library@seh.ox.ac.uk.

If you need an item for study which is not in the Library collection it may be possible for us to acquire it, again please contact Library staff either in person or via email.

Your conduct in the library
Smoking, eating and drinking in the Library are strictly forbidden. Please do not bring any food or drink into the Library, whether or not you intend to consume it there, with the exception of water in a sealed container and hot drinks in re-sealable plastic cups. Prohibited items include juices, smoothies and protein drinks. Bottles of ink are also prohibited.

Mobile phones must be switched off or put on silent upon entering the Library. Please step outside the Library if you need to make or receive a call.

When you have finished working in the Library, take all your personal belongings with you. Desks will be checked every morning, and any personal belongings left unattended may be removed.

Limited storage is available in the south porch at the entrance to the Library. Please ensure your belongings are left with a completed slip with your name and the date.

Opening times
The Library is open 24 hours a day, 7 days a week. The door is operated via a fob. Staff are on duty during weekdays 9am-5pm and are also available to answer queries via email to library@seh.ox.ac.uk.

Internet access in the Library
Wireless internet access is available throughout the Library. During staffed hours printing and scanning requests can be sent to library@seh.ox.ac.uk.

Course Timetable

06/07	Sunday	19:30	Arrival at London Heathrow Airport Transit to Oxford by chartered bus
		15:00-21:00	Check-in at the Besse Building St Edmund Hall
07/07	Monday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		08:40-08:50	Welcome Remarks & Overview of the Course Professor Alan Silman / Professor Stephanie Dakin The Oxford Martin School Lecture Theatre
		09:00-10:30	Overview of the potential of precision medicine to address health issues in 21st century Professor Alan Silman The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Role of precision medicine in the treatment of inflammatory joint disease Professor Laura Coates The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		14:00-15:00	Library Induction Mr James Howarth, Librarian St Edmund Hall
		16:00-17:30	Practical Coding Session (1) Professor Dan Woodcock and Dr Griffin Farrow The Botnar Research Centre
		18:30-20:00	Welcome Dinner Keynote Speaker Pro-Vice Chancellor Professor Chas Bountra Professor Alan Silman / Professor Stephanie Dakin The Wolfson Hall, St Edmund Hall

08/07	Tuesday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		09:00-10:30	Advances in artificial intelligence for healthcare Professor David Clifton The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Artificial intelligence in cardiovascular medicine: how ready are we? Professor Charalambos Antonaides The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		14:30-16:30	Academic Visit to the Kavli Institute for Nanoscience Discovery Professor Dame Carol Robinson The Kavli Institute for Nanoscience Discovery
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
09/07	Wednesday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		08:45-10:15	Targeting immune mediated inflammatory disease: the example of lung fibrosis Professor Ling-Pei Ho The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Recent developments in the use of artificial intelligence in diagnostic imaging Professor Qiang Zhang The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		14:30-16:30	Academic Visit to the Big Data Institute Professor David Eyre The Big Data Institute

		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
10/07	Thursday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		09:00-10:30	Applying precision medicine in improving cancer patient survival: the example of acute myeloid leukaemia Professor Paresh Vyas The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Role of biomarkers in predicting cognitive outcomes after acute illness and stroke Professor Sarah Pendlebury The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		13:30-15:00	Free Time
		16:00-17:30	Practical Coding Session (2) Professor Dan Woodcock and Dr Griffin Farrow The Botnar Research Centre
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
11/07	Friday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		9:00-10:30	Advances in precision medicine in advancing new therapies for cancer: role of linking single cell multi-omics to function Professor Rachael Bashford-Rogers The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Clinical decision making in targeting stroke prevention Professor Peter Rothwell The Oxford Martin School Lecture Theatre

		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		13:30-15:00	Free Time
		16:00-17:30	Practical Coding Session (3) Professor Dan Woodcock and Dr Griffin Farrow The Botnar Research Centre
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
12/07	Saturday	08:00-09:00	English Breakfast The Wolfson Hall, St Edmund Hall
		09:00-17:30	Visit to the Bicester Village (optional)
		12:30-13:00	Lunch (Packed Lunch)
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
13/07	Sunday	08:00-09:00	English Breakfast The Wolfson Hall, St Edmund Hall
		09:00	Free Time (Packed Lunch)
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
14/07	Monday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		9:00-10:30	Decreasing the global burden from osteoporotic fracture Professor Kassim Javaid The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Artificial intelligence driven neuroscience Professor Rui Ponte Costa The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		14:00-15:00	Choral Rehearsal Dr Hsiang-Chun LEE / Dr Yingling ZHOU The Wolfson Hall, St Edmund Hall
		16:00-17:30	Practical Coding Session (4) Professor Dan Woodcock and

			Dr Griffin Farrow The Botnar Research Centre
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
15/07	Tuesday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		9:00-10:30	Harnessing the power of biobanks to advance precision health Professor Zhengming Chen The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Human model systems for defining targeted therapies in cardiovascular disease Professor Chris Toepfer The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		13:30-17:30	Free Time
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
16/07	Wednesday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		9:00-10:30	Application of machine learning in improving cancer patient outcomes Professor Dan Woodcock The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Novel insights from genetics and genomics into the pathophysiology of infectious and autoimmune disorders Professor Julian Knight The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall

		13:30-15:00	Free Time
		16:00-17:30	Practical Coding Session (5) Professor Dan Woodcock and Dr Griffin Farrow The Botnar Research Centre
		18:30-20:00	Dinner Hotspot Chinese restaurant
17/07	Thursday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		9:00-10:30	Non-alcoholic fatty liver disease: a global problem Professor Jeremy Cobbold The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Oxford research in new vaccines Professor Sir Adrian Hill The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall
		14:00-16:00	Academic Visit to the Jenner Institute Professor Sir Adrian Hill and colleague The Jenner Institute
		16:00-17:30	Free Time
		18:00-19:00	Buffet Dinner The Wolfson Hall, St Edmund Hall
18/07	Friday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		09:00-10:30	Primary liver cancer Professor Waleed Fateen The Oxford Martin School Lecture Theatre
		10:30-11:00	Tea & Coffee Break
		11:00-12:30	Complexities in global health Professor Trish Greenhalgh The Oxford Martin School Lecture Theatre
		12:30-13:30	Lunch The Wolfson Hall, St Edmund Hall

		13:30-14:00	Course Appraisal Professor Alan Silman / Professor Stephanie Dakin The Pontigny Room, St Edmund Hall
		14:00-15:30	Drinks Reception Professor Alan Silman / Professor Stephanie Dakin The Old Dining Hall, St Edmund Hall
		15:30-16:00	Class of 2025 Photograph Session Professor Alan Silman / Professor Stephanie Dakin The Front Quad, St Edmund Hall
		18:30-19:30	Drinks Reception (for Staff and Guests) Professor Alan Silman / Professor Stephanie Dakin The Pontigny Room, St Edmund Hall
		19:30-21:00	Farewell Dinner Professor Alan Silman / Professor Stephanie Dakin The Wolfson Hall, St Edmund Hall
19/07	Saturday	08:00-08:30	English Breakfast The Wolfson Hall, St Edmund Hall
		10:00	Check-out from the Besse Building St Edmund Hall
		15:00	Chartered bus departure for London Heathrow Airport

Notes:

- ✓ The venue in the Oxford Martin School Lecture Theatre, 34 Broad Street, Oxford OX1 3BD
- ✓ Each lecture session comprises one hour for lecture and half an hour for discussion
- ✓ Speakers are encouraged to use power-point presentations and lecture notes will be made available to the attendees after the Course
- ✓ Dress Smart
- ✓ Each attendee is required to compose a minimum 3,000-word essay, presenting his/her original arguable opinion about an academic issue of his/her choosing – typically related to a lecture of the Course. The essay can be in any format and should be submitted electronically to the OXCEP Chairman at frank.hwang@seh.ox.ac.uk by **5pm on Wednesday 16th July 2025**

The Speakers

Professor Alan Silman



Professor Alan Silman trained in rheumatology and in epidemiology and had academic post at London University, headed arthritis research at Manchester University before becoming the first Medical Director of the Arthritis Research UK. Since 2015 he has been Professor of Musculoskeletal Health at Oxford University and Senior Research Fellow at Green Templeton College Oxford. He has authored over 700 research papers and a number of textbooks. He is amongst the top 10 published medical scientists in Oxford and top 60 in the UK. He was elected Fellow of the Academy of Medical Sciences and has honorary doctorates from the Universities of Keele and East Anglia. He has been an advisor to the UK government in several areas of medicine and health. Most recently his research has focused on the issues arising from multi-morbidity in both 'high' and in 'low and middle' income countries. Professor Alan Silman is the Course Director of the OXCEP Academic Medicine Courses 2025.

Professor Stephanie Dakin



Professor Stephanie Dakin is Professor of Musculoskeletal Sciences and Senior Research Fellow at Green Templeton College Oxford. Her Lab Group at the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS), University of Oxford undertakes translational research focusing on identifying the cellular basis of inflammatory fibrosis in soft tissue joint disease, with research programmes on tendinopathy, frozen shoulder and knee arthrofibrosis. Understanding the cellular and molecular basis of these diseases will inform new therapeutic approaches targeting tissue resident stromal cells of the joint, to promote resolution of chronic inflammatory fibrosis. Stephanie served as Director of Postgraduate Taught Studies for the MSc in Musculoskeletal Sciences at the University of Oxford for 8 years. Professor Stephanie Dakin is the Deputy Course Director of the OXCEP Academic Medicine Courses 2025.

Professor Chas Bountra



Professor Chas Bountra is Pro-Vice Chancellor for Innovation at the University of Oxford, Professor of Translational Medicine in the Nuffield Department of Clinical Medicine, Director of the Centre for Medicines Discovery, and Professorial Fellow at Keble College, Oxford. Prior to coming back to Oxford in 2008, Chas was Vice President and Head of Biology at GlaxoSmithKline. Chas is an invited expert on several government and charitable research funding bodies, and an advisor for many academic, biotech and pharma drug discovery programmes. In 2012 he was voted one of the “top innovators in the industry”, in 2014 received the “Rita and John Cornforth Award” from the Royal Society of Chemistry, in 2017 and 2018 was voted “Master of the Bench” from the Medicine Maker Power List, and in 2018 was awarded the“Order of the British Empire” in the New Year’s Honours List. Professor Chas Bountra is the Keynote Speaker in the Closing Ceremony of the OXCEP Academic Medicine Courses 2025.

Professor Laura Coates



Professor Laura Coates is an NIHR Research Professor whose research focuses on optimal therapeutic strategies in psoriatic arthritis (PsA). Her PhD focused on the development of the minimal disease activity criteria for PsA and establishment of the TICOPA trial, the first study to show the benefit of treating to target in PsA. Her research is clinical and focuses on psoriatic arthritis and spondyloarthritides, including prediction, prevention and early diagnosis of PsA, development of digital outcome measures, optimal treatment pathways and strategies in PsA. Professor Laura Coates is on the steering committee of the British PsA Consortium (BritPACT) and the Group for Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA).

Mr James Howarth



Mr James Howarth has been the Librarian at the Hall since 2018. He came to St Edmund Hall from Balliol College where he was Assistant Librarian from 2015. Previously he has worked at the International Institute of Strategic Studies and at Lambeth Palace Library in London, as well as the Taylorian Library in Oxford. He holds MAs in Library and Information Studies from UCL and Medieval Studies from the University of York, as an undergraduate he read English at Exeter College Oxford. As Librarian, Mr Howarth strives to make the Library the intellectual hub of Hall life and a welcoming place to study. He is responsible for maintaining and developing the library's collections and particularly welcomes book requests (on almost any topic) from students. He is also responsible for the Hall's historic and special collections that live in the 17th century Old Library and is keen to promote their use in research, study and outreach.

Professor Dan Woodcock



As Professor of Translational Data Science, Dan has a background in mathematics and machine learning plus over 15 years experience in the biomedical field. The focus of his research is the development and application of machine learning methods to multi-modal data sets to reveal information that conventional techniques cannot. His main work is in cancer, where a particular interest is the discovery of subtypes and prognostic signatures to stratify patients that are susceptible or resistant to particular treatments.

Dan is involved in a number of research projects within Oxford, including leading the multimodal data analysis in the 'COMBATcancer' project (Combined Molecular Analysis of Blood and Tissue in cancer) run through Oxford Cancer and co-leading the Oncology work-stream of the Cartography project. He also has collaborators across the world, particularly those in the Pan Prostate Cancer Group, where he leads the Subtypes and Prognostic Signatures working group. Although his primary focus remains prostate cancer, he is open to investigating any cancer type and has ongoing projects in bladder, kidney, colorectal, endometrial and oesophageal cancers. Professor Dan Woodcock takes charge of the hands-on practical coding sessions (Python) of the OXCEP Academic Medicine Courses 2025.

Dr Griffin Farrow



Dr Griffin Farrow earned a PhD in Computational Physics from Imperial College London, where he created computational models of plasma physics in Python. He then worked as a Health Data Scientist for the UK Government's Medicines and Healthcare Products Regulatory Agency. He is currently a Postdoctoral Research Associate at the University of Oxford where he works on the development of AI methods to identify and characterise subgroups of patients that respond to treatments in clinical trials. Dr Griffin Farrow is an Instructor on the Practical Coding Sessions (Python) of the OXCEP Academic Medicine Courses 2025.

Professor David Clifton



Professor David Clifton is the Royal Academy of Engineering Chair of Clinical Machine Learning at the University of Oxford, and leads the Computational Health Informatics (CHI) Laboratory which focuses on "AI for Healthcare". He is OCC Fellow in AI & ML at Reuben College, a Research Fellow of the Royal Academy of Engineering, and a Fellow of the Alan Turing Institute. Since 2008, he has focused mostly on the development of AI-based methods for healthcare. His research has been commercialised via university spin-out companies OBS Medical, Oxehealth, Biobeats, and Sensyne Health, in addition to collaboration with multinational industrial bodies. In 2022, the Pandemic Sciences Institute opened at Oxford, of which he is an investigator and where CHI Lab provides its AI theme. His research has won over 40 awards; he is a Grand Challenge awardee from the UK Engineering and Physical Sciences Research Council, which is an EPSRC Fellowship that provides long-term strategic support for nine "future leaders in healthcare." He was joint winner of the inaugural "Vice-Chancellor's Innovation Prize", which identifies the best interdisciplinary research across the entirety of the University of Oxford.

Professor Charalambos Antonaides



Professor Charalambos Antonaides is the British Heart Foundation Chair of Cardiovascular Medicine and Director of the Acute Multidisciplinary Imaging And Interventional Centre (AMIIC) in the Radcliffe Department of Medicine at Oxford. He undertakes major research on crosstalk between adipose tissue and the cardiovascular system: From target discovery to advanced imaging and risk prediction, such as the vascular wall and myocardium. His group uses state-of-the-art non-invasive imaging techniques, both advanced ultrasound and CT imaging techniques, to study the structure and function of the cardiovascular system and explore its interactions with the adipose tissue. They are at the forefront of using artificial intelligence to design precision imaging diagnostics and discover novel therapeutic targets.

Professor Dame Carol Robinson



Building on her earliest observations of ligand binding to folded proteins, Professor Dame Carol Robinson became fascinated by the balance of interactions that enable proteins and their complexes to survive in the gas phase. This has guided her research over the years and prompted many of her current questions and future directions. The central tenet of her research is that native mass spectrometry (MS), a technique which enables interactions of proteins to be maintained in the gas phase, can provide unparalleled information on the structure, binding partners and dynamics of proteins, complementing other biophysical approaches yet a powerful tool in its own right. Particularly exciting is the agility with which native MS can be adapted and applied to the research challenges of our time. Professor Robinson's overall goal is to continue to develop and advance her native MS methods for application to a range of fundamental and applied research goals.

Professor Ling-Pei Ho



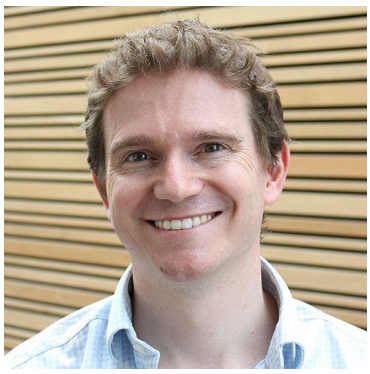
Professor Ling-Pei Ho is Professor of Respiratory Immunology. She is interested in how immunological responses impact on mechanisms of lung injury and repair. Her projects are divided into mechanistic and translational studies. The mechanistic studies question how innate immune cells like iNKT cells, MDSCs and monocyte-macrophage lineage impact on outcome in severe influenza virus infection and progression of lung fibrosis. These studies inform, drive and allow her to test mechanistic hypotheses in/from her human work. In the translational space, her focus is on new or improved therapy for lung fibrosis. Her diseases of interest are idiopathic pulmonary fibrosis (IPF) and fibrotic sarcoidosis, and she targets the interface between cellular immunology, disease mechanisms and early clinical trials.

Professor Qiang Zhang



Professor Qiang Zhang is a deep learning (machine learning) scientist, with cross-domain knowledge of cardiovascular disease, MR physics and scan protocols. His research programme focuses on advancing cardiac imaging and enriching clinical research, with AI: (i) Advancing cardiovascular MRI with Generative AI. A representative work is Virtual Native Enhancement imaging, where he developed AI techniques that could serve as "virtual contrast" in enhancing MR images, without the need for contrast injections. This may lead to more informative, needle-free, faster and safer heart MR scans. (ii) Developing automated image processing pipeline for cardiac imaging big data, and AI-enhanced cardiac biomarkers to drive new discoveries in clinical research.

Professor David Eyre



Professor David Eyre is Professor of Infectious Diseases at the University of Oxford's Big Data Institute. His research aims to understand who gets different infections and why, and how best to prevent, treat and monitor these infections. He also works on developing artificial intelligence tools to help diagnose and treat hospital patients, and to help hospitals run better. He uses a range of approaches spanning epidemiology, statistics, causal inference, and machine learning. He works with detailed deidentified healthcare record data at both regional and national scales. He also has extensive programming and database expertise. His other research interests include the use of whole-genome sequencing as a tool for understanding the epidemiology and transmission of bacteria, viruses and fungi, and mathematical modelling of infectious disease transmission. Professor David Eyre is also interested in using sequencing technologies as a novel tool for culture-independent microbiology diagnostics. These technologies offer the prospect of same-day diagnosis of infection, rather than having to wait several days for bacteria to grow in the lab as is common now.

Professor Paresh Vyas



Professor Paresh Vyas is a clinical academic haematologist. He is Professor of Haematology at the University of Oxford and Deputy Director of the MRC Molecular Haematology Unit (MHU), Weatherall Institute of Molecular Medicine (WIMM) at the University of Oxford. He is clinical lead for AML (Acute Myeloid Leukaemia) and high risk MDS (Myelodysplasia) for the Oxford region and helps lead Phase I-III clinical trials in AML and MDS for the UK AML Trial Group. He formed the EVOLVE consortium, composed of HOVON, AMLSG and the UK AML Trial Group that now jointly plan pivotal Phase III AML/high risk MDS trials. He trained in Cambridge, Oxford and London. He did his PhD with Doug Higgs on globin gene regulation and his post-doctoral research with Dr Stuart Orkin at Children's Hospital Boston. His research focuses on the molecular and cellular biology of normal and leukaemic haemopoiesis, AML therapy, clonal haemopoiesis and allo-immune responses to leukaemia.

Professor Rachael Bashford-Rogers



Professor Rachael Bashford-Rogers uncovers how the immune system changes across diseases. She has developed widely adopted experimental and computational tools, including B/T cell receptor sequencing, single-cell multi-omics, functional assays and imaging processes, to reveal how immune cells develop, function, and respond to therapy in health and disease. She is also co-founder of two companies: 'Alchemab Therapeutics', which is developing drugs targeting a wide range of diseases in an unmatched and novel manner; and 'Theraimmune', which is dedicated to developing the first-generation of post-menopausal therapeutics through decoding how individual cells age and interact after menopause to uncover the mechanisms driving disease.

Professor Peter Rothwell



Professor Peter Rothwell is a clinical neurologist with particular interests in stroke, hypertension, the risks and benefits of aspirin, and how best to apply the results of clinical trials and other research to clinical decisions with individual patients in routine clinical practice. He leads the longitudinal Oxford Vascular Study, the findings of which have changed how people are assessed and treated after a transient ischaemic attack (TIA) or stroke, both in the UK and around the world. TIAs are now seen as medical emergencies requiring urgent treatment. Taking aspirin straight after a TIA, Professor Rothwell's team showed, can reduce the chance of a major stroke over the next few days by 80%. Professor Rothwell holds various advisory roles relating to stroke, including the National Stroke Strategy, the Stroke Association, the National Institute for Health and Care Excellence, and he serves on several conference scientific committees. He is the author of over 300 published scientific papers and several books.

Professor Kassim Javaid



Professor Kassim Javaid is Professor of Osteoporosis and Adult Rare Bone Diseases, and his research areas are in epidemiology and adult metabolic bone disease focusing vitamin D, osteoporosis, secondary fracture prevention and rare bone diseases. He is also an adult rheumatologist at the Oxford University Hospitals NHS Trust, with specialties in clinical and research of common and rare metabolic bone diseases. He is the clinical lead for Oxford Fracture Prevention Service and the national Fracture Liaison Service Audit for England and Wales run through the Royal College of Physicians. Internationally, he co-chairs the International Osteoporosis Foundation Capture the Fracture Programme that has audited over 400 services globally. He is also clinical lead for the Oxford Rare bone disease service for adults and the national 100,000 Genomes Clinical Interpretation partnership for musculoskeletal conditions.

Professor Rui Ponte Costa



Professor Rui Ponte Costa leads the Neural & Machine Learning group that leverages AI principles to develop a new generation of computational models of learning in the brain. We are at an exciting turning point in neuroscience. New technologies now allow us to measure and control neural activity and behaviour with unprecedented detail. At the same time, new theoretical frameworks are starting to reveal how rich behaviours arise from synaptic, circuit and systems computations. The group is contributing directly to the latter by aiming to understand how we learn. To this end, the group is developing a new generation of computational models of learning driven by recent machine learning developments. The group focuses on understanding how a given behavioural outcome ultimately leads to credit being assigned to trillions of synapses across multiple brain areas – *credit assignment problem*. To this end and in order to have a unified understanding of how we learn to produce adaptable behaviours, it is important to jointly study the contribution of three different systems: (i) *cortical circuits*, (ii) *neuromodulation* and (iii) *subcortical regions*. The group co-organises the Oxford NeuroTheory Forum.

Professor Zhengming Chen



Professor Zhengming Chen is Richard Peto Professor of Epidemiology at Oxford Population Health and a Senior Research Fellow of Green Templeton College Oxford. His main research focus concerns causes, prevention and treatment of major chronic disease. Over the last few decades, he has initiated and led several large international randomised trials (e.g. CAST, COMMIT/CCS-2) involving in total more than 100,000 patients, leading to major changes of international guidelines and clinical practice. He has published >700 papers (h-index >125), with expertise in epidemiology, genomics, target discovery, clinical trials, and precision health. In Oxford he leads a large and expanding multi-disciplinary research team involving >50 staff and DPhil students, with research themes covering lifestyle factors, environmental health, chronic infection, genetic epidemiology, risk prediction, and application of big data in development of precision medicine and population health. He also sits on a number of international and UK research committees (e.g. Hong Kong Research Council, UK MRC, and the Wellcome Trust). Professor Zhengming Chen is an elected Fellow of Academia Europaea.

Professor Christopher Toepfer



Professor Christopher Toepfer's main research interest is the study of the role of thick filament variants in hypertrophic cardiomyopathy (HCM). He had established the laboratory of 'Cardiac Physiology and Disease Modelling' at the University of Oxford, supported by a Sir Henry Dale Fellowship from Wellcome and additional funding from the British Heart Foundation (BHF). His research group is investigating the mechanisms that drive inheried cardiomyopathies, including both HCM and dilated cardiomyopathies (DCM), by using human induced pluripotent stem cells (hiPSCs) to produce human heart cells in the dish (hiPSC-CMs). Utilising genetic engineering (CRISPR/Cas-9), his research team introduce patient specific mutations into human heart cells to study disease mechanisms, with the aim of developing new genetic cures for inherited heart muscle diseases.

Professor Sarah Pendlebury



Professor Sarah Pendlebury graduated in 1992 from Oxford and worked subsequently in London and France. She is Professor of Medicine and Old Age Neuroscience at the University of Oxford and Consultant Physician and Clinical Lead for Dementia at the Oxford University Hospitals NHS Foundation Trust. Professor Pendlebury's research centres around the impact of acute illness on the ageing brain and encompasses delirium and dementia, cerebrovascular disease and frailty.

She has established ongoing big data cohorts and smaller prospective studies to explore the impact of acute illness and delirium on future dementia risk as part of the ORCHARD research portfolio. This includes leveraging real-world EPR data, following her Trust-wide implementation of routine cognitive and delirium screening, for epidemiologic studies into the prevalence and outcomes of delirium and dementia, the development of risk prediction algorithms, exploratory blood biomarkers and automated CT-brain imaging analysis.

Professor Julian Knight



Professor Julian Knight is Professor of Genomic Medicine at the University of Oxford, Honorary Consultant Physician at the Oxford University Hospitals NHS Foundation Trust, and Research Director at the NHS Central and South Genomic Medicine Service Alliance. He is clinically active in internal medicine and a Fellow of the Academy of Medical Sciences. His work is focused on advancing genomic medicine into the clinic, with an active research programme in this area and providing leadership in education and training. He is a Principal Investigator at the Centre for Human Genetics, leading work investigating the genomics of immunity and how this can determine our individual response to infections such as sepsis.

Professor Jeremy Cobbold



Professor Jeremy Cobbold graduated in Medicine from the University of Cambridge and University College London. He also obtained a PhD from Imperial College London. He is Consultant Hepatologist and Clinical Lead for Hepatology at Oxford University Hospitals NHS Foundation Trust. He set up the multi-disciplinary metabolic hepatology clinic in Oxford for patients with steatotic liver diseases and continues to run the clinic weekly. Professor Cobbold's research into steatotic liver disease spans 20 years, with extensive publications on non-invasive assessment and therapeutic strategies. He serves as Chair of the MASLD Special Interest Group for the British Association for the Study of the Liver. Professor Jeremy Cobbold also runs the joint Oxford / Royal Free liver transplant service, in collaboration with the Royal Free transplant team.

Professor Sir Adrian Hill



Professor Sir Adrian Hill is the Lakshmi Mittal Professor of Vaccinology and Director of the Jenner Institute at Oxford University. In 2005 he founded the Jenner Institute at Oxford, which is now one of the largest academic vaccine centres globally with clinical-stage vaccine programmes against fifteen diseases. His current lead malaria vaccine, R21 in matrix-M adjuvant, has shown high efficacy in clinical trials in the UK and Africa (Lancet. 2021;397:1809-1818) and could be the first widely used vaccine to impact on the great disease burden of malaria in Africa. In 2020, the Jenner Institute initiated a major effort towards rapid development of a COVID-19 vaccine which in collaboration with AstraZeneca is now in world-wide pandemic deployment. He has published over 600 research papers with 60,000 citations and co-founded several spin-off companies. He is a Fellow of the UK Academy of Medical Sciences, the Royal College of Physicians, and the Royal Society.

Professor Waleed Fateen



Professor Waleed Fateen is a Consultant Hepatologist and Pancreato-biliary physician. His area of interest is early cancer detection as well the management of liver, bile duct and pancreatic cancer. He obtained a PhD in liver cancer from the University of Leeds. Professor Fateen is an advanced endoscopist with interest in liver, bile duct and pancreatic endoscopy using ERCP and EUS. His current research focuses on developing cost-effective molecular tests for the early detection and monitoring of primary liver and biliary tract cancers, specifically hepatocellular carcinoma and cholangiocarcinoma using cell-free DNA (cfDNA) analysis from blood and bile samples. By leveraging genomic discoveries made through comprehensive sequencing studies over the past two decades, his team are creating tests that can be easily adopted by diagnostic laboratories, significantly improving early detection and potentially transforming clinical outcomes for patients facing these aggressive cancers.

Professor Trish Greenhalgh



Professor Trish Greenhalgh is Professor of Primary Care Health Sciences and Fellow of Green Templeton College at the University of Oxford. She has a doctorate in diabetes care and an MBA in Higher Education Management. She leads a programme of research at the interface between the social sciences and medicine, working across primary and secondary care. Her main interests are the health needs and illness narratives of minority and disadvantaged groups; the introduction of technology-based innovations in healthcare; and the complex links between research, policy and practice. Professor Trish Greenhalgh is the author of over 500 peer-reviewed publications and 16 textbooks. She was awarded the OBE for Services to Medicine by Her Majesty the Queen in 2001 and made a Fellow of the UK Academy of Medical Sciences in 2014. In 2021 she was elected to the Fellowship of United States National Academy of Medicine for "major contributions to the study of innovation and knowledge translation and work to raise the profile of qualitative social sciences". She became a Fellow of the Faculty of Leadership and Management in Medicine in 2024. Professor Trish Greenhalgh was the Course Director of the OXCEP Academic Medicine Course 2019.

The Venue

The Oxford Martin School



The Oxford Martin School is a research community of over three hundred scholars working across disciplines to address the most pressing global challenges and opportunities of the 21st century. From the governance of geoengineering and the possibilities of nanotechnology, to the future of food and the implications of our ageing population, the Oxford Martin School supports over twenty research teams, all based in the University of Oxford, to consider some of the biggest questions that concern our future. It was founded in 2005 through the vision and generosity of Dr James Martin, author of the books The Wired Society and The Meaning of the 21st Century.

Academic Visits

The Kavli Institute for Nanoscience Discovery



The Kavli Institute for Nanoscience Discovery (Kavli INsD) is a groundbreaking interdisciplinary science institute focused on world-class nanoscience research. Established in April 2021 as the 20th institute funded by the esteemed Kavli Foundation, we are proud to be the University of Oxford's first institute spanning the life, medical, and physical sciences.

Led by the distinguished Professor Carol Robinson, a renowned chemist specialising in mass spectrometry and the study of protein structures, Kavli INsD is committed to making significant contributions in critical areas such as antimicrobial resistance, brain and mental health, infectious diseases, and malaria. Additionally, we strive to develop cutting-edge instrumentation that brings the analytical power of the physical sciences into the realm of cellular exploration.

At Kavli INsD, our exceptional team of faculty and researchers represents diverse backgrounds in structural biology, biochemistry, pathology, chemistry, physics, physiology, and engineering. United by our shared focus on the nanoscale—the scale of proteins, viruses, and DNA—we are at the forefront of unravelling the mysteries of the most fundamental unit of life: the cell.

Together, we are shaping the future of nanoscience, fostering an inclusive and collaborative working culture, and driving breakthrough discoveries that have the potential to revolutionize our understanding of the world around us.

The Big Data Institute



The Big Data Institute (BDI) is an interdisciplinary research institute that focuses on the analysis of large, complex, heterogeneous data sets for research into the causes and consequences, prevention and treatment of disease. Big Data methods are transforming the scale (breadth, depth and duration) and efficiency (data accumulation, storage, processing and dissemination) of large-scale clinical research. The work of the BDI requires people and projects that span traditional departmental boundaries and scientific disciplines, supported by technical resources to handle the vast quantities of data they generate.

The Jenner Institute



Adrian is the Director and Founder of the Jenner Institute and Mittal Professor of Vaccinology at Oxford University. His group has been one of the leaders in the development of adenoviral and other vaccines against infectious diseases and he has tested these in extensively in clinical trials in Africa and Europe.

In partnership with the Serum Institute of India and AstraZeneca the Jenner Institute developed rapidly a ChAdOx1 vector-based SARS-CoV-2 vaccine which saved an estimated 6.2 million lives in 2021 alone. His lab has also designed a new malaria vaccine, R21/Matrix-MTM, which has recently reached licensure, again in partnership with the Serum Institute of India and also Novavax Inc.

In 2021 he was elected a Fellow of the Royal Society and appointed an Honorary Knight Commander of the Order of the British Empire (KBE) in Queen Elizabeth's Birthday Honours. The nomination acknowledges the major contributions Adrian has made to vaccinations globally.

Practical Coding Sessions

The Botnar Research Institute

16:00-17:30

July 7th

July 10th

July 11th

July 14th

July 16th

Use of Python Coding in Precision Medicine and the Application of Machine Learning

Welcome to our short course on using the programming language Python as a tool for answering questions in precision medicine and in particular to take advantage of Python's ability to use machine learning techniques.

The OXCEP Summer Course includes a series of lectures on different aspects of precision medicine. There is an underlying question which clinicians and scientists face in medicine especially in the fields of diagnosis and treatment: in an ideal world we want to be able to know, for example, (i) which patients have a specific disease, or a specific disease subtype or (ii) which patients will respond to a specific treatment. The amount of information that can inform the answers to these questions is growing almost exponentially. Genetic analysis can produce data on several thousands of mutations, modern imaging can likewise generate a vast amount of data that can be manipulated in many different ways. Conventional statistical techniques cannot easily manage such complex data. What machine learning can do is to take these complex datasets and produce the best answer to a question of diagnosis or treatment outcome.

Why Python? Python is an 'easy' to learn programming language that has libraries that can be used to explore a complex data set and generate answers in a user friendly format

Objectives of the Short Coding Course

At the end of this short course, attendees will have an understanding of what Python can do in addressing questions of relevance to precision medicine. With simple worked examples, attendees will see for themselves how items data from individual patients can generate, both in numerical terms and in graphical outputs , models of outcomes that have real world applicability. This short course is going to allow attendees to have the conversations with their full time data science and analysis colleagues of what the goals of an analysis are and how to interpret the outputs that emerge.

Successful research leadership in precision medicine requires a deep understanding of (i) the disease and its consequences (ii) the nature of the clinical, imaging, genetic and molecular biomarkers and (iii) the process of integrating both of the previous areas of knowledge by an appropriate analysis. The aim of this course is to provide leaders

in this field, with extensive knowledge of (i) and (ii) with the tools to have the necessary insightful conversations with the appropriate colleague on (iii) above.

Background skills prior to course

Many of the attendees, as part of their prior education or role will have come across Python and have some familiarity with it. It is recommended that attendees have undertaken a 'Python 101' online course before coming on the Summer School. The course on the Summer School is specifically designed on how Python can be used in precision medicine and will take all attendees from the basics. Having done a preliminary online (or refresher) course will help attendees get more out of the course

Downloading software prior to course

To make the course sessions more efficient all attendees will be emailed the relevant instructions to install the *exact version of Python needed for the classes*, the Jupyter Notebook and the following modules: pandas, scikit-learn and matplotlib (see attached glossary). Full instructions will be provided

Course Outline

Session 1 (8th July): Python basics

- **Introductory tutorial**
  - How artificial intelligence (AI) can be of value to answer questions of relevance in precision medicine and the additional value over conventional regression statistical approaches
  - Understanding of how AI methods can help in decision making for precision medicine
  - Introduction to AI and its role in classification
  - Introduction to how to ensure best practice in data science
  - How AI can generate *Kaplan Meier** plots and be of value in questions involving the development of an outcome over time, such as survival

- **Demonstration**
  - There will be a brief refresher demonstration on screen of the basics of Python programming relevant for the tasks to be undertaken by the attendees
  - How to load a data file, and manipulate it with *pandas**
  - How to train a *random forest** but using *scikit-learn**
  - How to plot the outputs graphically with *matplotlib**

- **Individual support**
    - Course tutors will ensure that attendees have *Python* working and that they can operate *pandas*, scikit-learn* and matplotlib** on their laptop

Session 2 (10th July): Data science best practices

- **Introductory tutorial** to session
    - Importance of ensuring that any prediction model produced is reproducible
    - How to achieve this by splitting data into a test and a validation sample
    - Importance of ensuring a balance between classes

- **Demonstration**
    - Step by step approach to data cleaning
    - How to split the data by stratification
    - How to handle imbalance by weighting and, or resampling
    - 1-1 student guidance to ensure understanding

- **First homework task**
    - Attendees will be provided with a data set on mRNA in patients with head and neck cancer and HPV (human papilloma virus) status
    - The homework task will be explained in terms of using the python libraries to develop prediction models using both *logistic regression* and *random forest*

Session 3 (11th July): Model evaluation with Python

- **Individual checking of homework**
    - Each attendee will have a brief 1-1 with one of the course tutors to check their results
    - If there are common errors, the course tutor will explain how to **correct** them
    - The course tutors will explain how to **avoid** common errors in the future

- **Demonstration of model evaluation**
  Having produced a prediction model the attendees will be guided into how to evaluate its performance. This will be done by a demonstration to ensure an understanding of
    - The metrics used to evaluate a model
    - The role of *ROC** and *AUC** (area under the curve)
    - The trade-off between sensitivity and specificity
    - One to one guidance in class in applying the above to the students' models produced in their homework

Session 4 (14th July): Identifying the most important inputs

- **Introductory tutorial to session**
  - Recap of role of SHAP scores and importance scores
  - How they can be used to identify new biomarkers

- **Demonstration**
  - One to one working with students on using SHAP and generating plots to identify biomarkers

- **Homework**
  - The students will be provided with a new data set, this one to develop a model on treatment response and the role of biomarkers in predicting this
  - Students will be required to generate *SHAP** value to identify possible biomarkers
  - Then to train a new *random forest** only with these biomarkers
  - To examine that the model has performed as expected using the metrics discussed above including *ROC**

Session 5 (16th July): Survival Analysis with Python

- **Individual checking of homework on identifying biomarkers**
  - Each attendee will have a brief 1-1 with one of the course tutors to check their results
  - If there are common errors, the course tutor will explain how to **correct** them
  - The course tutors will explain how to **avoid** common errors in the future

- **Demonstration on survival analysis**
  - Using Python to generate *Kaplan Meier** survival curves
  - How to plot *Kaplan Meier** curves from the biomarker data from the previous homework

- **Individual support**
  - Course tutors will ensure that students can generate the *Kaplan Meier** curves above themselves

- **End of course conclusions**
  - Summary of skills learnt and feedback
  - Discussion of how these skills fit with the field of precision medicine
  - Discussion on the ethical implications of this AI approach to decision making

*****See glossary

GLOSSARY

AUC Area under the curve, refers to the area under the *ROC Curve.* The closer the AUC value is to 1.0, the better the model generated is at predicting which group of two groups of (say) patients with belong

Coding Coding is a set of instructions that a computer can understand and follow. The instructions are written in a language that a computer can process – a programming language. Python is one example of such a language

Importance Scores. In the context of *random forest,* an importance score can give a sense of how useful was a specific predictor in the final model

Jupyter Notebook This is a digital notebook, where you can write text , write some code in Python and run it and then see the output. The output can be a numerical result but can also be a graph or chart

Kaplan-Meier Curve This is a very well-known approach, used frequently in medical research to understand the probability of an outcome, such as developing a disease or death over a time period, producing easy to interpret graphical outputs. The curves can be very easily plotted in Python

Logistic Regression This is a well-known statistical tool that predicts from a set of variables what an outcome can be eg 'dead' or 'alive' based on a logistic model. Logistic regression can be used a machine learning tool in Python which can learn from the data once it is trained to do so

Matplotlib This is one of the most useful libraries in Python that makes visualisation of date in charts and graphs

Pandas Pandas is one of the most useful tools in Python that makes it easy to work with a dataset. It's like a kind of Excel Spreadsheet that Python can used

Python Python is one of the many programming languages. It's especially popular because it's easy to read and learn and has been around for over 30 years. (Historical note for fans of British Comedy the term Python comes from the creator Guido van Rossum who was a great fan of the comedy Mony Python's Flying Circus

Random Forest This is a powerful tool in Python when faced for example in wanting to classify individuals into groups based a complex series of decision

trees – unlike a flow chart which is based on a single path to make a decision

ROC Curve Python can be used to generate a ROC curve. In simple terms a ROC curve shows how well a model designed to split, say a patient group, into two groups fits the data. As an example, a set of lab tests in patients with cancer generate a score aiming to predict whether or not they should receive an intervention. Data from a ROC would help decide what should the cut-off be for that score, depending on the relative importance of not treating someone who would benefit against overtreating someone who would not benefit

Scikit-learn Scikit-learn is a way of using Python for machine learning. In that sense it goes beyond what Pandas does in processing data according to instructions, it can, for example, produce the best prediction model of an outcome

SHAP value In simple terms, a **SHAP value** is a way of explaining how much each feature in a prediction model, contributes to a model's prediction for a specific case. Thus the SHAP value produced by a *random forest* can examine the role of each predictor

Rules and Regulations

Mobile Phone and Noise

Use of mobile phones is strictly prohibited in the Oxford Martin School and Lincoln College (except in your own en-suite). Noise of any description which unduly disturbs others is not permitted on College grounds at any time.

Quiet and Silent Hours

The College campus including the Library should be kept quiet at all times. Both the Besse Building and the William Miller Building **should be kept quiet after 10pm and silent after 11pm**. **It is advisable that you return to your college accommodation by 10pm**.

Smoking

Smoking is strictly prohibited in the Oxford Martin School, St Edmund Hall and The Botnar Research Institute, as well as the University research centres and labs. Disabling of the fire detection system in order to avoid detection of smoking is not permitted.

Alcohol and Drugs

Drunk or disorderly behaviour is prohibited on campus. Possession, manufacturing, selling, or distributing of drugs (including marijuana) is strictly prohibited.

Wi-Fi Connection

Wi-Fi connection is available in all rooms. Please read the Wi-Fi instruction sheet placed in your room.

Fire

Please read the Fire Instructions placed in your room, on what to do in case of fire. No candles, incense, shisha-pipes, joysticks, BBQ fuel, fireworks, etc. are allowed in the college accommodation: **if it is designed to burn, it is not allowed**. Please do not overload electrical circuits, and please use a transformer when necessary (**UK voltage is typically 230V**).

Personal Belongings

Please note that you are responsible for safeguarding all your personal belongings, including passport and luggage. Please always keep your room locked and do not leave any property unattended in public at any time.

Room Fob

Each College room is secured by programmable SALTO lock, with its fob to be issued upon arrival. This fob will also provide you with access to the main college facilities including the Library. You are required to return the fob when check-out. **You would be charged £30 to replace a lost fob.**

Downloading

Downloading or sharing copyright material, not supplied by the copyright owner, is strictly prohibited.

Use of Room

You will normally be held responsible for any damage, disturbance, or other irregularity in your room. **Overnight guests are not permitted. Partying in the college accommodation bedrooms are not permitted.**

Others

Please attend class on time and do not leave early. Please use the toilet before or after class. No leave of absence during the Course and, in case of medical emergency, a request for sick leave has to be submitted to and approved by senior staff on duty.

During any academic visit, please keep up with the group and remain at all times within three metres in distance of the Oxford academic or staff leading the group.

Things to do and see in Oxford



Ashmolean Museum: Open on Tuesday-Sunday 10am-5pm.
Home to Oxford University's outstanding art and archaeology collections, the Ashmolean Museum is not only Britain's oldest public museum, but possibly the oldest museum in the world. Founded in 1683, what started as a single room of paintings and curiosities grew into an institution of superlatives. It is home to the biggest collection of Raphael drawings; the most significant collection of Anglo-Saxon artefacts apart from the British Museum; and the greatest Chinese collection in the West. During your visit, you can also take advantage of the new roof-terrace restaurant. In good weather, there can be few more spectacular spots to eat in, looking out over the rooftops and colleges of Oxford. The menu includes rustic European flavours.

View of Oxford skyline

*** University Church of St. Mary the Virgin:**



The Church Tower is open 9:30-18:00 Monday through Saturday, and 11:30-18:00 on Sundays, with the last admission 30 minutes before closing. Entrance to the Tower costs £4 for adults. The Church is open daily until 18:00 and is free of charge. Situated on the north side of the High Street, the 13th century Church Tower commands some of the finest views of Oxford's famous skyline, overlooking Radcliffe Square, the Radcliffe Camera, Brasenose College and All Souls College. It is worth the climb of 124 steps to make it to the top to enjoy fine uninterrupted views in all directions across Oxford and the surrounding countryside. The University Church of St Mary the Virgin is the largest of Oxford's parish churches and the centre from which the University of Oxford grew. St Mary's has one of the most beautiful spires in England and an eccentric baroque porch, designed by Nicholas Stone.

*** Carfax Tower:** Open 10:00-17:00. Admission: £2.20 for adults. Located at the junction of St Aldate's (south), Cornmarket Street (north), Queen Street (west) and the High Street (east). The Tower is all that remains of the 13th century St. Martin's Church and is now owned by the Oxford City Council. It is 23m (74ft) tall and still contains a ring of six bells, recast from the original five by Richard Keene of Woodstock in 1676. These chime on each quarter hour and are rung on special occasions by the Oxford Society of Change Ringers. The name 'Carfax' derives from the French 'carrefour', or 'crossroads'.

Historical Landmarks

*** Bodleian Library:** This is the main research library of the University of Oxford and one of the oldest libraries in Europe. The Bodleian Group now cares for some 8 million items on 117 miles of shelving, and has over 400 staff. It is the second largest library in the UK.



The Library is situated on Broad Street. The Bodleian Quadrangle is free to the public, but if you'd like to go inside, it is best to book a guided tour. The tickets for a guided tour may sell out quickly, and it is recommended to buy tickets on the morning of the tour. The ticket office opens at 9:00 Monday to Saturday, and at 11:00 on Sunday. It is situated at the Great Gate to the Bodleian Library, on Catte Street. Recommended tour options are: mini tours and standard tours. Mini tours allow you to view the most beautiful parts of the library in just 30 minutes, and cost £5. Mini tour hours are at 15:30, 16:00 and 16:40, Monday to Saturday. On Sunday, mini tours are at 12:45, 14:15, 15:15, 16:00 and 16:40. Standard tours are one hour long, cost £7 and the times are 10:30, 11:30, 13:00 and 14:00 on Monday-Saturday; 11:30, 14:00 and 15:00 on Sunday.

* **Radcliffe Camera:** Built in 1749 to house the Radcliffe Science Library, the Radcliffe Camera (camera is another word for 'room') is now a reading room for the Bodleian Library. The distinctive circular dome and drum of the structure makes it one of the most recognizable and often-photographed buildings in Oxford. Entrance is only possible as part of a Bodleian library tour.

* **Sheldonian Theatre:** Open Monday to Saturday 10:00 to 12:30, 14:00 to 16:30, and sometimes closed when the theatre is in use for University Ceremonies, meetings or concerts. Admission is £2.50 per adult. Located on Broad Street. The Sheldonian Theatre was built in 1668 from a design created by Christopher Wren. It was named after Gilbert Sheldon, who was Chancellor of the University at the time the construction was funded. The theatre is used for music recitals, lectures (such as the annual Romanes Lecture), conferences, and for University ceremonies such as graduation and matriculation. Handel performed here, including the first performance of his third oratorio *Athalia* in 1733. The building has a prominent eight-sided cupola in the centre of the roof, which is accessible via a staircase leading to the dome over the main ceiling. The cupola has large windows on all sides, providing views across central Oxford, and is open to visitors.



Parks and Gardens

*** The Botanic Garden:** Open 9:00-18:00 daily. Last admission is at 17:15. Day tickets cost £3.50. Located on Rose Lane across from Magdalen College on High Street, on the peaceful banks of the Cherwell River. The gardens were started in 1621 as the Physic Gardens, for the study of medicinal plants. These are the oldest botanic gardens in Britain. In addition to the lovely outdoor gardens, there are greenhouses which grow many varieties of exotic plants and flowers. Crossing over Rose Lane, there are rose gardens that are exquisite in August.



*** South Park:** South Park occupies 50 acres of open space, with magnificent views overlooking Oxford. Open every day. No admission charge.



*** Oxford University Parks:** Accessible from Parks Road and St Cross Road, this is a vast manicured picnic and sporting ground. Open every day. No admission charge.



Oxford Bus Map



Notes

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* IN CASE OF EMERGENCY *

Please contact

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Academic Medicine Course Assistant; or

Yang-Hong Dai

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OXCEP2013