The Speakers

Principal Professor Kathy Willis



Professor Katherine (Kathy) J. Willis, CBE, was appointed as Principal of St Edmund Hall in October 2018. Kathy is also Professor of Biodiversity in the Department of Zoology, University of Oxford.

Prior to this, Kathy was Director of Science at the Royal Botanic Gardens, Kew, where she spearheaded the launch of Kew's Science Strategy 2015-2020. She also previously held the Tasso Leventis Chair of Biodiversity at Oxford and was founding Director of the Oxford Martin School Biodiversity Institute.

Kathy's research interests focus on the relationship between long-term ecosystem dynamics and environmental change. She has published extensively being the author of over 100 scientific publications. In 2015, Kathy was awarded the Michael Faraday Prize for her excellent work in science communication and in 2016 she was appointed to the Natural Capital Committee, which will take forward the implementation of the Government's new 25-year Environment Plan.

Professor Robert Wilkins



Professor Robert Wilkins holds the American Fellowship in Physiology at St Edmund Hall: he oversees the admission, teaching and pastoral support of Biomedical Sciences and Medicine students and provides tutorials covering cellular and systems physiology. Prof. Wilkins was the Coordinator for Admissions in Medicine at Oxford from 2007 until 2011. He is now the Director of the University's Biomedical Sciences course that admitted its first students in October 2012. Prof. Wilkins is also the co-editor of the Oxford Handbook of Medical Sciences and Basic Science for Core

Medical Training and the MRCP (both OUP). In Trinity Term 2020, he was appointed as the University's Director of Pre-clinical Studies.

His research has characterised the involvement of membrane transport pathways in osteoarthritis and epithelial cancers. Prof. Wilkins has been the OXCEP Academic Medicine Course Supervisor since October 2018 and also became the Academic Director of the OXCEP in February 2024.

Professor Benjamin Fairfax



Professor Benjamin Fairfax is Professor of Cancer Immunogenetics. He was awarded a Wellcome Intermediate Clinical Fellowship to establish a research group at the MRC WIMM in 2017. The focus of his work is the identification of peripheral markers of response to checkpoint immunotherapy. He is particularly interested in the interaction of treatment with germline genetic variation to shape the anti-tumour immune response and predispose to autoimmune side effects. Other key projects within his group include the agnostic identification of T cell receptor sequences associated with complete response to treatment and the interplay with patient HLA type. He hopes that his work will help in the development of novel adjuncts to cancer immunotherapy as well as further the understanding of the mechanistic basis of autoimmunity. Prof. Fairfax is the Course Director of the OXCEP Academic Medicine Course 2024.

Dr Adam Handel



As a Honorary Senior Clinical Research Fellow and Consultant Neurologist, Dr Handel heads the Oxford Autoimmune Neurology Group and leads a team of researchers investigating the role of different parts of the immune system in autoimmune conditions affecting the central nervous system (CNS). Dr Handel regularly teaches medical students at the University of Oxford on autoimmune encephalitis and functional neurological disorders. He runs the Oxford Autoimmune Neurology Clinic at the John Radcliffe Hospital with

Oxford University Hospitals NHS Foundation Trust. In this capacity, he assesses and treats patients with multiple different types of autoimmune encephalitis and other neuroinflammatory conditions.

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 Sir Rory Collins



Professor Sir Rory Collins is an epidemiologist who studies how to prevent and treat cardiovascular disease. He is BHF Professor of Medicine & Epidemiology, and Head of the Nuffield Department of Population Health at the University of Oxford. Prof. Collins became Principal Investigator of UK Biobank in 2005. Involving 500,000 participants, it is the largest deeply-characterized prospective study of disease globally, available for any type of health research. Over 30,000 researchers worldwide use it currently, generating 1700 papers in 2021 alone. He was knighted for services to Science in 2011, elected to the Royal Society in 2015, and awarded the UK Medical Research Council's 2020 Millennium Medal for his national and

international research contributions. Prof. Sir Rory Collins has been the Chief Executive Officer of UK Biobank since 2005.

Dr Anya Topiwala



Dr Topiwala is a Wellcome Trust CRCD Fellow and a consultant psychiatrist. In 2019 Dr Topiwala was awarded a Wellcome Trust Clinical Research Career Development Fellowship to investigate the effect of and mechanistic pathways through which alcohol consumption impacts brain health. Using huge databases, which contain lifestyle and clinical data on millions of people in the UK and US, and the largest brain imaging and genetic samples worldwide, she will clarify how alcohol affects brain structure and function. The research will be conducted in collaboration with colleagues at the Universities of Oxford, Yale and London. Her previous funding has been through the MRC, the Ruth and Nevill Mott Scholarship at Linacre College, and grants from Alzheimer's Research UK and the University of Oxford. Prizes awarded include the Gosling Fellowship from the Royal College of Psychiatrists, a Junior Investigator Award from the European Society for Biomedical Research on Alcoholism, and a European Psychiatry Society Research prize.

Professor William James



Professor William James is Professor of Virology at the Sir William Dunn School of Pathology. His research focuses on macrophage modulation during viral infection and neuroinflammation. Tissue macrophages, including the microglia in the brain, act as critical sentinels to defend us against infection. Consequently, pathogens such as HIV have developed ways of circumventing the defensive functions of macrophages in order to establish chronic infection. Moreover, their persistence in macrophages appears to generate chronic inflammatory reactions, that may lead to the dysfunction of neighbouring cells, such as neurons, and result in neurocognitive disorders. In order to dissect the molecular pathways involved in these processes, Prof. James has

developed human iPS cell-derived tissue models for macrophages, microglia and neurons, and use high-efficiency Cas9-based gene editing methods to investigate the contribution of individual components. He also works extensively with neuroscience collaborators on the neuroinflammatory aspects of Parkinson's disease and Alzheimer's disease.

Professor Marian Knight



Professor Marian Knight is Professor of Maternal and Child Population Health at the National Perinatal Epidemiology Unit. Her work focuses on using national observational studies to address clinical questions concerning rare and severe complications of pregnancy and early life. She also leads the MBRRACE-UK national confidential enquiries into maternal morbidity and mortality. In February 2012, Marian was awarded one of the first NIHR Research Professorships to further develop her work relating to maternal morbidity and care of infants requiring early surgery. Professor Knight is also the Medical Sciences Divisional Academic Champion for Policy and Public Engagement and as part of her role she sits on the Oxford Policy Engagement Network Steering Group.

Professor Paul Leeson



Professor Paul Leeson is Professor of Cardiovascular Medicine at the University of Oxford, and Head of the Oxford Cardiovascular Clinical Research Facility. He is also a Consultant Cardiologist at the John Radcliffe Hospital, where he provides expertise in Cardiovascular Imaging, as well as General Cardiology and Cardiovascular Prevention through the Oxford Specialist Hypertension Clinic. He heads the Preventive Cardiology Research Group, based in the Oxford Cardiovascular Clinical Research Facility, which aims to improve how we identify and prevent heart disease in young people.

His research group has pioneered the application of computational modelling and artificial intelligence to imaging in clinical cardiology research and works on some of the largest imaging studies in the world. Novel insights generated by the group have ranged from how pregnancy complications alter the hearts of both mothers and their children, to how the structure of blood vessels differ in the brains of young people with high blood pressure. Innovations arising from the research led to the spin out of Ultromics from the group in 2017. The company has now brought some of the first AI-driven diagnostic aids in cardiology through regulatory clearance into clinical use in hospitals across the US and UK.

Professor Ling-Pei Ho



Professor Ling-Pei Ho is Professor of Respiratory Immunology and Honorary Consultant Respiratory Physician. She is interested in studying how immunological responses impact on mechanisms of lung injury and repair. Her research 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 us to test mechanistic hypotheses in/from our human work. In the translational studies, 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 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.

Dr Ioana Grigoras



Dr Grigoras is a Research Associate in the Physiological Neuroimaging Group, working with Professor Charlotte Stagg. During her DPhil, she used behavioural tasks, neuroimaging and non-invasive brain stimulation to investigate how pharmacological modulation of GABA-mediated inhibition can influence motor learning and brain chemistry in healthy volunteers and stroke survivors. Prior to her DPhil, she graduated with a medical degree in Romania and completed a MSc in Neuroscience at the University of Oxford.

Professor Julian Knight



Professor Julian Knight is Professor of Genomic Medicine at the University of Oxford, Director of the Doctoral Training Programme in Genomic Medicine and Statistics, and a Fellow and Tutor in Medicine at Merton College. Since 2005 he has worked at the Wellcome Centre for Human Genetics as a Principal Investigator and as an Honorary Consultant Physician at the Oxford University Hospitals NHS Trust in internal medicine. He is also Research Director of the Central and South Genomic Medicine Services Alliance. His research investigates the genomics of immunity and how this can determine our individual response to infections such as sepsis and development of autoimmunity.

Professor Sir Andrew Pollard



Sir Andrew is Director of the Oxford Vaccine Group in the Department of Paediatrics at the University of Oxford, Consultant Paediatrician at Oxford Children's Hospital, and Fellow of St Cross College. He received a knighthood in 2021 for Services to Public Health, especially in the pandemic. He was the chief investigator for the clinical trials of the Oxford-AstraZeneca COVID-19 vaccine, which led to authorisation of the vaccine for use in more than 180 countries with over 3 billion doses distributed. The COVID-19 vaccine team received the Copley Medal from the Royal Society in 2022.

Professor Pollard has supervised more than 50 PhD students and his publications include over 700 manuscripts and books on various topics in paediatrics and infectious diseases. His seminal work on typhoid supported the WHO prequalification of a new typhoid conjugate vaccine and WHO recommendations for its use in countries with a high burden of disease.

He chairs the UK Department of Health and Social Care's Joint Committee on Vaccination and Immunisation (since 2013), and was a member of WHO's Strategic Advisory Group of Experts 2016-2022. He received the Oxford University Vice Chancellor's Innovation Award in 2020 for his work on typhoid vaccines. He was elected to the Academy of Medical Sciences in 2016 and the Royal Society in 2024. Sir Andrew made the first British ascent of Jaonli (6632m) in 1988 and Chamlang in 1991 (7309m) and was the Deputy leader of the successful 1994 British Medical Everest Expedition.

Professor David Eyre



Professor David Eyre is an infectious diseases and microbiology clinician at Oxford University Hospitals and an Associate Professor at the University of Oxford's Big Data Institute. His research focuses on better understanding the epidemiology and transmission of infectious diseases through a combination of pathogen sequencing and use of large-scale healthcare data.

He also has an interest in improving the diagnosis and management of infection using routinely collected healthcare data. His previous work has focused on a range of pathogens including *C. difficile*, *Candida auris* and *N. gonorrhoeae*. During the COVID-19 pandemic he had used national survey and contact tracing data as well as healthcare worker data to study transmission, real-world vaccine effectiveness and antibody responses to infection and vaccination. He had also generated evidence underlying the widespread use of SARS-CoV-2 antigen lateral flow tests in the UK.

Professor Heidi Johansen-Berg



Professor Johansen-Berg is a Wellcome Principal Research Fellow and Fellow of the Academy of Medical Sciences. Heidi is Director of the Wellcome Centre for Integrative Neuroimaging (WIN), based at the University of Oxford. WIN is a multi-disciplinary research facility that aims to exploit the ability of non-invasive neuroimaging to bridge the gap between laboratory neuroscience and human health, by performing multi-scale studies spanning from animal models through to human populations. Heidi's own research group investigates plasticity and recovery in the sensorimotor system, with particular focus on white matter plasticity and activity-dependent myelination. Her research focuses on how the brain changes with learning, experience, and damage. As well as shedding light on how the healthy brain responds to change, her work also has implications for understanding and treating disease. For example, her group are testing new methods for rehabilitation after stroke and assessing whether taking up physical exercise could slow the effects of age on the brain or promote healthy brain development during adolescence. The group’s research uses a variety of neuroimaging and stimulation tools in healthy human volunteers across the lifespan, individuals with brain damage, and rodents. Professor Heidi Johansen-Berg was elected to the Royal Society in 2024.

Professor David Church



Professor David Church is a Honorary Consultant Medical Oncologist, and Group Leader at the Welcome Centre for Human Genetics. He is interested in the interaction between tumours and the host immune system, with a particular focus on those with a very high mutational load as a result of polymerase proofreading domain mutations. They have recently shown that ultramutated POLE-mutant colorectal and endometrial cancers have an excellent prognosis, plausibly because they elicit a strong anti-tumour T cell response against the many neoantigens they generate. Further study of these and other highly mutated cancers may provide novel insights into mutation as a cancer biomarker and therapeutic target.

Professor KJ Patel



Professor KJ Patel is the Director of the Weatherall Institute for Molecular Medicine and also the MRC Molecular Hematology Unit at the University of Oxford. KJ trained in medicine in London and spent his research career until recently at the MRC Laboratory of Molecular Biology, Cambridge which is one of the premier research institutes in the world. He was also professor for molecular medicine and stem cell genomics at the University of Cambridge. His research focuses on the molecular basis of inherited genomic instability and the role it plays in the biology of stem cells particularly those that make blood. He is a Fellow of the Royal Society (FRS), Fellow of the Academy of Medical Sciences UK (FMedSci) and also a member of the European Molecular Biology Organisation (EMBO).

Professor Fergus Gleeson



Professor Fergus Gleeson is a Consultant Radiologist and Professor of Radiology in Oxford. He trained in Cambridge, Papworth and London, and was a Fellow in Radiology at UCLA in America. He was appointed to Oxford in 1992, is Head of Academic Radiology in Oxford, and is the Director of the Oxford Radiology Research Unit at Oxford University Hospitals NHS Foundation Trust. He is currently President of the European Society of Thoracic Imaging, and has published over 200 peer reviewed papers and book chapters, has a h-index of 62, and currently has more than £30 million in grant income. He is the PI for IDEAL and DART, two multicentre studies investigating the use of Artificial Intelligence in pulmonary nodules and lung cancer, and the PI for EXPLAIN, a multicentre study investigating Long COVID using hyperpolarised Xenon MRI. His specialist interests are in Artificial Intelligence, Thoracic Imaging, PET-CT and Hyperpolarized xenon MRI. He is also the Chief Medical Officer of the National Consortium of Intelligent Medical Imaging (NCIMI): which aims to bring together the NHS, and University and industry partners to promote the development and implementation of artificial intelligence in medicine.

Professor Udo Oppermann



Professor Udo Oppermann has been a Principal Investigator of the Structural Genomics Consortium (SGC) in Oxford since its inception in 2003. He became Professor of Molecular Biology at NDORMS in 2008, and he is now Director of the Laboratory Sciences Division at the Institute of Musculoskeletal Sciences, Botnar Research Centre, the University of Oxford. The research in the Oppermann group focuses on drug and target discovery by using systems biology and single-cell approaches in a variety of human diseases including metabolic, inflammatory and malignant diseases. Application of novel single-cell technologies and chemical biology in primary and secondary bone cancers such as multiple myeloma with a focus on epigenetic mechanisms is a key research area of the group.

Professor Simon Leedham



Professor Simon Leedham is Professor of Molecular and Population Genetics, and a Wellcome Senior Research Fellow in Clinical Medicine at the University of Oxford. His research is into the morphogenic signalling pathways that control the intestinal stem cell in homeostasis, regeneration and cancer, and he has published more than 80 peer reviewed papers in journals that include Nature Medicine, Nature Genetics, Gastroenterology and Gut. Simon's research has been recognised by the United European Gastroenterology Rising Star award in 2010, the British Society of Gastroenterology Francis Avery Jones research prize in 2015 and the CRUK future leaders prize in 2017.

Professor Robert MacLaren



Professor Robert MacLaren is Professor of Ophthalmology at the University of Oxford, Consultant Ophthalmologist at the Oxford Eye Hospital, Honorary Professor of Ophthalmology at the UCL Institute of Ophthalmology, Honorary Consultant Vitreoretinal Surgeon at Moorfields Eye Hospital and an NIHR Senior Investigator. He is also a Fellow of the Royal College of Ophthalmologists, Fellow and former King James IV Professor of Surgery at the Royal College of Surgeons of Edinburgh, Fellow of the American College of Surgeons, Fellow of the Academy of Medical Sciences, Bodley Fellow of Merton College Oxford and Civilian Consultant Advisor to the Royal Navy. He has been a recipient of the ARVO Camras Award for Translational Research, the RP Fighting Blindness Scientist of the Year Award, the American Academy of Ophthalmology Achievement Award, the Royal College of Ophthalmologists Keeler Medal and the Macular Society Clinical Service of the Year award.

Together with the University of Oxford in 2014, he co-founded Nightstar Therapeutics in order to expand retinal gene therapy towards worldwide approval for patients with retinal diseases. After listing on NASDAQ in 2017, Nightstar Therapeutics was acquired by Biogen in 2019, making it one of the most successful British biotechnology company buyouts of all time. In

2023, he co-founded Beacon Therapeutics together with Syncona Partners, achieving the largest equity at launch for any Oxford spinout company to date. Over the last decade, he has helped raise over a billion dollars of funding for retinal gene therapy.

Dr Maria Greco



Dr Maria Greco takes charge of the Single Cell Facility at MRC Weatherall Institute of Molecular Medicine, Oxford University. She is specialised in Single Cell Multiomics Techniques; Spatial Transcriptomics; Single Cell Genomics; Molecular Diagnostics; Automation; and SARS-CoV2 Research and Development. The main aim for this state-of-the-art Single Cell facility is to provide expertise, accessibility, training, proximity and service to researchers in need of single cell genomics.

Professor John Todd



Professor John Todd is Professor of Precision Medicine at the University of Oxford and Director of the Wellcome Centre for Human Genetics and of the JDRF/Wellcome Diabetes and Inflammation Laboratory (DIL). He is also an Emeritus Senior Investigator of the National Institute for Health Research. Until 2016 he was Professor of Medical Genetics at the University of Cambridge and prior to this, Professor of Human Genetics and a Wellcome Trust Principal Research Fellow at the University of Oxford. His PhD was in Biochemistry at the University of Cambridge, followed by a postdoctoral fellowship at Stanford University. Professor Todd helped pioneer genome-wide genetic studies in common diseases and then went on to study the associations between disease-associated genetic variants and phenotypes in T1D by founding and deploying the Cambridge BioResource. He researches type 1 diabetes (T1D) genetics and disease mechanisms with the goal of delivering clinical interventions.

Professor Najib Rahman



Professor Najib Rahman is Professor of Respiratory Medicine, Director of Oxford Respiratory Trials Unit at the University of Oxford, Consultant Pleural Physician at Oxford Centre for Respiratory Medicine of the Churchill Hospital Oxford, Deputy National CRN Lead for Respiratory Disease at NIHR CRN, and NIHR Senior Investigator.

Professor Rahman directs the Oxford Respiratory Trials Unit and works clinically as a pleural specialist. He is currently running randomised and observational studies in pleural infection, pneumothorax and malignant pleural effusion. He is specialised in Thoracoscopy, Thoracic Ultrasound and Clinical Trials methodology, and has published over 300 papers with citations of >6000. He is co-chair of the BTS Pleural Guidelines 2022, Chair of the BTS Pleural Intervention Committee 2022, and Chair of multiple ERS guidelines on pleural disease.

Dr Katherine Bull



Dr Katherine Bull is an Honorary Consultant Nephrologist in the Oxford Kidney Unit, as well as an MRC-Kidney Research UK Professor David Kerr Clinician Scientist based in the Centre for Cellular and Molecular Physiology within the Nuffield Department of Medicine.

She trained in pre-clinical medicine in Cambridge, and clinical medicine in Oxford, and following junior doctor posts around the south coast before returning to Oxford to train in renal medicine. She completed a DPhil with Professor Richard Cornall in 2014. Her current research seeks to link clinical genetics to molecular understanding in the kidney, by developing in vitro and in vivo genetic and immune kidney disease models. She is interested in urinary protein leak, a hallmark of many renal pathologies. Highly specialised, terminally differentiated podocyte cells are key to maintenance of the glomerular renal filtration barrier, and she is harnessing advances in gene editing and sequencing to

gain functional insights into these cells, with direct relevance for human disease. This work combines genomics, transcriptomics, CRISPR gene editing and molecular cell biology techniques.

She is funded by an MRC Clinician Scientist Award and a University Fund for Bright's Disease. She sees patients at the Oxford Kidney Unit, and runs a dedicated clinic for genetic and metabolic renal disease. Dr Katherine Bull is the local Principal Investigator for the NURTURE-CKD and NURTURE-NEPHROS studies and teaches on the renal course for graduate entry medical students.

Professor Martin Turner



Professor Martin Turner qualified in Medicine from University of Cambridge and St. George's Hospital Medical School London and trained in Neurology in London and Oxford. He is Professor of Clinical Neurology and Neuroscience within Oxford University's Nuffield Department of Clinical Neurosciences, and Consultant Neurologist at the John Radcliffe Hospital in Oxford. His PhD, under the supervision of Professor Leigh at King's College London, applied ligand PET to explore the then emerging concept of brain pathology in sporadic and familial cases of MND. His subsequent research has been in the development of biomarkers from neuroimaging (MRI and MEG) and biofluid assays, to accelerate therapy discovery. He has been the recipient of both Medical Research Council Clinician Scientist and Senior Clinical Fellowships, the ENCALS Investigator Award and the Royal College of Physicians Graham Bull Prize. He chairs the Research Committee of the Association of British Neurologists.

Dr Robert Watson



Dr Robert Watson studied medicine at Oxford before undertaking clinical training in North West London and research at Imperial College London. He also finished a Wellcome Trust-funded DPhil at Oxford and is a Clinical Lecturer in the Department of Oncology, as well as a Fellow and Director of Graduate Entry Medicine at Worcester College Oxford.

Dr Watson uses a variety of techniques including single cell transcriptomics and analysis of T cell repertoires to draw novel insights into the molecular mechanisms of immune checkpoint blockade and other experimental immunotherapies, including cancer vaccines. He primarily works with human tissue and aims to translate research findings into patient-focussed interventions.

He has a passion for travel and has enjoyed working as a volunteer doctor in low-resource settings such as Uganda and Malawi. In 2023 he was awarded The McElwain Prize for Research from the Association of Cancer Physicians. Dr Robert Watson is the Deputy Course Director of the OXCEP Academic Medicine Course 2024.