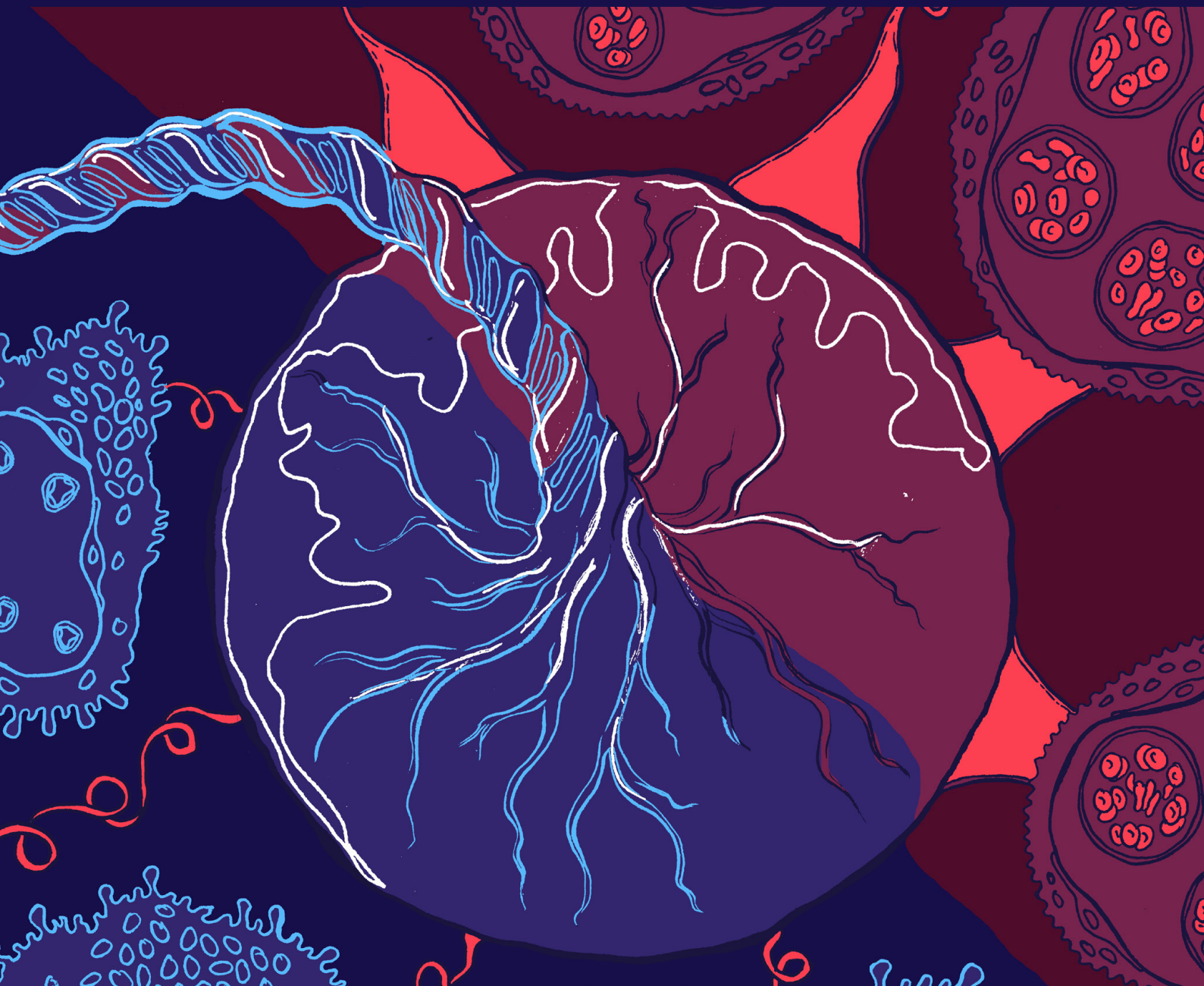
UNIVERSITY OF CAMBRIDGE

The LokeCentre for trophoblast research

Loke Centre for Trophoblast Research Annual Meeting

The Placenta at Term

7th-8th July 2025, Churchill College



Meeting organiser

The LokeCentre
for trophoblast research

Meeting sponsor

The Company of Biologists

Contact

https://tinyurl.com/trophoblast25

#Trophoblast25

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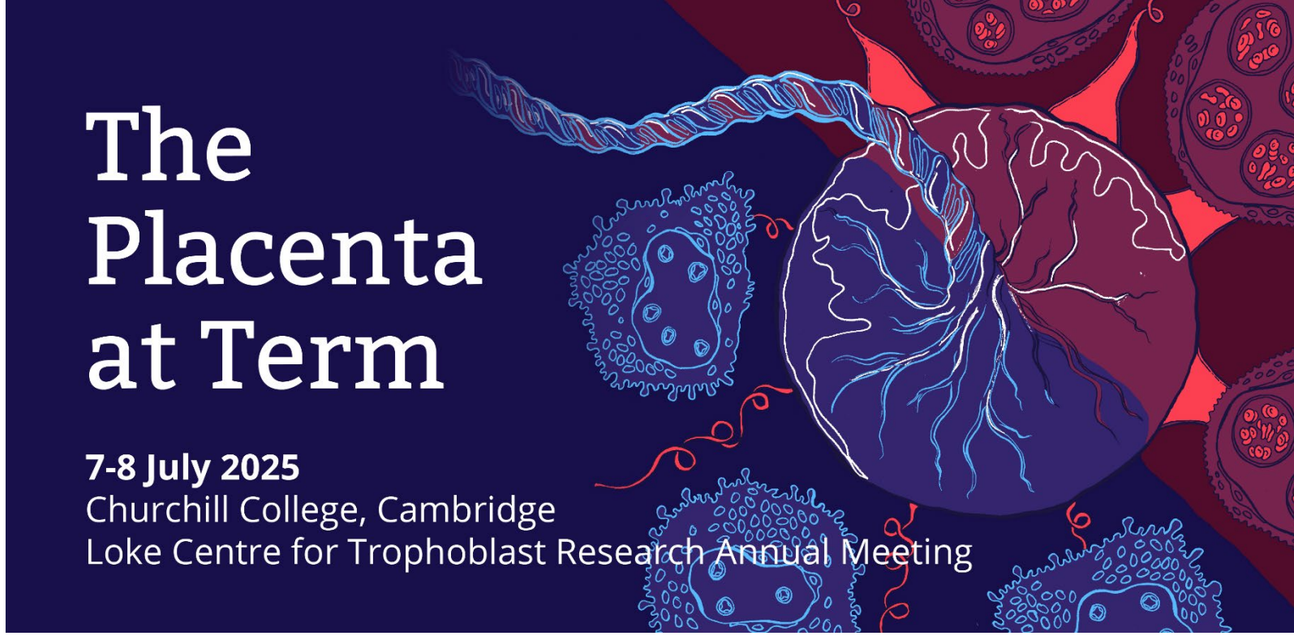


The Placenta at Term

7-8 July 2025
Churchill College, Cambridge
Loke Centre for Trophoblast Research Annual Meeting

Day 1: Monday 7th July

Time	Description
11:00 – 1:00	Conference lunch and poster session 1
1:00 – 2:30	**Session 1, chaired by Francesca Gaccioli** **1:00 - Kathy Niakan**: Introductory remarks **1:15 - Gordon Smith**: Maternal serum biomarkers of human placental function near term **1:45 - Annetine Staff**: The twilight placenta and late placenta malperfusion: A tribute to Chris Redman **2:15 – Abstract-selected flash talks** **#1 Madeline Keenen** - Nuclear subtypes in the placenta syncytiotrophoblast exhibit spatial heterogeneity and respond to local environmental cues. **#2 Qian Li** - An Integrated Single-Cell Atlas of the Maternal-Fetal Interface Across Human Gestation **#3 Jonas Østerhaug Andersen** - Genetic Influences on Placental Efficiency: Insights into Monoaminergic Pathways and Fetal Development **#4 Alexandra Rowland** - Sub-genomic loss-of-function screen identifies β-catenin as the critical regulator of EVT development **#5 Hadi Waheed** - MRI in Late Pregnancy: Insights into Placental Volume, Function, and Histopathology from the Mibirth Study

2:30-3:00	Break
3:00-4:45	**Session 2, chaired by Rachael Crew** **3:00 - Alexander Heazell**: Understanding the origins and significance of placental lesions relating to late pregnancy loss and stillbirth **3:30 - David Williams**: Placental inflammation: a preventable cause of recurrent stillbirth **4:00 - Catherine Aiken**: Long-term outcomes of pregnancies complicated by placental dysfunction **4:30 - Abstract-selected flash talks** **#6 Manthan Patel** - De-repression of Transposable Elements Leads to Sterile Inflammation in Preeclampsia **#7 Ragnheidur Ingibjorg Bjarnadottir** - Comparison of patterns of placental injury in term and preterm stillbirth **#8 Sharanam Soni** - Quantifying Histopathological Features of Delayed Villous Maturation **#9 Siân Bullough** - Placental Growth Factor led Management of the Small for Gestational Age Fetus (PLANES): A Randomised Controlled Feasibility Study **#10 Marianna Onori** - Oral administration of metformin prevents miscarriage by reducing amniochorionic and placental inflammation in a mouse model of lipopolysaccharide-induced preterm birth.
4:45-5:15	Break
5:15-6:00	**Session 3, chaired by Jennifer Jardine** **5:15 - Ananth Karumanchi**: Vascular Mechanisms for Preeclampsia **5:45 - Abstract-selected flash talks** **#11 Yara E. Sanchez Corrales** - Spatially resolved maternal and fetal cell contributions in Severe Preeclampsia **#12 Yang Dong** - Maternal causation of early-onset preeclampsia: excessive endometrial gland-derived apolipoprotein D induces placental ferroptosis and developmental abnormalities **#14 Emma Clare Walker** - Quantifying the cellular and structural composition of full term placenta parenchyma in healthy tissue and lesions using an AI-enabled digital histology pipeline
	#15 Bernadette Jenner - Preconception to pOst-partum study of cardiometabolic health in Primigravid PregnancY (The POPPY study): Preconception health compared with UK preconception population. **#16 Jessica Harrison** - The Human Trophoblast Epigenome Undergoes Major Shifts Over Gestation
6:00-7:30	Drinks and poster session 2
7:30	Conference Dinner

Day 2: Tuesday 8th July

Time	Description
8:45-9:15	Tea and coffee on arrival
9:15 – 10:15	**Session 4, chaired by Ionel Sandovici** **9:15 - Karen Forbes**: The placenta in pregnancies complicated by maternal diabetes **9:45 - Perrie O'Tierney-Ginn**: Impact of maternal-placental crosstalk on fetal fat accrual: lessons from the term placenta
10:15-10:40	Break
10:40 – 11:30	**Session 5, chaired by Catherine Aiken** **10:40 – Sarah Falkland, Rachel Ibikunle and Ewa Czekaj:** POPPY Patient and Public Involvement and Engagement (PPIE): Nothing about us without us **10:50 – Panel discussion, chaired by Catherine Aiken** **11:25 – Kathy Niakan:** Closing Remarks
11:30	End of conference

Speaker Biographies

Alexander Heazell

Dr Alexander Heazell is Professor of Obstetrics and Director of the Tommy's Stillbirth Research Centre, University of Manchester, UK and the Regional Lead Obstetrician for the North-West of England. He graduated from the University of Birmingham in 2000 and began his clinical training in the West Midlands before completing his PhD in Manchester in 2008. His research portfolio includes basic science, clinical and qualitative research studies to gain better understanding in order to understand the causes and consequences of placental dysfunction, to prevent stillbirth and improve care for parents after stillbirth or perinatal death. Dr Heazell has received over £4M of grant income and has published over 300 research papers and received national and international awards for his work on stillbirth and placental dysfunction, and for improving care. He led the recent Stillbirth Priority Setting Partnership and was one of the team for the 2016 Lancet Ending Preventable Stillbirth Series. He is a past chair of the International Stillbirth Alliance. Dr Heazell is the national lead for Rainbow Clinic, a specialist clinical service for parents in pregnancy after loss. He passionately believes that a better understanding of placental disease will improve outcomes for mothers and babies.

Ananth Karumanchi

Dr Ananth Karumanchi, Medallion Chair in Vascular Biology, is Director of Renovascular Research and Professor of Medicine at Cedars-Sinai Medical Center, Los Angeles. Dr. Karumanchi's laboratory is focused on discovering pathogenic pathways and bringing therapies to patients in the areas of hypertensive disorders of pregnancy and chronic renal disease. Dr. Karumanchi's research activities are vertically integrated, ranging from molecular and cell biological studies to animal models to first-in-class human clinical trials. Dr. Karumanchi has published >350 papers (with several publications in NEJM, JAMA, Circulation, Nature, Science, Nature Medicine, and the JCI). He has received prestigious awards such as the Gregory Pincus Memorial Medal from Worcester Foundation for Biomedical Research (2021), and the Jean Hamburger Prize from the International Society of Nephrology (2022). He was also elected to the American Society for Clinical Investigation (ASCI) in 2007 and Association of American Physicians (AAP) in 2015. Dr. Karumanchi's research has been funded by the NIH, AHA, Howard Hughes Medical Institute and the Gates Foundation.

Catherine Aiken

Dr Catherine Aiken is Professor of Maternal and Fetal Medicine at the University of Cambridge. She is a clinician scientist who studies the long-term outcomes of medically-complex pregnancies, alongside her clinical practice in the East of England Maternal Medicine Centre. Her work includes research on gestational diabetes, maternal obesity, and preeclampsia. She completed her medical training and PhD at the University of Cambridge and maintains active clinical duties, specializing in high-risk pregnancies.

Annetine Staff

Dr Staff, MD, PhD, is a specialist in Gynecology and Obstetrics. She is at present full-time Professor at the Faculty of Medicine, University of Oslo, Norway. She is also Head of Research at the Oslo University Hospital, Division of Obstetrics and Gynaecology. Dr Staff was the EPG (European Placenta Group) Spokesperson 2011-17, Vice-President of the ISSHP (International Society for the Study of Hypertension in Pregnancy) 2012-16, and currently an ISSHP (International Society for the Study of Hypertension in Pregnancy) Executive Committee member. She is a Steering and Executive Committee member of CoLab (Global Pregnancy CoLaboratory) since 2011. She is Associate Editor of Pregnancy Hypertension, An International Journal of Women's Cardiovascular Health, since 2021.

Dr. Staff heads the Research Center for Obstetrics and Gynaecology in Oslo. Her current main research effort is within translational understanding of pregnancy complications, placental dysfunction, biomarkers and future maternal cardiovascular health. An important clinical task linked to this research area is identifying better targeting of women at risk, and testing preventive measures for avoiding or delaying premature female cardiovascular disease. She has built a comprehensive biobank with multiple biosamples from pregnancy and postpartum, which is correlated to extensive clinical phenotyping and data. The ensuing translational research projects have demonstrated a large range of maternal and offspring dysfunctional biomarkers related to placental dysfunction and hypertensive disorders of pregnancy, in particular preeclampsia.

Dr Staff has a long mentoring and supervision track record of PhD students, postdocs and senior researchers. She has contributed to national and international clinical guidelines and research text books (eg. Chesley's Hypertensive Disorders in Pregnancy) related to preeclampsia.

David Williams

Professor David Williams is an obstetric physician at University College London Hospital (UCLH) and honorary professor of obstetric-medicine at University College London. He specialises in the care of pregnant women with medical and placental disorders. He leads the maternal medicine research group at the Institute for Women's Health, UCL. They investigate the causes and targeted treatment of pregnancy syndromes, including pre-eclampsia, acute fatty liver of pregnancy and placental inflammation leading to recurrent pregnancy loss. He has developed the concept that pregnancy syndromes unmask future health disorders in the mother and other members of her family, including her partner. His research group are funded by the UK Medical Research Council (MRC), UCL/UCLH Biomedical Research Centre, Wellbeing of Women Charity and the Rosetrees Trust. Most recently he has worked as part of a national team to implement new clinical maternal medicine networks throughout the UK.

Gordon Smith

Gordon Smith is Chair of Obstetrics and Gynaecology, University of Cambridge, and a Consultant in Maternal-Fetal Medicine at the Rosie Hospital, Cambridge, UK. He has MD, PhD & DSc degrees from Glasgow University. He held Wellcome Trust research training fellowships at Glasgow University, UK (1992-93), and Cornell University, USA (1996-1999). He was elected FMedSci in 2010. His research is focused on placentally-related complications of human pregnancy, addressing mechanisms and prediction of disease. He led the POPS cohort (2008-2013) and is PI of the POPS2 cohort (2020-2026) and nested RCT (ISRCTN12181427). He has ~£9.5M in current funding as chief investigator.

Karen Forbes

Karen Forbes is an Associate Professor of Molecular Endocrinology and Reproduction at University of Leeds. Her research team is focussed on understanding how factors in the maternal environment (diet, microRNAs and extracellular vesicles) contribute to altered placental and fetal growth, and long-term health of the offspring, particularly in pregnancies complicated by maternal diabetes. She has a programme of research spanning from understanding the basic mechanisms of disease progression, through to the development of potential novel therapeutics for prevention of these conditions.

Perrie O'Tierney-Ginn

Dr. Perrie O'Tierney-Ginn, PhD is the Executive Director of the Woman, Mother + Baby Research Institute (WoMB) at Tufts Medical Center and a Research Associate Professor of Obstetrics & Gynecology at the School of Medicine and the Friedman School of Nutrition Science and Policy at Tufts University. Her overall interest is to understand the connection between maternal health and the placental regulation of nutrient metabolism and delivery, and to improve cardiometabolic health of offspring.

A self-described "Perinatal Ecologist," Dr. O'Tierney-Ginn is fascinated by the interaction between the mother, baby and placenta and their environment. Dr. O'Tierney-Ginn's work is funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development. She received her PhD in cardiovascular molecular biology at Queen's University in Canada. She then moved to Portland for her postdoctoral training in fetal physiology at Oregon Health & Science University. You can find out more about her work at www.placentascience.com

Bsky: @placentascience.bsky.social

Linked In: perrie-o-tierney-ginn-545b33256

Yan-Ling Wang

Dr Yan-Ling Wang is a Professor at the Institute of Zoology, Chinese Academy of Sciences, where she leads a research program in reproductive biology and pregnancy-related disorders. She received her Ph.D. in Physiology from the Institute of Zoology in 1998, following a Bachelor's degree in Biology from the University of Science and Technology of China. Since joining the Institute in 1998, Dr Wang has held successive academic appointments, becoming full Professor in 2004. Dr Wang's research focuses on the molecular and cellular mechanisms underlying placental development, immune tolerance at the maternal-fetal interface, and the pathogenesis of pregnancy complications, particularly preeclampsia and recurrent spontaneous abortion. Her work bridges basic and translational science, and she is internationally recognized for elucidating how placental dysfunction contributes to adverse pregnancy outcomes. She has been principal investigator or team leader on multiple large-scale projects funded by the National Natural Science Foundation of China and the National Key Research and Development Program. Her contributions have advanced understanding of trophoblast differentiation, maternal immune adaptation, and the role of steroid hormone metabolism in pregnancy health.

Sarah Falkland
Founder of Mission Preeclampsia

When Sarah was diagnosed with preeclampsia, her world shifted in an instant. What began as a routine pregnancy became a life-threatening ordeal, ending in an emergency C-section and a long recovery. At the time, she felt unprepared, unheard, and alone.

Drawing on her background in nursing and public health, Sarah decided to act. She founded Mission Preeclampsia, an initiative to raise awareness, build community, and improve outcomes for women affected by preeclampsia, eclampsia, and HELLP syndrome.

Her work spans education, peer support, and advocacy, with partnerships in the UK, Nigeria, and Guadeloupe.

Today, Sarah stands not just as a survivor, but as a changemaker. Her mission is simple: to ensure that no woman facing preeclampsia ever feels alone, unheard, or unprepared again.

Ewa Czekaj

Ewa is a Project Manager and Patient and Public Involvement and Engagement (PPIE) Lead at the Office for Translational Research at the University of Cambridge. She has extensive experience managing medical research projects, including complex multi-site studies with clinical trials. Alongside her project management role, Ewa is deeply committed to engaging with the public and involving the service users and people with lived experience in research. She believes that meaningful involvement and engagement enhance both the quality and relevance of research, leading to better outcomes and greater impact.

As part of her work on the POPPY study, Ewa has not only overseen day-to-day project management but has also worked closely with the study's PPI panel. She has also led a range of engagement activities involving researchers, community groups, and patient advocates—raising awareness of the links between placental complications and women's future cardiovascular health, and ensuring public voices are embedded in the research process.

Rachel Ibikunle

Rachel is a research midwife at Imperial College London. After working clinically in the NHS, Rachel completed an MSc in Population Health. Following this, since 2022, Rachel has led the social media and Patient and Public Involvement and Engagement (PPIE) for the POPPY study.

The PPIE panel has 14 members who meet every 6 months. The POPPY study aims to understand why women who develop placental syndromes experience an increased risk of poor cardiometabolic health post-delivery, and better understand the impact of preconception health on this.

Logistics

The Loke CTR Annual Meeting will be held in **Churchill College**, Cambridge (Storey's Way, Cambridge CB3 0DS) and online.

Scientific sessions will take place in the **Wolfson Hall** (#4). During the breaks, refreshments will be served in the **Main Concourse** and adjoining buttery (#1), where conference posters will be on display. The conference dinner will be held in the first floor **Dining Room** (#1).

To participate in interactive Q&A, please join the Loke CTR Annual Meeting Slido with the code #Trophoblast25 on Slido.com or here: https://app.sli.do/event/adz5CUxvzAhGZbrymZe571.

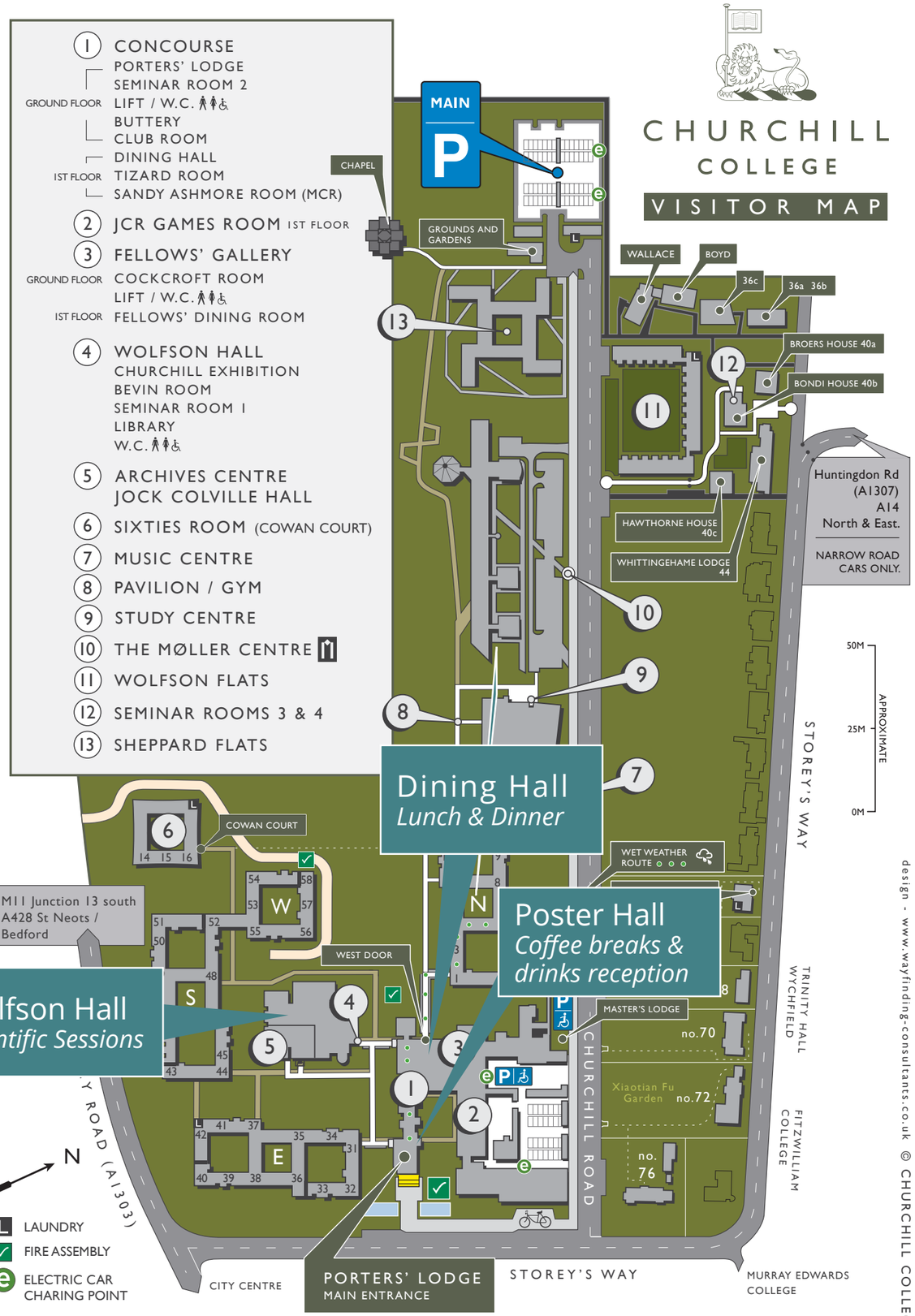
Accessibility

There are four dedicated disabled parking spaces available for the use of visitors and members of the College with disabilities. Additional parking spaces can also be reserved so please let us know in advance if you require a space allocated.

Churchill College site is generally level and accessible, with ramps to most areas, including the main entrance. There is a lift located in the main concourse for access to the first floor, where the dining hall is located. There is also a lift in the Wolfson Foyer for easy access to the Wolfson Hall auditorium. The Wolfson Hall toilets are located on the ground floor. The nearest wheelchair accessible toilet is on the main concourse.

Wolfson Hall is equipped with a hearing loop. For best results guests are advised to use the outer seating house left and right. For online attendees, the Zoom will include an option to have subtitles.

Full floor plans and site access information are available online: https://www.chu.cam.ac.uk/about/accessibility/



Sustainability at Churchill College

- **Travel**: Please consider sustainability when making your travel plans. There is extensive bike parking available to the right of the main College entrance along Churchill road, and 15 electric car charging points available on-site. There is also a bus stop at the end of Storey's Way, which is well-served by the Universal bus that connects to the train station. Cambridge also offers several Park & Ride options around the city.
- **Water refill**: Please consider bringing a re-usable water bottle to make use of water refill stations.
- **Waste**: To reduce food waste, please note that catering staff will put out food as it is needed and top up available food as it is eaten, rather than putting it all out at once. They will also clear away uneaten food swiftly after meals, as this means leftover food can be saved from the bin as it is safe to eat. None of the waste generated on site goes to landfill, as it is all recycled or used to generate power.
- **Catering**: Churchill College tracks the carbon footprints of the meals it serves using software to calculate the average carbon content per portion, and display this information to encourage diners to consider carbon in their food choices.

For more about Churchill College sustainability visit https://www.chu.cam.ac.uk/about/sustainability/

For more on train options visit https://www.thetrainline.com/

To find about Park and Ride https://cambridgeparkandride.info/

Loke CTR Commitments to Sustainability

The Loke CTR does not print programmes, and we encourage delegates to access the full programme in a digital format.

Name badges issued at registration are reused and will be used again so please hand them in on your departure.

The Loke CTR Annual Meeting is hybrid, giving international attendees the option to join the conference online.

Loke Centre for Trophoblast Research (Loke CTR)
www.trophoblast.cam.ac.uk

The Loke CTR was founded in 2007 to promote scientific study of the placenta and maternal-fetal interactions during pregnancy. It brings together 30 Principal Investigators, many of whom are recognized international experts in their fields. The Loke CTR was one of the University of Cambridge's first inter-school initiatives, bridging trophoblast-related research across Cambridge in the School of Biological Sciences (Departments of Pathology, Genetics, and Physiology, Development and Neuroscience), School of Clinical Medicine (Institute of Metabolic Science, Medical Research Council Epidemiology Unit and Department of Obstetrics & Gynaecology) and affiliated institutes (Gurdon, Sanger, Babraham and the Cambridge Stem Cell Institutes). Loke CTR members are united by a mission to understand normal placental development and the mechanisms leading to common placentally-related complications of fertility and pregnancy.

Join us!

Next Generation Fellowship

www.trophoblast.cam.ac.uk/ngf-overview

Application deadline: 30 January 2026

Informal enquiries: ngf.lokectr@pdn.cam.ac.uk

The Loke CTR has an established highly-successful programme to fund and mentor Next Generation Research Fellows. Next Generation Fellowships are aimed at promoting the careers of high-calibre individuals pursuing innovative research falling within the remit of the Centre. The fellowships are highly flexible to suit individual needs and enable the postholder to develop as an independent researcher. Holders are expected, and will be supported, to apply for Research Fellowship/Career Development Awards from research councils or other funders, or a faculty position during their tenure.

The Next Generation Fellowships are a springboard to a long and successful career in the field of placental and reproductive biology. Our Next Generation Fellows have moved on to prestigious positions such as group leaders in outstanding research centres (University of Cambridge, Francis Crick Institute in London, Blizard Institute and Queen Mary University, Medical University of Vienna).

The Loke CTR accepts applications from highly qualified applicants of all nationalities and will sponsor visa applications. Candidates should hold a PhD and have a high-quality publication track record in academic journals or equivalent. Appointments are made for a period of 3 years and includes a research consumables/equipment budget of up to £20,000 per annum & travel support up to £750.

loke-ctr.bsky.social Loke Centre for Trophoblast Research @Loke_CTR

CAMBRIDGE CITY

FLAT WALK FROM CHURCHILL COLLEGE TO HISTORIC CITY CENTRE • 15 MINUTES

MADINGLEY RISE SITE
CHURCHILL COLLEGE
WEST CAMBRIDGE SITE
Cavendish Laboratory
Centre for Mathematical Sciences
Trinity Hall Sports Ground
Fitzwilliam College
Murray Edwards College
St Edmund's College
Lucy Cavendish College
Westminster College
Magdalene College
St John's College
St John's College Playing Fields
Trinity College Old Field Sports Ground
Cambridge University Athletics Sports Ground
Robinson College
Cambridge University Library
King's College School
Cambridge University Rugby Union Football Club
Selwyn College
SIDGWICK SITE
Newnham College
Ridley Hall Theological College
Wolfson College
Queens' College and Robinson College Sports Ground
Gonville & Caius College Sports Ground
Downing College Sports Ground
St Catharine's College Sports Ground
Paradise Nature Reserve
Darwin College
Laundress Green
Peterhouse
Queens' College
SILVER STREET/MILL LANE SITE
Pembroke College
Christi College
Corpus SITE
NEW MUSEUMS
King's College
The Backs
Clare College
Trinity Hall
The Old Schools
Trinity College
Gonville & Caius College
Sidney Sussex College
Jesus College
Wesley House
Westcott House
Christ's College
Christ's Pieces
New Square
Emmanuel College
DOWNING SITE
Downing College
Fitzwilliam Museum
OLD ADDENBROOKE'S SITE
Department of Engineering
The Leys School
Lammas Land
Sheep's Green
Coe Fen
Jesus Green
Midsummer Common
Logan's Meadow
Parker's Piece
Petersfield
Donkey's Common
Hughes Hall
Fenner's Cricket Ground
Mill Road Cemetery
Anglia Ruskin University (Cambridge Campus)
University Chemical Laboratory
Cambridge University Botanic Garden
New Bit
Drummer Street Bus Station
River Cam
MADINGLEY RD
STOREY'S WAY
HUNTINGDON RD
VICTORIA RD
HISTON RD
CHESTERTON RD
CASTLE ST
SHELLY ROW
ALBION ROW
MARGARET RD
NORTHAMPTON ST
MAGDALENE ST
CHESTERTON LN
BRIDGE ST
ST JOHN'S ST
JESUS LN
SIDNEY ST
TRINITY ST
GREEN ST
MARKET ST
PETTY CURY ST
KING'S PARADE
BENET ST
CORN EXCHANGE ST
DOWNING ST
ST ANDREW'S ST
PEMBROKE ST
TRUMPINGTON ST
REGENT ST
LENSFIELD RD
GONVILLE PL
HILLS RD
STATION RD
EAST RD
MAIDS CAUSEWAY
NEWMARKET RD
ELIZABETH WAY
VICTORIA AVE
GRANGE RD
QUEENS RD
WEST RD
SIDGWICK AVE
NEWNHAM RD
THE FEN CAUSEWAY
BARTON RD
GRANTCHESTER RD
TRUMPINGTON RD
MILL RD
Newnham
Petersfield

College & buildings
Porters lodges
University sites & premises
Other notable buildings
Retail area
Hotel
Central multi-storey car parks
One-way streets (some except cyclists)
Cycleways
Motor vehicle restricted streets
Universal (U) bus route and stop

We thank the Company of Biologists for their support of the 2025 Loke CTR Annual Meeting through the Scientific Meeting and Sustainable Conferencing funds. https://www.biologists.com/