



18th JULY 2023 • ST JOHN'S COLLEGE

CAMBRIDGE BIOSCIENCES DTP SYMPOSIUM 2023

09:00 - 10:35: Introduction & session 1

Keynote: Prof Kiran Patil, MRC Toxicology Unit - 'What drugs and pollutants do to our bugs'

- Tessa Hughes: Cell fate decisions in the developing lung
- Alyce McClellan: From canine genetics to human function: a new role for DENND1B in the hypothalamic control of homeostasis
- Maximilian Gantz: A microfluidics-enabled workflow for rapid large-scale fitness data generation informs imine reductase engineering



BREAK + POSTERS

11:00 - 12:25: Session 2

Keynote: Dr James Hadfield, AstraZeneca - 'Race to the \$100 genome'

- Natalie Wallis: GWAS in Labrador retrievers identifies novel obesity genes in dogs and humans
- Evan Wroe: In Operando photoelectrochemistry and fluorescence microscopy to study membrane potential in Synechocystis PCC6803
- Sabila Chilaeva: How does the microtubule transport complex recognise and transport mRNAs?



LUNCH

13:20 - 15:10: Session 3

Keynote: Dr Maxine Mackintosh, Genomics England - 'Data Science: The need for health equity'

- Jens Bager Christensen: Unravelling gene regulatory networks driving fate acquisition of cerebellar Nestin-expressing progenitors during development and regeneration



- Yizhou Yu: Mitochondrial folate one-carbon metabolism moderates Alzheimer's disease pathology

Keynote: Prof Dafydd Jones, Dept of Biochemistry
University of Cardiff - 'GFP: more than just an imaging probe?'



BREAK + POSTERS



15:35 - 17:30: Session 4 & Closing Remarks

Career panel: Careers team & elevator pitches

- Sarah Spencer: Reduced IL-6 signalling in obesity contributes to reduced COVID-19 vaccine responses

Keynote: Prof Dame Jenny Harries

DRINKS + NETWORKING

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CAMBRIDGE BIOSCIENCES
DTP SYMPOSIUM 2023

POSTERS



1	Alex Fulton	Investigating toxicity and associated protein interactions of antisense oligonucleotides
2	Alex Neaverson	Deciphering the requirement of the avian organiser in neural induction
3	Andrew Broadman	Mapping the mutational landscapes of G protein-coupled receptors
4	Anna Morros-Nuevo	Interactions between genetic obesity risk and environmental influences in pet dogs
5	Emily Horner	Antibody production in severe obesity
6	Hashim Ahmed Nur	TREX1 and TREX2 knockdown drives cisplatin resistance in cancer models
7	Holly Robertson	Linking evolutionary conflict with adaptive evolution in carnivorous sundews
8	Jeanne Lefèvre-Laoide	Recovering cell shape at mitotic exit
9	Juliette Davis	A TRIM28-centric approach to efficiently uncover the role of KZFPs in domestication of transposable elements
10	Lauren Jacocks	Disease and host association of Campylobacter in West Africa
11	Rachael Matthews	CRAMP1 governs PRC2-mediated silencing through histone H1 regulation
12	Tarrion Baird	GSEA insight tools: a new web tool to explore The Cancer Genome Atlas
13	Tiago Marques Pedro	Building predictive models for mitochondrial toxicity using machine learning

POSTERS



14	Georgina Dowsett	Spatial mapping of GLP-1R cell populations in the human hypothalamus
15	Eve Stalker	The effect of DNA methylation on CRISPR-induced toxicity
16	David O'Loughlin	Physicochemical Characterisation and Potential Health Effects of Non-Exhaust Particle Emissions

KEYNOTE SPEAKER BIOS



Kiran studied Chemical Engineering at the Indian Institute of Technology and obtained PhD in systems biology from Technical University of Denmark (DTU). He worked as a group leader at DTU and European Molecular Biology Laboratory (Heidelberg, Germany) before joining the MRC Toxicology Unit at University of Cambridge in 2019. Kiran's lab is interested in microbiome-drug and microbiome-pollutant interactions and their contribution to side effects and toxicity. In this talk, he will present findings from the lab's work providing insights into how drugs and pollutants shape our microbiome.



James got his degree and PhD at the University of East Anglia. He has co-authored multiple papers in cancer genomics including one of the largest genomic studies of Breast Cancer (Nature 2012), some of the first reports of ctDNA liquid biopsy: using amplicons (STM 2012) or exomes (Nature 2013) and developed a sWGS CNV pipeline for exome sequencing (Cell 2016). He led the Genomics Core at the University of Cambridge CRUK Cambridge Institute and has worked with genomics/ transcriptomics technologies, especially NGS, for more than 20 years. James now leads the development of Epigenomics technologies in AstraZeneca's Translational Medicine function. James will present an overview of the cancer liquid biopsy field and the opportunities that the \$100 genome presents us in cancer biology research and the clinic.



Maxine leads the Diverse Data initiative at Genomics England, which aims to reduce health inequalities in genomic medicine by ensuring patients, regardless of their background, receive the same quality of genomics-enabled personalised medicine, supported by the latest research on people like them. Maxine is also the co-founder of One HealthTech – a global, volunteer-led, grassroots community that supports and promotes under-represented groups in health innovation. OHT has over 20,000 contributors worldwide across 20 Hubs which have collectively delivered over 1000 events, projects, campaigns and initiatives improving diversity in healthtech. She also set up Data Science for Health Equity, a community of practice that brings together those with expertise in data science and health inequalities to connect and collaborate on cutting-edge domains in health. She has been part of a number of communities and committees including being a Non-Executive Director for the Eastern Academic Health Science Network, a member of the World Economic Forum's Global Shapers, and the British Computer Society (Health Exec) and the DeepMind Health Independent Review Board.

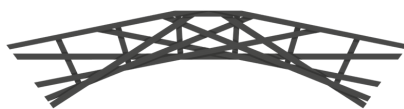


Dafydd studied for his PhD in protein structure and engineering at Cambridge University's Department of Biochemistry and Darwin College under the supervision of the late Prof Richard Perham. His research has centered on protein structure and engineering, having held research positions in both the academic (MRC Centre for Protein Engineering in Cambridge and the Department of Chemistry, Cambridge University) and industrial (Marie Curie Industrial Fellowship at Novozymes A/S Copenhagen, Denmark) sectors. He moved to Cardiff in 2003 and is now a chair in biochemistry in the School of Biosciences. His group's research includes the construction of new protein components and scaffolds, including bionanohybrid systems. His group have developed approaches to engineer proteins including to contain new chemistry that allows their precise functional modulation and interfacing with other biomolecules and nanomaterials such as nano-carbon.

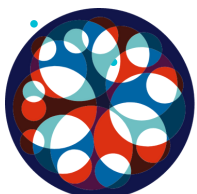


Professor Dame Jenny Harries is the first Chief Executive of the UK Health Security Agency - an executive agency of the Department of Health and Social Care established in October 2021. She leads the agency and is accountable for its strategy and operations, and the effective and efficient use of public funds, with a remit to protect the nation from external hazards to health. After medical studies at Birmingham University, UK, she undertook specialist training in Public Health Medicine in Wales. She has wide experience of clinical and public health science and practice, as well as health service commissioning from work in the NHS and in local, regional, and national government. Having played central roles in the UK's response to a number of significant public health incidents - including Ebola, Zika, MERS and the Novichok attacks in Salisbury - she was appointed Deputy Chief Medical Officer for England in July 2019 and served through the Covid-19 pandemic until taking up her present role.

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