



Annual Retreat Booklet

5-6 June 2023

CRUK-CI, JCBC & Garden



Practical Information

Registration

On Monday, please register in the reception area of CRUK-CI.

Please note that your name badge will get you access to lunch and the social as well as the scientific sessions.

Speakers

All speakers should bring their presentations on USB to be given to the tech team at the back of the lecture theatre. Please ensure your presentation is loaded and checked during the break prior to your talk. Speakers in each session should sit in the front row where designated seats are reserved for you.

Poster Presenters

The poster session will take place on Monday 5 June at 17:10 at the JCBC Exhibition Space. Please set up your posters upon registration on Monday morning and take it down before the end of the retreat on Tuesday. Please note your poster number and display your poster on the correct board. Velcro will be provided.

Closed Meeting

The Annual Retreat is a closed meeting. Please do not share any talk or poster content on any social media channels or by other means outside this event.

Evening Social

On Monday evening there will be a social event with food and drink supplied by Azahar, Steak & Honour, Jack's Gelato and a bar. There will also be live music from The London Street Band.

Prizes

On Tuesday at 13:00 we will be awarding prizes for posters, talks, Public Engagement and Research Culture and Integrity. Please come to this session as you may be a winner! After this session, lunch will be provided in the marquee on the JCBC / CRUK Lawn.

Health & Safety

We ask attendees ask that if you are feeling unwell or exhibiting symptoms of COVID-19 that you do not join the event.

Wifi

There is Eduroam, UniofCam, and UniofCam-Guest wifi access in the CRUK lecture theatre and surrounding areas.

Programme

Please find the programme details below, which will continue to be updated on the [webpage here](#) or via the QR code.





Programme

Monday 5 June

10:00 **Registration opens** CRUK-CI

11:00 **Session 1**

11:00 **Welcome & Annual Review** **Bertie Göttgens**

Frances England (PhD)
Oncogenic and wildtype stem cells co-opt a regeneration programme during lung cancer initiation

11:15 **Postgrad & Postdoc Talks**

Simon Richardson (Postdoc)
Loss of CREBBP acetyltransferase activity sensitises leukaemic progenitors to ferroptotic cell death upon BCL2 inhibition

11:35 **Plenary Speaker**

Kate McDole
How the embryo gets its shape: Understanding early mouse development with light-sheet microscopy

12:15 **Institute Lunch** JCBC Lawn/Marquee

13:15 **Session 2: Special Afternoon Session**
Enabling Tissue Scale Biology: Devices, Research, Translation
 Chair: Kostas Tzelepis

Part 1: Articulation of Technology Barriers

13:15 **Modelling/Omics** **Bertie Göttgens**
Advancing tissue scale biology omics and tissue modelling

13:30 **Industry Flash Talks**

13:50 **Imaging** **Simón Méndez-Ferrer**

14:05 **Industry Flash Talks**

Monday 5 June

- 14:25 **Organ/Organoid Culture** **Joo-Hyeon Lee**
Building a Tissue In Vitro from the Bottom Up
- 14:40 **Industry Flash Talks**
- 15:00 **Break & Industry Exhibition** CRUK Atrium & Gallery
- 15:30 **Part 2: Lessons Learned & Next Steps**
- Panel discussion 1 – topic 1 – Imaging**
- *Darran Clements - CSCI*
 - *Srinjan Basu - CSCI*
 - *Richard Grenfell - CRUK-CI*
 - *Kate McDole - MRC-LMB*
- 15:30
- Panel discussion 2 – topic 2 – Organoids**
- *Matthias Zilbauer - CSCI*
 - *Madeline Lancaster - MRC-LMB*
 - *Andreas Bruckbauer - CRUK-CI*
 - *Komal Nayak - CSCI*
- 16:00
- Panel discussion 3 – topic 3 – Modelling/Omics**
- *Adrien Hallou - CSCI, Gurdon Institute*
 - *Ania Piskorz - CRUK-CI*
 - *Young Ho - MGI*
 - *Nicola Wilson - CSCI*
- 16:30
- 17:00 **Day 1 Closing Comments**
Bertie Göttgens
- 17:10 **Postgrad & Postdoc Poster Session / Industry Exhibition**
- 17:10 **Poster Session & Drinks Reception**
See details on page 9 and 10
- 18:15 **Dinner & Social**
- 20:30 **Day 1 Concludes**

Tuesday 6 June

09:00 Welcome Coffee Marquee - JCBC Lawn

09:30 **Session 3**
Chair: Harry Bulstrode

09:30 **PI Talk** **Anna Philpott**
What to be or not to be-that is the question

09:50 **Affiliate PI Talk** **Jelle van den Aamele**
Neural stem cell-niche interactions in mitochondrial disease

10:10 **Postgrad & Postdoc Talks** **Byron Mui (PhD)**
Hyaluronic Acid Protects Against Fibrosis During Digit Tip Regeneration

Laura Morcom (Postdoc)
Astrocytic potassium channels control human cortical progenitor dynamics

10:30 **Equality & Diversity Update** **Srinjan Basu**

10:40 **Public Engagement Update** **Greg Palmer**

Lottie Grey-Wilson (PhD)
A novel organoid model of human liver bud development

10:50 **Postgrad & Postdoc Talks** **Emily Calderbank (Postdoc)**
Commitment of haematopoietic stem cells to erythroid, megakaryocyte and mast cell lineages is accelerated by IL-33 in humans

11:10 **Break**

Tuesday 6 June

11:40 **Session 4**
Chair: Mekayla Storer

- 11:40 **PI Talk** **Dan Hodson**
From B cell biology to better therapy for lymphoma
- 12:00 **PI Talk** **Maria Duque-Correa**
A tale of worms, stem cells and tissue damage and regeneration
- 12:20 **PI Talk** **Richard Tyser**
Early Heart Development: The emergence of function and its impact on form
- 12:40 **Affiliate PI Talk** **Sumru Bayin**
Age-dependent regenerative mechanisms in the brain
- 13:00 **Prizes & Closing Remarks** **Bertie Göttgens**
- 13:15 **Lunch & End of Retreat**



Poster Session

Poster Session Monday 5 June 17:10

1	Nathalie Sakakini Postdoc Huntly Group	Mutational synergy with CREBBP loss in lymphomagenesis identified through forward insertional mutagenesis in a new DLBCL mouse model
2	Annabel Curle PhD Student Barker Group	hESC-derived dopaminergic progenitor cells for use in Parkinson's Disease cell replacement therapy are not immunogenic in vitro
3	Miguel Cocera Fernandez PhD Student Méndez-Ferrer Group	Deconvoluting abnormal niche interactions in the haematological malignancies
4	Odara Medagedara PhD Student Rawlins Group	Imaging and multiomics analysis for deepening our understanding of lung tissue biology
5	Koby Baranes Postdoc Kotter Group	A Novel Dual Inducible System in Human iPSCs for Ageing iNeurons Reveals Changes in the Epigenetic Landscape of the Aged Cells
6	Adrien Vaqué Postdoc Rowitch Group	Toward in vivo gene editing therapy for conatal Pelizaeus-Merzbacher Disease
7	Austin Reed PhD Student Khaled Group	A Human Breast Cell Atlas Mapping the Homeostatic Cellular Shifts in the Adult Breast
8	Clara Munger PhD Student Boroviak Group	Extracellular matrix guidance for embryonic disc and amnion specification
9	Yiming Chao PhD Student Göttgens Group	Organoid-based single-cell spatiotemporal gene expression landscape of human embryonic development and hematopoiesis
10	Yihong Li PhD Student Rawlins Group	Gg13 deletion hinders recovery of injured lungs
11	Ahmed Waraky Postdoc Laurenti Group	Regulatory networks of human extramedullary hematopoiesis
12	Justyna Rak Postdoc Vassiliou Group	Heterochronic competition reveals fate-flexibility of Sf3b1K700E mutant blood system.
13	Mantas Jonaitis PhD Student Basu Group	Chromatin changes during cell fate choice in gastrulation
14	Andria Koulle PhD Student Hendrich Group	Defining the role of Adnp and Chd4 in the ChAHP complex
15	Max Lycke PhD Student Boroviak Group	High fidelity hypoblast; uncovering the mechanisms of hypoblast differentiation and its implications for pre- vs postimplantation development

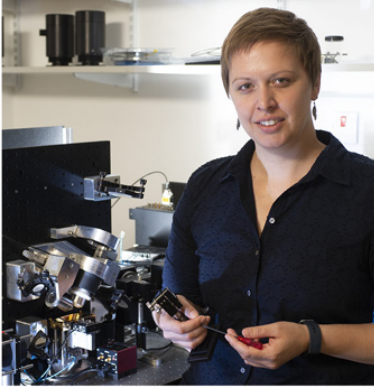
Poster Session Monday 5 June 17:10

16	Oluwaseun Ogundele PhD Student Hendrich Group	The role of Sall4 in cell fate determination
17	April Foster Postdoc Hanniffa Group	Investigating macrophage and endothelial cell interaction using iPSC-derived skin organoid model
18	Sarah Gillen Postdoc Philpott Group	Palbociclib releases the latent differentiation capacity of neuroblastoma cells
19	Sabitri Ghimire Postdoc Vallier Group	Bioengineered liver for acute liver diseases
20	Rachel Fenner PhD Student Hodson Group	Elucidating the mechanism of the tumour suppressor gene, GNA13, in aggressive B cell lymphomas
21	Oliver Bower PhD Student Niakan Group	Investigating the role of NANOG in human embryogenesis and pluripotency
22	Anna Chantzara PhD Student Barker Group	In vitro characterization of MHC class I knockout midbrain dopaminergic neurons
23	Melania Barile Postdoc Göttgens Group	A time and single-cell resolved model of hematopoiesis
24	Jaana Bagri PhD Student Huntly Group	Elucidating the role of dysregulated transcription factors in AML
25	Claire Bunn PhD Student Rawlins Group	Characterizing the Basal Cell Population and Clonal Dynamics in the Mammalian Lung
26	Shota Nakanoh Postdoc Rayon Group	Specification of amniotic ectoderm and surface ectoderm in human
27	Yang Wang Postdoc Rugg-Gunn Group	Developing single-cell multi-omics sequencing technologies to jointly profile chromatin state and transcriptome
28	Jens Bager Christensen PhD Student Bayin Group	Unravelling gene regulatory networks driving fate acquisition of cerebellar Nestin-expressing progenitors during development and regeneration



Speakers

Guest Speaker



Dr Kate McDole

MRC Laboratory of Molecular Biology
Cambridge, England

Kate McDole is a Group Leader at the MRC Laboratory of Molecular Biology (LMB) in Cambridge, UK. Using the mouse embryo as a model, Kate's research group studies how mechanical forces can shape complex three-dimensional structures out of simple populations of cells.

Kate's lab have developed an advanced light-sheet microscope to gently and comprehensively image mouse embryo development at single-cell resolution over a course of days. With this system and a suite of computational tools, they follow changes in cell fate, visualize the organization of tissue structures, and measure the forces involved in shaping those structures.

One of the ultimate aims of the lab is to generate a comprehensive force-map of development in the early embryo that, when coupled with existing knowledge of gene expression and cell fate maps, will allow them to generate computational models that can be used to design and engineer better 3D culture or synthetic tissue culture systems, enabling them to grow more complex structures in a dish and one day build working tissues and organs.

Monday 5 June, 11:35

"How the embryo gets its shape: Understanding early mouse development with light-sheet microscopy"

Institute & Affiliate Speakers

Sumru Bayin

Affiliate PI, Gurdon Institute
nsb44@cam.ac.uk

Emily Calderbank

Postdoc, Laurenti Group
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Maria Duque-Correa

Principal Investigator
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Frances England

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Bertie Göttgens

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Dan Hodson

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Byron Mui

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Anna Philpott

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Simon Richardson

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Richard Tyser

Principal Investigator
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Jelle van den Ameele

Affiliate PI, MRC Mitochondrial Biology
Unit
jv361@cam.ac.uk



SCI-TIF Members & Industry Guests

10X genomics

Akoya Biosciences

Amplitude Laser

Bit.Bio

Boroviak Group (Affiliate)

Bruker

Bruker-Inscopix

Cairn Research Ltd

Carl Zeiss Microscopy GmbH

Curio Bioscience

Cytiva

Evident / Olympus

Femtonics

Genoa Instruments

iotaSciences

Laser 2000

Leica

Lunaphore Technologies

MGI-Tech

Miltenyi Biotec

Mogrify

Nikon UK

Photon Lines Ltd

Qkine

RareCyte

Scientifica Ltd

Swift Analytical

Visiopharm

Viventis Microscopy

ZEISS

NOTE: The names in orange above denote the Cambridge Stem Cell Institute Technology and Innovation Forum (SCI-TIF) members.

Find more information on becoming a SCI-TIF member [online here](#) or email tif@stemcells.cam.ac.uk

Thanks & Recognition

The Isabelle Bouhon Trust

The Isabelle Bouhon Trust generously support the Cambridge Stem Cell Institute Annual Retreat, and we are pleased to name our poster prize this year as the 'Isabelle Bouhon Early Career Poster Prize'. Isabelle Bouhon was a researcher in Cambridge who tragically died, aged 36, in an accident in 2005. Isabelle was a dedicated scientist whose contribution to the development of defined conditions for neural differentiation from ES cells will endure and have lasting impact. Isabelle is fondly remembered as a loyal and wonderfully exuberant colleague, and we thank the Trust for their support in her memory.

University of Cambridge Research Policy Committee & CATS

The University Research Policy Committee has awarded CSCI with an IRC/SRI small grant for impact and knowledge exchange. Cambridge Academy of Therapeutic Sciences (CATS) has also awarded CSCI with funds to support the SCI-TIF events. These awards have been used to fund Session 2: Enabling Tissue Scale Biology: Devices, Research, and Translation. Our thanks go to the committee and to CATS for helping us fund this opportunity.

Organising Committee

Thank you to everyone who has been involved in this year's Retreat and especially to Alice Sorrell, Mekayla Storer, Jacqui Davidson and Chloe Annison who have worked hard on the finer details of the programme.

Cover image and panels throughout:

Detail from painting by Victoria Morten: *'Let the eye be substituted for the sun'*
Photo credit: Patrick Jameson



Thank you for joining!