

# The 3<sup>rd</sup> Tsukuba Kyoso-no-Ba Conference @SakuLab

## Exploring the Frontiers of Cancer Research: Bridging Academia and Pharma

Date/Time	January 28, 2025, 16:00 – 18:00 (tentative until 20:00) JST / 7:00 – 9:00 GMT
Venue	Astellas Pharma Inc, Tsukuba Research Center Meeting Rooms: Session 1: Auditorium (Building A, 1st Floor) Session 2: Cafeteria (Building A, 2nd Floor)
Participation Fee	Free
Co-hosts	Eisai, Nippon Shinyaku, Ono Pharmaceutical, Taiho Pharmaceutical, University of Tsukuba Kyoso-no-Ba, Astellas (host)
Support	Tsukuba Life Science Promotion Association (TLSK)

### <Draft Agenda>

Time (JST)	Time (GMT)	Content	Speaker (Titles omitted)
<b>Session 1: Conference</b>			
16:00-16:05	7:00-7:05	Opening remarks	Hiroyuki Nishiyama, University of Tsukuba
16:05-16:35	7:05-7:35	<u>Oxford - 1:</u> "Drivers and Effectors of Phenotype-Switching in Cancer"	Colin Goding, University of Oxford
16:35-17:05	7:35-8:05	<u>Oxford - 2:</u> "Advanced Human Tissue Models for Target Discovery and Validation in Myeloid Malignancies"	Bethan Psaila, University of Oxford
17:05-17:20	8:05-8:20	<u>Pharmaceutical Company - 1:</u> "Drug Discovery at the iLab Utilizing Spatial Omics"	Shinsuke Nakao, Astellas
17:20-17:35	8:20-8:35	<u>Pharmaceutical Company - 2:</u> "TBD"	Isao Miyazaki, Taiho Pharmaceutical
17:35-17:55	8:35-8:55	<u>Panel Discussion:</u> Frontiers of Cancer Research -Bridging Academia and Pharma-	<Panelists> Colin Goding (Oxford) Yu Kato (Eisai) Shinsuke Nakao (Astellas) Isao Miyazaki (Taiho) <Facilitator> Hiroyuki Nishiyama (Tsukuba) Akihiko Yamamoto (Eisai)
17:55-18:00	8:55-9:00	Closing remarks	Taro Masunaga, Astellas
<b>Session 2: Networking</b>			
18:30-20:00	-		

### Contact Information:

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## CONTACT INFORMATION

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## COLLABORATIONS



### Lionel Larue

Institute Curie, France

### Eirkur Steingrímsson

University of Iceland, Iceland

### Luisa Lanfrancone

European Institute of Oncology, Milan, Italy

### Dr Irwin Davidson

IGBMC, France

# Colin Goding

PROFESSOR OF ONCOLOGY

I completed a PhD in virology at the National Institute for Medical Research, London, UK. I then did postdoctoral work in Pierre Chambon's lab in Strasbourg, France, where I developed an interest in transcription regulation before taking up a position at the Marie Curie Research Institute, Oxford, UK, to continue working on gene regulation, both in *S. cerevisiae*, as well as in melanocytes and melanoma. In 2008, I moved to the Ludwig Institute, where I continue to examine the role of signalling and transcription in melanoma biology, with the aim of developing novel and anti-cancer therapies that take tumour phenotypic heterogeneity into account.

Using melanoma as a model, we established the key role of the Microphthalmia-associated transcription factor (MITF) in microenvironment-driven phenotype-switching in melanoma biology: MITF-low cells are drug-resistant, slow-cycling, tumour-initiating and invasive, while MITF expression suppresses invasiveness and promotes either proliferation or differentiation. Understanding how MITF is regulated, both transcriptionally and post-translationally, and how it integrates microenvironmental signals to determine melanoma phenotype is a key aim. More broadly, we are interested in how and why invasiveness is imposed and stem cells generated in melanoma, and how similar phenotypic states are produced in non-melanoma cancers.

To explain cancer progression we recently introduced the concept of starvation and pseudo-starvation to explain why cancer cells become invasive.

Our research is therefore aimed at understanding:

- The drivers of phenotype-switching and senescence
- The role of starvation and pseudo-starvation in cancer progression
- The relationship between invasiveness and tumour initiation
- The molecular mechanisms underpinning dormancy
- The role of MITF-related factors in non-melanoma cancers

## KEY PUBLICATIONS

**Starvation and pseudo-starvation as drivers of cancer metastasis through translation reprogramming**

Journal article

GODING C. and Garcia-Jimenez C., (2018), *Cell Metabolism*

**BRN2 suppresses apoptosis, reprograms DNA damage repair and is associated with a high somatic mutation burden in melanoma**

Journal article

GODING C. et al, (2019), *Genes and Development*

**Targeting MC1R depalmitoylation to prevent melanomagenesis in redheads**

Journal article

GODING COLIN, and Chen S., (2019), *Nature Communications*

**A TFEB nuclear export signal integrates amino acid supply and glucose availability**

Journal article

LI L. et al, (2018), *Nature Communications*

**Translation reprogramming is an evolutionarily conserved driver of phenotypic plasticity and therapeutic resistance in melanoma**

Journal article

Goding C. et al, (2016), *Genes and Development*

## RECENT PUBLICATIONS

**TPC1 regulates melanoma tumorigenesis via mTORC1 and TFEB.**

Journal article

Jin X. et al, (2024), *Heliyon*, 10

**The Lipid Droplet Protein DHRS3 Is a Regulator of Melanoma Cell State.**

Journal article

Johns E. et al, (2024), *Pigment Cell Melanoma Res*



# Bethan Psaila

MA; MBBS; MRCP; FRCPath; PhD

## ASSOCIATE PROFESSOR OF HAEMATOLOGY

- Cancer Research UK Senior Fellow

**Clinician Scientist and Group Leader, MRC Weatherall Institute of Molecular Medicine and Oxford Ludwig Institute for Cancer Research**

Our research focuses on four key areas: (1) Dissecting the interactions between blood stem cells, megakaryocytes and the stroma in normal haematopoiesis and blood malignancies; (2) Development and application of human bone marrow organoids to study normal and malignant haematopoiesis and validate targets in the relevant tissue microenvironment; (3) Developing novel strategies to selectively target cancer stem cells and pathological megakaryocytes in myelofibrosis, a severe bone marrow malignancy; (4) Understanding our recent discovery that platelets contain a repertoire of DNA fragments sequestered from cell free DNA, and confirming clinical utility for cancer detection and for pre-natal diagnosis.

In the clinic, I care for patients with myeloproliferative neoplasms, leading a small portfolio of clinical trials with a focus on immunotherapies am Deputy Chair of the National Cancer Research (NCRI) Haematology-Oncology MPN Subgroup and actively contribute to local and national treatment guidelines, patient forums and priority setting workshop.

I trained at Clare College, Cambridge, Imperial College London/The Hammersmith Hospital, Cornell, New York, and the National Institutes of Health, Bethesda USA.

I am also a Senior Fellow of New College, Oxford, recruiting and overseeing clinical training of ~20-30 medical students per year.

## CONTACT INFORMATION

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## RESEARCH GROUPS

**Psaila Group: The tumour microenvironment in blood cancers**

## COLLEGES



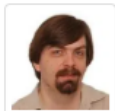
New College

## COLLABORATORS



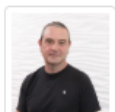
**Adam Mead**

Professor of Haematology



**Claus Nerlov**

Professor of Stem Cell Biology



**Jim Hughes**

Professor of Gene Regulation

## KEY PUBLICATIONS

**Human Bone Marrow Organoids for Disease Modeling, Discovery, and Validation of Therapeutic Targets in Hematologic Malignancies.**



Journal article

Khan AO. et al, (2023), Cancer Discov, 13, 364 - 385

**Single-Cell Analyses Reveal Megakaryocyte-Biased Hematopoiesis in Myelofibrosis and Identify Mutant Clone-Specific Targets.**



Journal article

Psaila B. et al, (2020), Mol Cell, 78, 477 - 492.e8

**Single-cell profiling of human megakaryocyte-erythroid progenitors identifies distinct megakaryocyte and erythroid differentiation pathways.**



Journal article

Psaila B. et al, (2016), Genome Biol, 17

**In utero origin of myelofibrosis presenting in adult monozygotic twins.**



Journal article

Sousos N. et al, (2022), Nat Med, 28, 1207 - 1211

**Generating human bone marrow organoids for disease modeling and drug discovery.**



Journal article

Olijnik A-A. et al, (2024), Nat Protoc

**The management of myelofibrosis: A British Society for Haematology Guideline.**



Journal article

McLornan DP. et al, (2023), Br J Haematol