

ASHBi

DISTINGUISHED SEMINAR

Haematopoietic Stem/Progenitor Cell Development and Function

Lecturer: **Dr Bertie Göttgens**

Professor of Molecular Haematology and Deputy Director
of the Cambridge Stem Cell Institute.
Associate Editor of the journal BLOOD



Date: **Monday, 19 April 2021**

Time: **4:00pm - 5:30pm**

Venue: **Zoom Online** Register via the right QR code



Eligibility: **Researchers and Students in Kyoto University**

Homeostasis of the haematopoietic system is achieved through carefully balanced proliferation, differentiation and cell death, to maintain appropriate numbers of all the various haematopoietic cell types. Malignant as well as non-malignant diseases impact the very same cellular processes, thus disrupting the overall balance between cell types. Historically, it has been difficult to connect “molecular scale” processes, such as leukaemogenic mutations, with their likely “tissue scale” consequences, such as the resulting dynamic alterations of the entire haematopoietic system.

The advent of high throughput single cell molecular profiling promises to transform our ability to map blood development as well as interpret perturbations of the haematopoietic system, because molecular level information can now be obtained for tens of thousands of cells. This presentation will provide an update of the Göttgens group’s efforts on enhancing our understanding of haematopoiesis based on representations of the haematopoietic differentiation landscape generated from single cell expression profiles. High-throughput CrispR gene knock-out experiments are complemented with tissue modelling to identify comprehensive information on gene regulatory interactions in haematopoietic progenitor cells, as well as infer parameters that underpin normal homeostasis and allow the simulation of leukaemogenic mutations and possible treatments.

Organizer : Assoc Prof Ryo Yamamoto

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Hosted by Institute for the Advanced Study of Human Biology (WPI-ASHBi)

