4th Scientific Workshop
THE HAEMATOLOGICAL TUMOUR MICROENVIRONMENT
AND ITS THERAPEUTIC TARGETING
February 5-7, 2023 – London, United Kingdom
Chairs: Dominique Bonnet, Marina Konopleva, Daniela Krause, Simon Méndez-Ferrer

Sunday, February 5, 2023

15:00-15:10 Welcome: Dominique Bonnet, Marina Konopleva, Daniela Krause, Simon Méndez-Ferrer

SESSION I – Normal Haemopoietic stem cell niche
Chairs: Cristina Lo Celso (London), Toshio Suda (Singapore)

15:10-15:15	Introduction	Cristina Lo Celso (London) Toshio Suda (Singapore)
15:15-15:35	**Keynote Lecture**: The bone marrow microenvironment's dual roles: Metabolic regulation of hematopoiesis and stem cell protection	Tsvee Lapidot (Rehovot)
15:35-15:40	*Discussion*	
15:40-15:55	The bone marrow niche in aging and regeneration	Ralf Adams (Münster)
15:55-16:00	*Discussion*	
16:00-16:15	Ageing and the bone marrow microenvironment	Jennifer Trowbridge (Bar Harbor)
16:15-16:20	*Discussion*	
16:20-16:27	*Circadian cues regulate Wnt signaling and glycolysis in long-term repopulating hematopoietic stem cells*	*Priyasmita Chakrabarti (Rehovot)*
16:27 -16:30	*Discussion*	
16:30-16:37	*Functional invalidation of murine Cxxc5 gene, encoding the epigenetic factor RINF, accelerates ageing of the hematopoietic system by modulating cytokine production of mesenchymal stem cells in the bone marrow niche*	*Frédéric Pendino (Paris)*
16:37-16:40	*Discussion*	
16:40-17:10	*Panel discussion*	

17:10-17:40 Coffee Break

SESSION II – The bone marrow niche under stress and regeneration
Chairs: Ravi Majeti (Stanford), Jennifer Trowbridge (Bar Harbor)

17:40-17:45	Introduction	Ravi Majeti (Stanford) Jennifer Trowbridge (Bar Harbor)

17:45-18:00	Extrinsic regulation of clonal hematopoiesis during aging	Liran Shlush (Rehovot)
18:00-18:05	*Discussion*	
18:05-18:20	Bone marrow inflamm-ageing and CHiP	Markus Manz (Zürich)
18:20-18:25	*Discussion*	
18:25-18:40	Bone marrow niche during infection	Cristina Lo Celso (London)
18:40-18:45	*Discussion*	
18:45-18:52	*Structural and functional analysis of bone marrow stromal networks during chemotherapy*	*Ana Luisa Pereira (Zürich)*
18:52-18:55	*Discussion*	
18:55-19:02	*Single-cell RNA sequencing identifies phenotypically, functionally, and anatomically distinct stromal niche populations in human bone marrow*	*Hongzhe Li (Lund)*
19:02-19:05	*Discussion*	
19:05-19:35	*Panel discussion*	

19:35-20:35 ***Mentored Poster Walks and Welcome Get-Together stand-up buffet dinner***

- *Biology Poster Walk Leaders: Eva Szegezdi (Galway), Diana Passaro (Paris)*
- *Clinical Poster Walk Leaders: Daniel Nowak (Mannheim), Stefan Scheding (Lund)*

Monday, February 6, 2023

07:20-08:20 **3 Simultaneous Meet the Expert sessions (non-clinical)**

1. Stem cells in human AML	Ravi Majeti (Stanford)
2. Leukemia stem cells and the microenvironment	Ravi Bhatia (Birmingham, USA)
3. Controversial issue on HSC metabolism	Toshio Suda (Singapore)

SESSION III – The bone marrow niche in myeloid malignancies
Chairs: Markus Manz (Zürich), Marion Subklewe (Munich)

08:30-08:35	Introduction	Markus Manz (Zürich) Marion Subklewe (Munich)
08:35-08:50	The bone marrow niche in CML	Ravi Bhatia (Birmingham, USA)
08:50-08:55	*Discussion*	
08:55-09:10	Single cell genomics of naïve or Aza-treated MDS/CMML	John Pimanda (Sydney)
09:10-09:15	*Discussion*	
09:15-09:30	Metabolic rewiring of stroma cells in AML	Paloma Garcia (Birmingham, UK)
09:30-09:35	*Discussion*	
09:35-09:42	*Defective clearance of neutrophils as a potential cause and therapeutic target in myeloproliferative neoplasms*	*Eman Khatib-Massalha (Cambridge)*
09:42-09:45	*Discussion*	

09:45-09:52	*Single cell transcriptomics of the human bone marrow to identify leukemia-intrinsic and -extrinsic correlates of immune escape and post-transplantation relapse*	*Cristina Toffalori (Milan)*
09:52-09:55	*Discussion*	
09:55-10:25	*Panel discussion*	
10:25-10:55	***Coffee break***	

SESSION IV – Metabolism
Chairs: Ravi Bhatia (Birmingham, USA), Paloma Garcia (Birmingham, UK)

10:55-11:00	Introduction	Ravi Bhatia (Birmingham, USA) Paloma Garcia (Birmingham, UK)
11:00-11:15	Self-renewal capacity in hematopoietic stem cells	Toshio Suda (Singapore)
11:15-11:20	*Discussion*	
11:20-11:35	Venetoclax, T cells and ROS in AML?	Aaron Schimmer (Toronto)
11:35-11:40	*Discussion*	
11:40-11:47	*M2 macrophages within the bone marrow niche drive leukemic transformation by imposing resistance to phagocytosis and improving mitochondrial metabolism*	*Jan Jacob Schuringa (Groningen)*
11:47-11:50	*Discussion*	
11:50-11:57	*A mesenchymal cell niche in skin for extramedullary acute myeloid leukemia*	*Elory Leonard (Huddinge)*
11:57-12:00	*Discussion*	
12:00-12:30	*Panel discussion*	
12:30-14:00	***Lunch***	

SESSION V – The bone marrow niche in lymphoid malignancies
Chairs: Michael Andreeff (Houston), Marta Serafini (Milan)

14:00-14:05	Introduction	Michael Andreeff (Houston) Marta Serafini (Milan)
14:05-14:20	Adipocytes in the multiple myeloma microenvironment	Claire Edwards (Oxford)
14:20-14:25	*Discussion*	
14:25-14:40	The BM niche in lymphoid disorders	Stephane Mancini (Rennes)
14:40-14:45	*Discussion*	
14:45-15:00	Follicular lymphoma and stroma cells	Karin Tarte (Rennes)
15:00-15:05	*Discussion*	
15:05-15:12	*Reconstituting ADAM10 in PDX leukemia cells with CRISPR-Cas9-induced knockout confirms the importance of ADAM10 for the interaction of leukemic cells with the bone marrow niche in vivo*	*Jan Philipp Schmid (Munich)*

15:12-15:15	*Discussion*	
15:15-15:22	*Vascularized bone marrow-on-chip to study vascular aberration in hematopoietic diseases*	*Diana Passaro (Paris)*
15:22-15:25	*Discussion*	
15:25-15:55	*Panel discussion*	
15:55-16:25	***Coffee break***	

SESSION VI – Immune cells and immunotherapy
Chairs: John DiPersio (St. Louis), Karin Tarte (Rennes)

16:25-16:30	Introduction	John DiPersio (St. Louis) Karin Tarte (Rennes)
16:30-16:45	The immunome in MDS	Sharham Kordasti (London)
16:45-16:50	*Discussion*	
16:50-17:05	CAR-T cells and the niche	Marta Serafini (Milan)
17:05-17:10	*Discussion*	
17:10-17:25	Bispecific antibodies in AML and ALL: Efficacy and Optimization	Marion Subklewe (Munich)
17:25-17:30	*Discussion*	
17:30-17:37	*Leukemic extracellular vesicles promote immunosuppressive T cell-mediated mechanisms and progression of myeloid leukemia*	*Katarzyna Piwocka (Warsaw)*
17:37-17:40	*Discussion*	
17:40-18:10	*Panel discussion*	

18:10 ***Mentored poster walk***

- *Biology Poster Walk Leaders: Eva Szegezdi (Galway), Diana Passaro (Paris), Marta Serafini (Milan)*

Tuesday, February 7, 2023

07:50-08:50 3 Simultaneous Meet the Expert sessions (clinical)

1. Follicular Lymphoma Microenvironment: from basic science to the clinics	Karin Tarte (Rennes)
2. Inflammation as driver of myelopoiesis and clonal dominance	Markus Manz (Zürich)
3. Immunotherapy for AML	John DiPersio (St. Louis)

SESSION VII – Preclinical and clinical studies to target bone marrow niche
Chairs: John Pimanda (Sydney), Aaron Schimmer (Toronto)

09:00-09:05	Introduction	John Pimanda (Sydney) Aaron Schimmer (Toronto)

09:05-09:20	Venetoclax resistance, metabolism and immune microenvironment	Marina Konopleva (New York)
09:20-09:25	*Discussion*	
09:25-09:40	CD47 targeting in AML	Ravi Majeti (Stanford)
09:40-09:45	*Discussion*	
09:45-10:00	Immune escape and immune editing post stem cell transplant	John DiPersio (St. Louis)
10:00-10:05	*Discussion*	
10:05-10:12	*A differential and targetable role of annexins in the leukemic bone marrow microenvironment*	*Valentina R. Minciacchi (Frankfurt am Main)*
10:12-10:15	*Discussion*	
10:15-10:22	*The effect of the leukaemic bone marrow microenvironment on chimeric antigen receptor-expressing natural killer cell-based immunotherapy in acute myeloid leukaemia*	*Javid Sabour Takanlu (Galway)*
10:22-10:25	*Discussion*	
10:25-10:40	Combinatorial CXCR4/E-Selectin inhibition is required to overcome microenvironment-mediated resistance to BCL-2 and FLT3-targeted therapies in acute myeloid leukemias	Michael Andreeff (Houston)
10:40-10:45	*Discussion*	
10:45-11:15	*Panel discussion*	
11:15-11:45	***Coffee break***	
11:45-12:05	**<u>Keynote Lecture:</u>** Immunosurveillance guides metabolic preference for immune evasion in tumor cells	Ping-Chih Ho (Epalinges)
12:05-12:10	*Discussion*	
12:10-12:15	***Closing Remarks***	

MEETING CLOSURE