Sunday, February 24

15:00 Welcome

SESSION I  THE NORMAL HSC NICHES IN DEVELOPMENT, ADULTHOOD AND AGEING
Chairs: Marieke Essers and Laura Calvi

15:15-15:40 Keynote Lecture
Maladapted vascular niche induces the generation and expansion of tumour initiating cells
Shahin Rafii (New York)

15:40-15:45 Discussion

15:45-16:05 Angiocrine signals regulate quiescence and therapy resistance in bone
Anjali Kusumbe (Oxford)

16:05-16:10 Discussion

16:10-16:30 The HSC niche in aging
Hartmut Geiger (Ulm)

16:30-16:35 Discussion

16:35-16:45 Intrinsic and extrinsic regulation of hematopoietic aging
Simona Valletta (Oxford)

16:45-16:50 Discussion

16:50-17:00 Hematopoietic stem cells in perisinusoidal niches are protected from aging
M. Carolina Florian (Barcelona)

17:00-17:05 Discussion

17:05-17:35 Coffee Break

SESSION II  METABOLISM IN THE TUMOUR MICROENVIRONMENT
Chairs: Simon Méndez-Ferrer and Nina Cabezas-Wallscheid

17:35-17:55 Subversion of systemic glucose metabolism as a mechanism to support the growth of leukaemia cells
Haobin Ye (Aurora)

17:55-18:00 Discussion

18:00-18:20 Mitochondrial trafficking in the tumour microenvironment
Stuart A. Rushworth (Norwich)

18:20-18:25 Discussion

18:25-18:45 Fatty acid metabolism and bone marrow adipocytes in AML
Yoko Tabe (Tokyo)

18:45-18:50 Discussion
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18:50-19:00</td>
<td>Quantitative full-bone imaging reveals combinatorial niche signatures of hematopoietic stem cells</td>
<td>Konstantinos Kokkaliaris (Boston)</td>
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<td>19:00-19:05</td>
<td>Discussion</td>
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<td>19:05-19:15</td>
<td>Combined single-cell and spatial transcriptomics reveals fundamental principles of bone marrow niche organization</td>
<td>Simon Haas (Heidelberg)</td>
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<td>19:15-19:20</td>
<td>Discussion</td>
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<tr>
<td>19:20-19:30</td>
<td>ESH International Scholarship Fund Early-Career Scholarship Award Ceremony</td>
<td>Michael Hallek (Cologne)</td>
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**19:30**

**TUTORED POSTER WALKS AND WELCOME GET-TOGETHER RECEPTION**
- Poster Walk 1: Marieke Essers, Divij Verma
- Poster Walk 2: Nina Cabezas Wallscheid, Rahul Kumar
- Poster Walk 3: Rebekka Schneider, Diana Passaro
- Poster Walk 4: Elisa Laurenti, Syed Mian

### Monday, February 25

**07:30-08:30**

**Meet the Experts sessions:**
- The microenvironment in myeloid malignancies: Michael Andreeff (Houston), Simon Méndez-Ferrer (Cambridge)
- The microenvironment in lymphoid neoplasms: Irene Ghobrial (Boston), Michael Hallek (Cologne)
- The HSC niches from development to ageing: Hartmut Geiger (Ulm), Shahin Rafii (New York)

### SESSION III  

**INFLAMMATION AND CELL CYCLE PART 1**

**Chairs: Iannis Aifantis and Elisa Laurenti**

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<tr>
<th>Time</th>
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<tr>
<td>08:30-08:50</td>
<td>Impact of aged marrow macrophage on haematopoietic stem cells and their niche</td>
<td>Laura Calvi (Rochester)</td>
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<td>08:50-08:55</td>
<td>Discussion</td>
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<tr>
<td>08:55-09:15</td>
<td>HSCs and their BM niche under inflammatory stress</td>
<td>Marieke Essers (Heidelberg)</td>
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<td>09:15-09:20</td>
<td>Discussion</td>
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<tr>
<td>09:20-09:40</td>
<td>The bone marrow microenvironment in myeloproliferative neoplasms</td>
<td>Rebekka Schneider (Rotterdam)</td>
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<td>09:40-09:45</td>
<td>Discussion</td>
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<tr>
<td>09:45-09:55</td>
<td>Repetitive exposure to inflammatory stress leads to irreversible HSC attrition and hematopoietic tissue failure during ageing</td>
<td>Ruzhica Bogeska (Heidelberg)</td>
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<td>09:55-10:00</td>
<td>Discussion</td>
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<td>10:00-10:10</td>
<td>Secreted frizzled-related protein 1 (Sfrp1) regulates both maintenance of hematopoietic stem cells and LPS-induced myeloid stress responses</td>
<td>Rouzanna Istvanffy (Munich)</td>
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<td>10:10-10:15</td>
<td>Discussion</td>
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<tr>
<td>10:15-10:35</td>
<td><strong>Coffee Break</strong></td>
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SESSION IV INFLAMMATION AND CELL CYCLE PART 2
Chairs: Shahin Rafii and Michael Hallek

10:35-10:55 Regulation of dormant haematopoietic stem cells
Nina Cabezas-Wallscheid (Freiburg)

10:55-11:00 Discussion

10:00-10:55 Molecular regulation and heterogeneity in quiescence exit of human haematopoietic stem cells
Elisa Laurenti (Cambridge)

11:00-11:20 Discussion

11:25-11:35 Mesenchymal stem cells support leukaemia stem cells in the bone marrow and endow them with antioxidant defence from chemotherapy
Dorian Forte (Cambridge)

11:35-11:40 Discussion

11:55-11:55 Discussion

11:55-14:00 Lunch

SATELLITE LECTURES:

12:15-12:45 CITESeq - Simultaneous Proteomics & Transcriptomics: TotalSeq™ and The Future of Single Cell Analysis - Miguel Tam
This educational lecture is organized and funded by BioLegend

12:45-13:15 Resolving the tumour micro-environment with a multi-omic approach - Stephen Hague
This educational lecture is organized and funded by 10x Genomics

13:15-13:45 - Introduction to Fluidigm Technology - Roberto Spada
- Deep phenotypic analysis of the peripheral blood immune cell compartment in diffuse large B cell lymphoma (DLBCL) - Edward Truelove
This educational lecture is organized and funded by Fluidigm

SESSION V INTERACTION OF TUMOUR CELLS WITH THEIR MICROENVIRONMENT
Chairs: Dominique Bonnet and Ingo Ringshauzen

14:00-14:20 Mapping the bone marrow microenvironment ...in sickness and in health...
Iannis Aifantis (New York)

14:20-14:25 Discussion

14:25-14:45 Targeting the micro environment in smouldering myeloma
Irene Ghobrial (Boston)

14:45-14:50 Discussion

14:50-15:10 Investigating mechanisms regulating myeloma growth and dissemination using in vivo BM imaging
David Fooksman (New York)

15:10-15:15 Discussion

15:15-15:25 Lasting DNA damage in residual long-term HSC after in vivo exposure to AML derived extracellular vesicles
Peter Kurre (Philadelphia)

15:25-15:30 Discussion
Prospective isolation of AML subclones to study subclone-specific bone marrow niche interactions

Bauke de Boer (Groningen)

Coffee break

SESSION VI
THE TUMOUR MICROENVIRONMENT IN CLL, PLASMA CELL MYELOMA, MDS

Chairs: John Gribben and Irene Ghobrial

Understanding and targeting tumour-microenvironment interactions in B cell malignancies
Ingo Ringshausen (Cambridge)

The biological and clinical role of the microenvironment in chronic lymphocytic leukaemia
Michael Hallek (Cologne)

Pre-clinical modelling of myelodysplastic syndromes (MDS) in murine xenograft models
Daniel Nowak (Mannheim)

Mass cytometry identifies PD1/LAG3 immune checkpoints as promising targets for dual immunotherapy in the treatment of chronic lymphocytic leukaemia
Etienne Moussay (Luxembourg)

Myelodysplastic syndrome (MDS) bone marrow cells are highly dependent on their niche(s) but also can play an instructive role in modelling their micro-environment
Syed Mian (London)

Panel discussion

TUTORED POSTER WALKS
- Poster Walk 1: Anjali Kusumbe, Daniel Nowak
- Poster Walk 2: Ingo Ringshausen, Simon Haas
- Poster Walk 3: Rasoul Pourrebrahimabadi, Konstantinos Kokkaliaris
- Poster Walk 4: Laura Calvi, Carolina Florian

Tuesday, February 26

Meet The Experts Sessions:
- Clinical implications of the bone marrow microenvironment in haematological malignancies John Gribben (London), Amnon Peled (Jerusalem)
- Metabolism and inflammation in the bone marrow microenvironment Nina Cabezas-Wallscheid (Freiburg), Marieke Essers (Heidelberg)
- Dissecting niche dependencies during leukaemogenesis Iannis Aifantis (New York), Dominique Bonnet (London)
### SESSION VII  
**TARGETING OF THE TUMOUR MICROENVIRONMENT – CLINICAL**

*This session is organised thanks to support from Cancer Research UK*

**Chairs: Marina Konopleva and Daniela Krause**

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<tr>
<td>09:00-09:20</td>
<td>Targeting the tumour microenvironment in B cell lymphomas</td>
<td>John Gribben (London)</td>
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<td>09:20-09:25</td>
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<td>Discussion</td>
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<td>09:25-09:45</td>
<td>Engineering T cells to overcome the immunosuppressive tumour microenvironment</td>
<td>Stephen Gottschalk (Memphis)</td>
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<td>09:45-09:50</td>
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<td>Discussion</td>
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<td>09:50-10:00</td>
<td>Specific and targetable interactions with the bone marrow microenvironment govern outcome in imatinib-resistant chronic myeloid leukemia</td>
<td>Rahul Kumar (Frankfurt am Main)</td>
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<td>10:00-10:05</td>
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<td>Discussion</td>
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<td>10:05-10:15</td>
<td>Vascular niche e-selectin plays a key role in leukaemia chemo-resistance via its receptors CD44 and CD162</td>
<td>Johanna Erbani (Brisbane)</td>
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<td>10:15-10:20</td>
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<td>Discussion</td>
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**Coffee Break** |                                                                 |                                             |
| 10:50-11:10 | Targeting altered metabolism in leukaemia microenvironment            | Marina Konopleva (Houston)                  |
| 11:10-11:15 |                                                                 | Discussion                                  |
| 11:35-11:40 |                                                                 | Discussion                                  |
| 11:40-12:00 | CXCR4 inhibitors                                                      | Amnon Peled (Jerusalem)                     |
| 12:00-12:05 |                                                                 | Discussion                                  |
| **12:05-12:35** |  
**Panel discussion** |                                                                 |                                             |
| 12:35-13:05 | **Keynote Lecture**                                                | Xiang H.F. Zhang (Houston)                  |
| 13:05-13:10 | New Insights into the early-stage bone colonization of disseminated cancer cells |                                             |
| 13:20     |                                                                 | **Meeting Closure**                         |