

GSCN Travel Award Report

European School of Haematology (ESH) 5th SCIENTIFIC WORKSHOP: THE HAEMATOLOGICAL TUMOUR MICROENVIRONMENT AND ITS THERAPEUTIC TARGETING in London, UK (16-18th February 2025)

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The European School of Haematology (ESH) organizes intensive 2.5- to 3-day scientific workshops designed to present the latest developments in a specific area of hematology research. The 5th Scientific Workshop, held in London from 16–18 February 2025, focused on **“The Haematological Tumour Microenvironment and Its Therapeutic Targeting.”** Discussions centered on novel research findings related to the role of the microenvironment and its interactions with hematopoietic stem and progenitor cells (HSPCs) in both normal and malignant conditions.

The workshop featured numerous insightful talks delivered by leading scientists in the field of hematopoietic stem cells. Among the 34 presenters across eight oral presentation sessions, I found the talk by **Prof. Sean J. Morrison** (UT Southwestern, Dallas) particularly exceptional. He delivered the opening lecture, **“The Hematopoietic Stem Cell Niche and Implications for Clinical Transplantation.”** A key finding from his recent studies highlights the essential role of peripheral nerves in the bone marrow in facilitating hematopoietic cell recovery after myeloablation, though they are not necessary for steady-state stem cell maintenance and hematopoiesis. The underlying mechanism behind this process remains unclear, but this discovery has introduced a new perspective into my own research. Moving forward, I plan to explore the interaction between nerves and HSPCs in my computational model of the bone marrow microenvironment, particularly under myeloablative stress.

Another fascinating presentation was given by **Prof. César Nombela-Arrieta** from Zurich. Using advanced 3D microscopy techniques to visualize bone marrow tissue components—such as vasculature and CXCL12-abundant reticular cells (CAR cells)—his group observed that CAR cells are perivascular in location and highly abundant, suggesting that almost all other cells in the bone marrow are in contact with them. I had the privilege of discussing my project with him during a break, where he provided valuable insights for refining my model and suggested further research directions for our collaborative project.

The workshop also included two **“Meet the Expert”** sessions, where participants could choose from a selection of small-group discussions with leading experts. One of the most memorable moments for me was attending a session led by **Prof. Sean J. Morrison** on **“Why I Am Grateful for a Career in Science.”** This session was particularly meaningful to me, as he shared his experiences and offered invaluable advice on navigating an academic career.

The highlight of the workshop for me, however, was the poster walk session. I was honored to present my research, **“The Digital Niche – A Flexible In Silico Framework to Quantitatively Study Spatio-Temporal Dynamics of Hematopoietic (Stem) Cells in Their Local Microenvironment”**, alongside my supervisor. This session provided an excellent opportunity to engage with researchers in the field, exchange ideas, and receive constructive feedback. I also had the chance to connect with several attendees who expressed interest in my work, and I am optimistic that these discussions could lead to future scientific collaborations.

Overall, participating in this ESH workshop was an invaluable experience, especially as it marked my first time attending such an event in this field. The groundbreaking research findings presented expanded my knowledge of the hematopoietic stem cell microenvironment and reshaped my perspective on certain aspects of my project. This experience will undoubtedly help me define the future direction of my research. More importantly, the workshop allowed me to broaden my professional network, establishing connections with scientists whose insights and expertise will be immensely beneficial to my career in hematopoietic stem cell biology, and with whom I hope to collaborate in the near future.

Finally, I would like to express my sincere gratitude to the GSCN Committee for awarding me a Travel Grant, which enabled me to attend the ESH 5th Scientific Workshop in London. I am confident that this valuable experience will greatly contribute to my PhD journey and future career in this field.