

Conference Report: 65th Annual Meeting of the American Society of Hematology (ASH) in San Diego, California, USA

The annual ASH meeting is a highlight for physicians and scientists in the field of hematology and oncology, featuring thousands of abstracts presented over four days. Alongside abstract presentations, ASH hosts scientific workshops, symposiums, keynote speakers, and achievement awards.

One notable highlight of the conference was the recognition of Katy Rezvani, who was awarded the prestigious 2023 E. Donnall Thomas Lecture and Prize for her groundbreaking research in modifying natural killer (NK) cells derived from umbilical cord blood. Rezvani's work, which focuses on leveraging the inherent anti-tumor cytotoxicity and low risk of graft-versus-host disease of NK cells, holds immense promise for the development of novel adoptive cell therapy approaches in cancer treatment. During her presentation, Rezvani underscored the future potential of adoptive cell therapy and emphasized the transformative impact of big data, artificial intelligence (AI), and machine learning processes in advancing cancer immunotherapy research.

Given my research focus on hematopoietic stem cells, I found particular interest in sessions dedicated to Hematopoietic Stem and Progenitor Cells, as well as Hematopoiesis. Helen C. Wang's discussion on the role of MLL3/MLL4 within the COMPASS complex in hematopoietic stem cell fate decisions was especially captivating. Wang's findings, derived from *Kmt2c/d* single and double-knockout mouse models, shed light on the critical function of these transcriptional coactivators in regulating myeloid differentiation and stem cell self-renewal, challenging the notion of their redundancy. Additionally, Takao Yogo presented an innovative imaging method for tracking hematopoietic stem cells (HSCs) and analyzing their behavior at the single-cell level. By employing an *HLF*-reporter model, Yogo demonstrated a correlation between the expression level of a well-known stem cell gene and HSC proliferation rates, providing valuable insights into the heterogeneity of stem cell populations and the dynamics of their behavior.

While ASH predominantly focuses on the clinical aspects of hematology, it also serves as a platform for bridging the gap between basic scientific research and therapeutic applications. Educational sessions such as the "Graft-versus-Host Session" offered a comprehensive overview of current approaches and limitations in the field, highlighting the potential for innovative therapeutic strategies and future advancements.

In summary, the ASH conference provided an invaluable opportunity to showcase my research, engage in stimulating discussions with colleagues from around the globe, and generate fresh ideas for future experiments. The collaborative spirit of ASH, coupled with the diverse range of sessions and activities, fostered a dynamic environment beneficial for scientific exchange and collaboration. Furthermore, I cherished the opportunity to meet my international collaborators from Sweden and Spain, presenting our interconnected projects during the poster presentations and experiencing the beautiful city of San Diego in the evenings, as well as participating in various social activities.

I extend my sincere gratitude to the GSCN travel grant for facilitating my attendance at this scientific gathering. The conference not only provided valuable feedback on my ongoing research but also inspired me with new perspectives and ideas for exploration. Thanks to the exceptional presentations and insights shared by fellow attendees.