

**52nd annual scientific meeting of the international society for experimental hematology
(ISEH)**

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The annual meeting of the ISEH covered a broad range of scientific reports ranging from new aspects about aging hematopoietic stem cells, hematopoietic malignancies and translational approaches in hematology. I would like to express my gratitude for receiving the GSCN travel award which was a great support in attending this conference in New York.

The meeting started with a lively and quite personal presentation by the Donald Metcalf Awardee Margaret ("Peggy") Goodell, following her research over the past years on epigenetic regulation of hematopoietic stem cells. I am very much looking forward meeting her again in Ulm at this year's GSCN meeting to hear more about her work on the methyltransferase DNMT3A and how it impacts HSC differentiation.

Her talk was followed by Mick Milsom who shared his thoughts on the behavior of aging HSCs, including new data on the impact of HSC kinetic on transplantation outcomes and how different kinetics impact lineage bias. As my work is focused on aging HSCs, the work of his lab gave me new aspects to think about when discussing my own data. This was also helpful as my poster presentation focused on aging hematopoietic systems in humans and mice, where different kinetics of HSCs with age might easily correlate with their functionality.

The talk by Daniel Lucas was also very inspiring. He shared his outstanding histology on the hematopoietic anatomy of the skeleton, suggesting that stress hematopoiesis affects cells differently depended on their location and origin within the skeleton.

The program on HSC biology continued with a great presentation by Stephanie Xie. She presented her data on human inflammatory memory HSC, which are transcriptionally and epigenetically distinct from homeostatic HSC. These memory HSC were shown to harbor extensive chromatin changes from inflammatory stimuli and these memory cells are the ones which are enriched in the human bone marrow with age.

During the Young Investigator Award Session, Daniel Tavakol presented his fascinating bioengineered human bone marrow tissue model that mimics a multi organ on a chip model. His model enables cross talks between different tissues *in vitro* like the liver, bone marrow and heart which are linked by vascular perfusion. As an example, he demonstrated the migration of bone marrow cells through the system to injured cardiac tissue. Regarding the ongoing discussions about animal experiments in Europe, his model could be of help to overcome limitations of *in vitro* systems.

During the EHA-ISEH Joint Session, Grant Rowe shared his data on transcription factor networks during fetal to adult transition in HSCs. He showed how fetal-like HSCs can persist in adulthood due to heterochronic Erg mutations. These fetal-like HSCs show extensive self-renewal activity which eventually leads to stem cell exhaustion later in adulthood. Like for aged HSC, this fetal-like phenotype leads to reduced engraftment potential of HSCs. For me it would be interesting to see, whether the involved epigenetic modifications in the fetal-like phenotype might also be present in aging HSCs.

This year's ISEH meeting was not only scientifically comprehensive but served as perfect venue for networking opportunities and growing together as a scientific community. In between session, during break hours, while exploring the city and of course during the social event. The lively discussions and personal exchange were the perfect motivation and inspiration for

upcoming experiments and projects. Again, a big thank you to GSCN for supporting this experience!