

European Summer School on Stem Cell Biology and Regenerative Medicine 2023, Spetses, Greece

Tobias Greisle, Helmholtz Center Munich, Institute of Diabetes and Regeneration Research

For the first time, the European Summer School on Stem Cell Biology and Regenerative Medicine (SCSS) took place on the beautiful Greek island Spetses as in the past it was held on the neighboring island Hydra. It was truly a pleasure to be part of this special meeting for which the organizers Kim Jensen, Sally Lowel, Austin Smith, and Jenny Nelder invited a thoughtful faculty of leading stem cell scientists to discuss the nature, ethics, and possibilities of stem cells for advancing modern medicine.

The Summer School started off with a debate about what a stem cell is, a question much more complex than it seems at first glance. Faculty and delegates were equally invited to openly discuss their thoughts and ideas which was encouraged throughout the whole summer school. This led to lively discussions and interesting exchanges that are ever so crucial for advancing science in a controversial field such as stem cell research.

A broad range of lectures over the course of the program covered all aspects of stem cells in different tissues as well as the concepts of pluripotency and synthetic embryos. Experts such as Austin Smith, Kim Jensen, Cedric Blanpain, Michele De Luca, Agnete Kirkeby, Shahragim Tajbakhsh and Joo-Hyeon Lee gave insights into their respective fields and the research conducted in their labs. A highlight for me was the insights shared by Kim Jensen, Michele De Luca, Pete Coffey and Agnete Kirkeby about advancing stem cell therapy into the clinic, drawing from their vast experience with clinical trials. They discussed overcoming challenges posed by safety issues and bureaucratic regulations, as well as the steps involved in bringing a stem cell product from the lab through clinical trials to the patients. Especially, Michele De Luca's extensive work to treat children with the rare disease epidermolysis bullosa, or 'butterfly disease', by gene therapy was particularly inspiring.

On the other hand, insights on cutting edge technological advances in single cell genomics for deciphering stem cell fate decisions were presented by Allon Klein. Matthias Lutolf discussed his remarkable research on engineering human intestinal organoids on a chip to model physiology and disease *in vitro*. These groundbreaking advances in methodology will certainly reshape our understanding of stem cells and the underlying mechanisms of fate decisions and regeneration.

A feature that made the Summer School uniquely impactful for me were the small discussion groups. Between the talks we had the opportunity to discuss science, career, or ethical questions with the members of the faculty in small group sessions of 10 – 15 people. This format provided a direct way to connect with experienced researchers from diverse backgrounds, gaining valuable insights into their research and the life of a scientist in general. On the evenings we had poster session by the sea with a glass of wine or beer which often dragged out long in the night as many exciting projects were presented by the delegates in the event. This was a great opportunity to collect feedback on my own project from the other delegates or the more advanced scientists who took a lot of time to have a look at all the research being presented.

In conclusion, the SCSS 2023 on Spetses was an enriching and unique experience that shaped not only my understanding of stem cells but will undoubtedly leave a profound mark on my career. Therefore, I am extremely grateful to the GSCN for enabling me to attend this prestigious event.

Sincerely,

Tobias Greisle