

ISSCR 2026 Annual Meeting, Montréal, Canada

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The ISSCR Annual Meeting 2026 took place in Montréal, Canada, bringing together thousands of researchers, clinicians, bioengineers, and industry representatives to discuss the latest advances in stem cell biology and regenerative medicine. The meeting struck an excellent balance between fundamental developmental biology and clinical translation, making it an ideal conference for researchers interested in bringing stem cell discoveries closer to patient care. Thanks to the support of the GSCN Travel Award, I had the opportunity to attend this outstanding meeting, present my research, and connect with leading experts in the field.

The scientific program was well organized into thematic tracks, including Clinical Applications, Disease Modeling and Drug Discovery, Engineering Biology, and Capturing Development. As a medical doctor pursuing a PhD in translational stem cell research, I primarily attended sessions focusing on developmental biology, organoid technologies, engineering approaches, and emerging stem cell-based therapies/clinical trials.

A recurring theme throughout the conference was the remarkable progress in translating pluripotent stem cell research into clinical applications. Several sessions presented encouraging updates from clinical trials using human pluripotent stem cell-derived products, particularly for neurodegenerative diseases such as Parkinson's disease (e.g. talk by Roger Barker, University of Cambridge and amyotrophic lateral sclerosis (ALS) (talk by Clive N. Svendsen, Cedars-Sinai Medical Center), as well as diabetes mellitus type 1. It was exciting to see how the field has progressed beyond proof-of-concept studies towards addressing manufacturing, quality control, scalability, and regulatory challenges essential for clinical implementation.

Among the highlights for me were the Capturing Development sessions, where speakers showcased advances in single-cell transcriptomics, spatial omics, and stem cell-derived embryo models to study early human development. These increasingly sophisticated models provide unprecedented insight into lineage specification and tissue formation while improving our understanding of developmental and disease processes. As my own research focuses on stem cell-derived therapeutic approaches, these talks highlighted how a deeper understanding of developmental biology directly supports the development of more robust differentiation protocols.

The Engineering Biology sessions were equally inspiring, demonstrating how bioengineering is becoming an integral part of regenerative medicine. Presentations illustrated how engineering approaches are helping translate laboratory protocols into GMP-compatible manufacturing processes. The emerging use/ integration of artificial intelligence, computational biology and future implementations into stem cell research was another intriguing topic, with several speakers presenting machine learning approaches to optimize differentiation and predict cell fate decisions.

Beyond the scientific sessions, the poster presentations and exhibition provided valuable opportunities to exchange ideas about my own research with researchers from academia and industry, discuss emerging technologies and various approaches, and establish new collaborations. These informal conversations often proved just as inspiring and fascinating as the lectures themselves. In my opinion, this created a valuable environment (e.g., the “Wunderbar” event organized by the GSCN) for barrier-free exchanges of knowledge and grand ideas across generations and among scientists from different backgrounds.

Overall, attending ISSCR 2026 was one of the highlights of my doctoral research. The meeting clearly demonstrated how developmental research, clinical medicine, and a global network converge to accelerate the translation of stem cell research into novel therapies. I am grateful to the GSCN for the generous support through the Travel Award, which made my participation in this inspiring and motivating conference, as well as connecting with the global research community, possible.

Sincerely,
Ferdinand Teichert