

2nd Worldwide Sodium Channel Conference 2026

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I had the opportunity to participate in the 2nd Worldwide Sodium Channel Conference (WSCC) 2026 from 04.02. to 06.02.2026 in Grindelwald, thanks to the financial support from the travel grant awarded to me by the GSCN. The WSCC brought together around 100 participants from various sodium channel research groups, as well as several clinicians and patient-oriented project leaders focusing on the different disease-related phenotypes that can arise from sodium channel dysfunction.

This was the first time I was able to present my current patient-specific, iPSC-derived data on different pain-related diseases as a poster to an audience of highly skilled and committed scientists in the sodium channel research field. I greatly enjoyed conversations with professors, postdoctoral researchers, and also some undergraduate scientists, who provided valuable insights into my data—mostly positive, but also some critical points. These critiques are particularly valuable, as they highlight valid and previously underrepresented aspects of my research. They will help me shape my next experiments to address these gaps, allowing me to move closer to publishing these results in the near future.

Each session focused on specific physiological implications of sodium channels, ranging from cardiac, structural, muscle, and neuronal physiology to epilepsy, pain, and drug development. Everything was interesting, but the most exciting sessions for me were the neuronal and pain sessions, as they are closest to my own research. I was especially glad to engage after the talks with speakers who presented patient-specific stem cell work similar to my own poster presentation, as well as those focused on high-throughput automated patch clamp (HT-APC). Since I have been trying to combine my stem cell work with HT-APC for some time now, their talks—and their comments on my data—will definitely help me going forward.

Another strong element of this conference was the inclusion of less scientific yet highly impactful talks. One patient suffering from inherited erythromelalgia (IEM)—a chronic pain condition that our research group, including myself, is investigating using stem cell models—shared his personal struggles with the condition. This had a profound impact on me, as I realized how much more these patients and their families suffer than scientific reports and publications typically convey. It boosted my motivation, knowing that our research might one day help them. Additionally, the president of the Dravet Syndrome Foundation (Dravet syndrome is a form of epilepsy affecting mostly infants and children) gave a presentation about his patient-centric work, aiming to connect patients and researchers and helping both sides gain a deeper understanding of each other's challenges.

Overall, I am very grateful to the GSCN for the financial support that enabled me to participate in this conference, network with many researchers in this field, and continue shaping both my research and my career in stem cell and neuronal research. The contributions from patients and patient organizations also provided an important motivational boost, reminding all participants of the significance of our work and the continued pursuit of deeper understanding.

Sincerely,

Lars Buschmann