



Photo of John Graef with Erwin Neher

A WEEK WITH NOBEL LAUREATES: How I Spent my Summer Vacation

by John Graef, Neuroscience PhD Candidate

Every year, around 500 graduate students gather on the idyllic island of Lindau in southern Germany for the opportunity to interact with Nobel Prize winners. This year was no exception, as I happened to be among the fortunate few from the U.S. who were selected to attend. The 2009 Lindau Nobel Laureate Meeting that took place this past July was dedicated to chemistry, and as a neuroscientist, I wasn't quite sure why I was giving the chance to go. Nevertheless, I welcomed the prospect. Twenty-three Nobel Laureates, mostly comprised of past winners in the field of chemistry, spent a week interacting with young researchers from around the world through special lectures, lively panel discussions and active group sessions. Topics ranging from the very specific to the very broad included surface chemistry, climate change, the importance of basic research,

the future of drug discovery, alternative energy sources, and yes, there was even a lecture on synaptic transmission.

The lone neuroscience talk was given by Erwin Neher, who received the Nobel Prize in Physiology or Medicine in 1991 along with Bert Sakmann. These two pioneering scientists developed the patch-clamp technique as a way to prove the single ion channel concept. Basically, at that time it was thought that single ion channels functioned in the cell membrane, but no one had been able to record their individual currents because there was just too much background noise. So Neher and Sakmann started using these really small glass pipette tips to patch on to a part of the membrane and form an extremely tight seal. This reduced the noise enough to let them see current being passed through single ion channels.

Now naturally, since I am a neuroscientist, and since I spent the first year in the lab beating my head against the wall trying to perfect this technique that he helped develop, I was particularly excited to meet Dr. Neher. I got this chance early in the week when I sat next to him at the opening reception dinner. He was extremely polite and personable as he told me stories of his early days in the lab as a graduate student, and the types of obstacles I might find on the road to establishing my own research career. When I asked him about the Nobel Prize, he seemed rather nonchalant about the actual experience of winning it, but instead emphasized that the best part was getting opportunities to come to events like the Lindau meeting and interacting with young scientists. At first I thought that he was just trying to make me feel good (and it worked), but the more we talked, I realized that he genuinely meant it. We also talked about my research and the struggles of recording from neurons on days when the patch-clamp gods seemed to be angry.

Overall, this was truly an amazing experience. Not every young researcher gets a chance to meet even one Nobel Laureate, and there I was in the presence of over twenty. It was humbling at first to talk to these revered scientists, but the more I got to interact with them, the more human they became, and the more I realized that they are a lot like me - except of course that they are a lot smarter, richer and more famous than me (minor details). The main thing that we all seemed to have in common however, was a true passion for science, and this was just the type of meeting that reignites both your enthusiasm for research and your curiosity about the natural world. Even though the meeting was over two months ago, I still feel that extra excitement I carried home with me on the flight back from Germany – which is substantially longer than the few days of increased motivation experienced after the annual Society for Neuroscience meetings. The Laureates reminded me that we become scientists because it's our nature to be inquisitive, and that when it comes down to it, science simply is about enjoying the pursuit of knowledge. Now I'll just have to keep that in mind the next time the patch-clamp gods decide to mess with me.

For more information about the meeting, go to <http://www.lindau-nobel.de>.