

Seeking the ultimate challenge

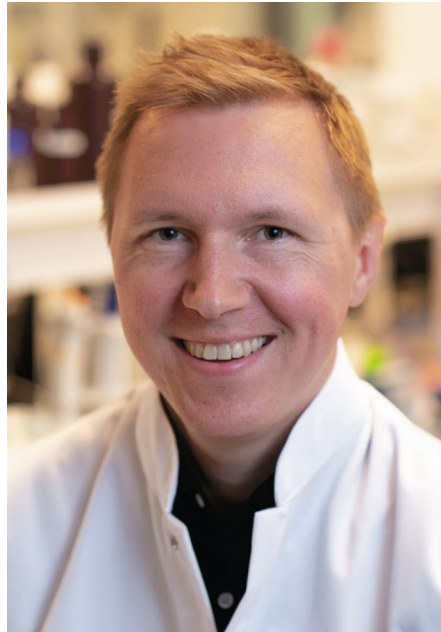
Petter Brodin is a pediatrician at the Karolinska University Hospital and an immunologist at Science for Life Laboratory. His lab combines state-of-the-art experimental methods and computational tools to monitor human immune systems in the most comprehensive way possible.

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Growing up in Stockholm, my life was filled with sports and music and friends, but minimal concern for future career choices. My parents were both psychiatric aides, who met while working at a mental institution. I heard stories of patients and all their tragedies, but also moments of joy and laughter. This was an early impression I had of health care. I graduated from senior high school with decent grades, but no real plans for the future other than growing my collection of jazz albums and northern soul gems and dreaming of becoming a DJ. Like most of my friends, I enrolled in a one-year military service after high school, and this year became a turning point. From my days as a teenager playing hockey, I knew was a competitive person who thrives when given a challenge. Music and records never gave me this. A sergeant who I really admired confided in me that he had decided to leave the military to study medicine because he considered this an ultimate challenge, both intellectually and emotionally. This really resonated with me, and I made a decision — I am going to be a doctor.

After spending a summer beefing up my grades, I was admitted to Karolinska Institutet and its prestigious MD–PhD program. I didn't know at that time that research would be my thing, but I was always curious about it, and given that only six students were admitted annually, this fit the bill as a grand challenge.

In the second semester of medical school, an amazing lecture series by Professor Klas Kärre revealed the intricacies of the immune system: its many cells and proteins and its elegant mechanisms that protect us from invaders and tumors while maintaining tolerance to self. I wanted to learn more. I approached Professor Kärre and asked for an opportunity to do a project. He accepted me as a student in his and Professor Petter



Höglund's joint lab, and there I learned the fundamentals of scientific discovery, the design of experiments and testing of hypotheses. We studied natural killer cell education and tolerance, and the evenings in the lab were also a much-needed break from medical school cramming.

During medical school, I also met my wife, and we had our first two children. As for most people, this is my most important turning point of all. I grew interested in caring for children, and I also discovered that connecting with young patients was natural to me. Understanding their diseases and providing them with relief felt particularly motivating. Like many students, I was convinced that there was a predefined career path I had to follow, from student to intern to resident and so on. My wife was instrumental in my career development by questioning these assumptions. She inspired and pushed

me to finish medical school and defend my thesis within the same year, and she told me not to conform, but to go my own way.

I joined Mark Davis's lab at Stanford in 2012 as a postdoctoral fellow. Davis had begun pushing for a greater focus on immunology studies in human patients. My time at Stanford was transformational. I was working in a highly dynamic environment at a time of extraordinary development. I took courses to learn computational analyses and programming.

In 2013, I was offered the chance to return to Sweden as a faculty member at the newly established Science for Life Laboratory and Karolinska Institutet. I took up my clinical practice as a pediatric resident in parallel. In the hospital, I was inspired by an amazing neonatologist and researcher named Ewa Henckel. We began working together and to combine advanced technologies in my lab, large-scale data analyses with the expertise of Ewa and her colleagues I sample collection and patient care. To me, this project perfectly illustrates the enormous potential of the physician–scientist endeavor. Today, I am fortunate to work with an amazing team of scientists in my group who are people of diverse backgrounds and knowledge. I learn from them everyday, and I sincerely hope that more young physicians will choose to combine these two worlds that are medical science and clinical care for patients. □

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