Meet Siemens Healthineers

Siemens Healthineers: Our brand name embodies the pioneering spirit and engineering expertise that is unique in the healthcare industry. The people working for Siemens Healthineers are totally committed to the company they work for, and are passionate about their technology. In this section we introduce you to colleagues from all over the world – people who put their hearts into what they do.

Dominik Nickel, Ph.D.

Dominik Nickel began his academic career in 1999 as a student at the Technical University of Darmstadt, Germany. He completed his physics degree in 2003, which also included a period studying abroad at Trinity College Dublin in Ireland. On finishing his undergraduate studies, Dominik embarked on his Ph.D. in theoretical nuclear physics in 2003, which he was awarded by the Technical University of Darmstadt in 2007. Dominik joined Siemens Healthineers in 2010, after postdoctoral scholarships at the Center for Theoretical Physics, MIT, Cambridge and the Institute for Nuclear Theory, UW, Seattle, both in the USA. Dominik is an application developer and principal key expert working on sequence and reconstruction techniques with focus on abdominal imaging.

Erlangen, Germany

How did you first come into contact with MRI?
Compared to many colleagues, this was quite late. Originally, I was pursuing an academic career in theoretical physics. During my second postdoc in the USA, I decided to look for a job in Erlangen where my wife was already working. It is hard to say how much luck was involved, but eventually I got a position in application development in MR at Siemens Healthineers. My first actual contact with an MR scanner was on entering the factory.

What is the most fascinating aspect of MRI?
That it is so broad. From an application idea to its clinical use, many different aspects play a role. The hardware, MR physics, implementation, clinical workflow, clinical expertise, ... Most applications rely on teamwork with many people contributing to different aspects.

What are the biggest challenges in your job?
There are a lot of ideas for improving sequences and signal processing. At first glance, many may even look similar. It is challenging to assess the potential of an idea and decide what to implement. Since many ideas do not work out, it is also challenging to know when to give up on an idea and move on to the next one.

What do you think are the most important developments in MRI and healthcare?
Tough question. Of course deep learning reconstruction is a big topic for me. In particular, I find the acceleration of bread-and-butter applications most impressive, because many new developments focus on particular use cases. Trying to look ahead, conventional hardware feels somewhat converged, partly due to limitations imposed by patient safety. Compared to other modalities, MR is still challenging when it comes to robustness and standardization. Here I would hope for further developments. That also includes the workflow. Lower field strengths have now also become clinical reality. There should be development to explore this further.

What would you do if you could spend a month doing whatever you wanted?
Travel with my family. Usually I like being at home, but after two years of restrictions due to the COVID-19 pandemic, I would love to go on bigger trips.