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.

Oakville, Canada

Bart Schraa

Bart has been working as Charge MR Technologist for 10 years at the Daniel Den Hoed Cancer clinic of the Erasmus Medical Center Rotterdam in The Netherlands. During the period from 1999 to 2003 Bart has been providing training for Siemens MR systems worldwide as a free-lancer, and visited countries like Saudi-Arabia, Oman, Hong Kong and Taiwan. In 2003 Bart joined Siemens Netherlands in a full time position as Clinical Education Specialist. Bart obtained his Master of Science in Medical Imaging from the London South Bank University, UK, in 2010. In 2012, Bart accepted the position as Team Lead MR Applications in Canada and moved with his wife and three daughters (2, 5 and 8 years old at that time) to Canada.

How did you first come into contact with MRI?
My first contact with MRI was 30 years ago while I was still working as an X-ray technologist in the hospital. At that time, it was still a very mythical technology; there were only a few parameters that could be changed by buttons up and down such as TR and TE. Soon after I started working at the Daniel Den Hoed Cancer Clinic in Rotterdam, I became a (charge) MRI technologist. My first encounter working with a MRI system was a Siemens' MAGNETOM SP 63, 1.5T scanner which was soon upgraded to a MAGNETOM Vision system. During my last few years working at the Daniel Den Hoed, an additional 1.5T MAGNETOM Sonata system was installed. The platform was initially using the Numaris 3.5 operating system based on Unix, but soon upgraded to the first version of *syngo* MR (aka MREase).

What fascinates you most about MRI?
MRI is a technology that seems to evolve rapidly and continuously in the diagnostic imaging field. One of the greatest hurdles was the long reconstruction time due to the lack of speed of hardware. With the current computer hardware, it seems that almost everything is possible within a reasonable time frame. Emerging techniques like compressed sensing, which actually not that new, can now be applied in a clinical environment and provide the reconstructed images almost within an acceptable time. While at the beginning we had 10 minutes to plan for the next protocol since the previous one was still running, nowadays we have only a very short time available. Scan times as short as 1–2 minutes for regular protocols become more and more the standard. For examinations that involve breath-hold protocols we might only have 12 seconds to set up the next protocol. I believe that we are only (again) at the beginning of a new era of MRI thanks to the development of several new technologies. Soon the acquisition of the images is going to be much faster by use of new and latest techniques such as Simultaneous Multi-

Slice and Compressed Sensing. Therefore, we will need smarter software to help us keeping up with the speed of acquisition, this is where the Dot technology will continue to prove to be of great help.

What fascinates you most about your job?
I love to share my knowledge with and learn from our MAGNETOM users to make full use of our scanners. That applies both to our research oriented sites as well as clinical sites. Especially in Canada, there are so many different sites and most are running the Siemens Healthineers "high end" scanners. There are quite a few research sites in Canada, so there is never a dull moment. I really like that we work as a team of Clinical Education Specialists (CES) here and at the same time work together with the MR sales team as well as our technical colleagues from Customer Services. It feels like working as an MR team rather than only working as an MR CES team. I am also one of the Master MR Education Specialists, and each year we have a one week workshop in Erlangen to discuss my experiences with colleagues as well as with the developers. I also like to support our customers not only from a clinical point of view, but also explaining them how the latest techniques work from a physics point of view.

What do you think are the most important developments in MRI?
Since the examination times in MRI are still relatively long (2–3 minutes), there is quite some pressure from the healthcare insurance companies as well as from the governments to increase patient throughput for each center not just in Canada. Time is money! I think we are just at the start from what is going to be a very interesting development. The challenge is to make our software smarter by using Artificial Intelligence (AI). Siemens has already set the first big steps (using AI) by developing the Dot technology. The Dot engines allow for very streamlined workflows and standardization of the image quality and reduces the variance in scan time due to different technologists (with varying experience) operating the system. Apart from the Dot technology, techniques have been developed that make it possible to scan patients almost regardless of their ability to cooperate (for example holding their breath, or to lay still). These techniques include BLADE, StarVIBE, GRASP-VIBE, HeartFreeze and so on. Also, the potential reduction in scan time by Simultaneous Multi-Slice for TSE might be a game changer just like when we started with parallel imaging.

What would you do, if you could do for one month whatever you wanted?
Professionally I would like to make sure that all our protocols make use as much of the Dot technology as we have. Currently, not yet all protocols on the scanners are fully making use of this Dot technology. It would be great if all protocols on the scanners would make use of all aspects as much as possible such as AutoAlign and AutoCoverage apart from the guidance and parameter card. The benefit for our MAGNETOM users would be, through standardized positioning and coverage of the anatomy of interest, that there is a consistent quality of the examination. This facilitates easier reporting by the radiologist and allows for easier follow-up examinations. In the end this would benefit the quality of care for patients.

Privately, one of the trips that I would to do again would be to travel through Western Australia and the Northern Territories. It was something that I have done for only 10 days in the nineties. Taking a shower by diving into a lake (watch out for the fresh water crocodiles ☺) and sleeping under the sky with just a sleeping bag was such a great experience that I would like to do it again but this time with my wife and 3 kids (and all them are not favoring camping).