

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.

Silvia Arroyo Camejo, Ph.D.

Silvia Arroyo Camejo was born in Berlin, Germany. She developed an early interest in physics, writing a book about quantum physics at age 17 ("Skurrile Quantenwelt", Springer Nature, 2006). She went on to study physics at Humboldt-Universität zu Berlin in Germany, at Massachusetts Institute of Technology in the U.S., and at the University of Vienna in Austria, specializing in atomic physics and quantum optics. In 2015, she completed her Ph.D. at the Max Planck Institute for Biophysical Chemistry and at Heidelberg University in Germany, on the topic of quantum information, quantum sensing, and super-resolution microscopy on nitrogen-vacancy centers in diamond.

Silvia has been with Siemens Healthineers since 2017. Her role in software predevelopment at MR allows her to combine her passion for physics, technology, and medicine.



Erlangen,
Germany

What do you find motivating about your job?

I have always been very motivated by complex problems. Even as a young teenager, I liked to solve physics, math, and logic puzzles and I was fascinated to learn about the world and how it works. That's what eventually led me to study physics.

Now, I am lucky to work in software predevelopment at MR, where I can contribute to our goal of making our MR scanners more intelligent and autonomous. I love being able to tackle a mix of technical, medical, and regulatory challenges with a great, diverse team here at Siemens Healthineers.

Ultimately, my greatest pleasure and privilege is to interact with our clinical and research customers, discuss their everyday challenges, learn from them, and try to develop the best possible solutions to support their vital work. Our customers' input and feedback is probably the most crucial initiator of any development activity I undertake — and it's the final benchmark to gauge whether we were successful.

I am driven every day by this challenging mix of topics, the continuous exchange with clinical and research customers, and last but not least the importance of our goal to make our scanners more autonomous.

What are the biggest challenges in your job?

It's perhaps not the biggest challenge, but the hardest truth of working in predevelopment is this: We encounter so many interesting and exciting topics and possibilities every week. We constantly come up with new ideas for how we could improve or extend our solutions. But despite our passion for innovation and our love of optimization, we must always be mindful that time is finite. We must prioritize and focus on the most important and promising activities and features so we can bring them to a sufficiently mature state and reach the prototype level within a reasonable time. This is the only way to create real value that makes a difference in clinical practice in the not-too-distant future. Getting this balance right is oftentimes tough, but extremely important.

What are the most important developments in healthcare?

I currently see two major topics:

- 1) Connecting the diverse, independent IT systems (and some remaining paper-based systems) that are used for planning, managing, and documenting the patient's journey through the hospital. Generative AI may play a key part in connecting and automating information flow through the system, and thus enable healthcare providers to have the right information available where it is needed to optimally diagnose and treat patients. This is going to be a big improvement in efficiency for healthcare providers and in quality of care for patients.
- 2) The increasing demand for diagnostic imaging procedures coupled with the increasing shortage of qualified personnel (in particular MR technologists) is creating a need for more autonomous, intelligent scanners that can take over some of the tasks an MR technologist has to perform today. This will ensure that patients receive timely diagnosis and treatment with a high, standardized quality of care. I am very happy to be part of this journey and to contribute to the development of these future, more intelligent MR scanners.

How did you first come into contact with MRI?

I had my first touchpoints with MRI when I was still working in fundamental physics, on quantum sensing and quantum computing. I drew methodological inspiration for my work on spin physics from the admirable, established body of work on nuclear magnetic resonance (NMR) and MRI. I remember being deeply intrigued by the way MRI skillfully plays with spin physics and combines this with substantial medical value in a beautiful way.

What would you do if you could spend a month doing whatever you wanted?

This may sound strange, but I don't think I would want to do anything differently. I really enjoy both my professional work and my private life as they are right now. My work on developing autonomous scanning with great colleagues and in very close collaboration with our clinical and research partners is the perfect mix for me.

On the personal side, my husband and I are blessed with an 11-month-old girl, who is extremely curious and always learning. If anything, I wish the day had more than 24 hours so I could do even more of everything I love. And sometimes a bit more sleep would also be nice, but I guess that will come back, when my daughter is a bit older. 😊