

Lars Filipsson

Lars Filipsson graduated in physics from the Royal Institute of Technology, KTH University, Stockholm, Sweden and then spent 8 years at the Karolinska Institutet as Research Engineer with responsibility for the Electron Microscopy Section. There he assisted and supported doctors in various research projects with knowledge and the development of new techniques and applications within Electron Microscopy. He undertook research of his own in the field of transport mechanisms of proteins through cell membranes – “inverted micelles” – using low-temperature preparation techniques. He describes one step, that involved verification of the phase shift by using NMR spectroscopy as his first real contact with “this magical phenomenon”.

In 1985 Lars moved to Siemens as Product Manager MR. Over the years he has worked in different positions as Business Manager/Marketing Manager for CT, Angiography, Ultrasound, PACS, Nuclear Medicine, and Radiation Therapy. In 2007 he joined the Particle Therapy group in Erlangen, moved to Nuremberg, and worked with the Siemens solution for treatment with protons and carbon ions.

Since returning to Sweden he has been working mostly within MR and Radiation Oncology.



Stockholm, Sweden

How did you first come in contact with MRI?

After being impressed by NMR spectroscopy my first contact with MRI was when the first MRI system in Scandinavia was installed in Uppsala in 1984 and I started my career at Siemens. At that time the field strength was 0.35T, the system was huge and it was really amazing that it was possible to create images out of such a machine.

What is most fascinating about MRI?

It has been a fantastic journey over time to see how MRI has developed. Applications that were considered almost impossible some years ago are now in clinical use. One conclusion is clear: With MRI you should never say never. Everything seems to be possible.

What is your role in the Swedish project to promote the use of MR in Radiation Therapy?

I have been fully convinced that MR could play an important role in RT. As far back as 2005 Siemens began collaborating with Umeå University Hospital with the installation of a MAGNETOM Espree (70 cm bore size) in the Radiotherapy Department. We started from scratch: Umeå produced a homemade flat-table top and coil holders and Siemens a transport shuttle system between the MR and the Siemens Artiste linear accelerator. This was the first approach to develop a “new workflow” within a Radiotherapy department through better utilization of MR information.

2014 saw the launch of a national project called “Gentle Radiotherapy”, supported by VINNOVA (The Swedish Governmental Agency for Innovation Systems), where all university hospitals and some healthcare companies in Sweden formed a consortium to develop the use of MR in

Radiotherapy. Siemens has been the only diagnostic company to participate and my role has been that of a “Work package leader” for one field: “Optimization of sequences and markers for use of MR in RT applications”.

This project was completed in 2016 and resulted in a Method Book describing the patient handling, safety aspects, coil setups, and optimized protocols for, to date: intracranial malignities, (also stereotactical), head/neck, prostate and brachy cervix. In 2017 a new VINNOVA project was launched to focus on development and clinical implementation of MR-only in RT.

What do you think are the most important developments in MRI?

In MRI, the new techniques for motion management will have a big impact on the clinical outcome of MR examinations and will be able to adapt to the conditions of the individual patient just as the BioMatrix Tuners CoilShim and SliceAdjust adapt to challenging anatomical regions.

What would you do, if you could do for one month whatever you wanted?

Professionally, I would like to dig deeper into a single topic related to MR and Radiation Therapy either by working in a research team or attending University courses. However, I doubt that one month would be enough!

Privately, I would like to spend time at my house in the Stockholm archipelago and take a long boat trip through the Baltic Sea. However, I doubt that one month would be long enough for that, either!