

Q: How did you get in the MRI field? What was your educational background?

Jürgen Hennig: I studied my PhD for physical chemistry, working on NMR. During that time, we got a new instrument, a brand-new spectrometer from Bruker. This was the very first one with Bruker's new ASPECT 2000 computer. I helped the Bruker engineer to set it up. At that time, I found out that I very much like instruments and working with instruments more than the chemical reactions I studied with them. When I was looking for a postdoc position after PhD graduation, I was offered a position at the University of Zurich, where my work was dedicated to building up a system consisting of a new NMR spectrometer together with high-power pulsed lasers for the investigation of laser chemistry inside the scanner. I really got into working on the hardware part.

When my two years' postdoc training ended, I was looking around for what to do next. At that time, the first clinical MRI scanner came about and I heard about it from my PhD supervisor. It was a new thing and it was very fascinating, so I thought that would be a great thing to do. I actually applied to work with Bruker and wanted to go to industry at that time, but they didn't hire anybody. Later, when Bruker planned to set up one of their first scanners at the Freiburg University Medical Center, they brought me in contact there, and that was how I got to Freiburg. This meant switching from Physical Chemistry to the faculty of medicine, and I worked in MRI from then on and never regretted it.

Q: When was your first SMRM/SMRI/ISMRM Annual Meeting? What is your memory of it?

Jürgen Hennig: The very first SMRM (as it was called at that time) meeting I attended was in London in 1985. It was also the very first big international meeting I ever attended. I had attended some smaller workshops previously but that was the first big meeting. It was quite impressive. In this very first meeting, I was more or less passive, just trying to absorb all the things. I had two posters, but I don't even remember anything about the poster session.

Q: What did you present at your first SMRM meeting?

Jürgen Hennig: I had a poster on the RARE sequence at that meeting, but I do not remember the poster itself. However, I do remember it was tough to prepare for a poster at that time. I remember that I had to print it out piece by piece and put them together, so that was very tedious. Actually, the first meeting in which I was very actively involved was the 1986 SMRM meeting in Montreal. I gave an oral presentation on the RARE MRI technique there, and I had gone into the field more there. To me, that was a most important meeting, because I learned a lot, not only about science, but also the way people go about presenting their science. I have to say I was very naïve at that time. Science is pure and beautiful, and I read a lot of science books when I was young and I was fascinated by the beauty of science. Getting into the real

world of science, I saw that science is pure, but scientists are just human beings like everybody else. In Montreal, I noted different ways in which scientists tried to push their agendas. In the discussion of talks, there were two or three people who always asked questions, no matter whether these questions had any relevance. It was obvious that the main purpose of asking such questions was to impress the audience as opinion leader. I remember that on one day I went biking with some friends and we discussed that. I decided that I do not want to play these kinds of games. I want to do what I like to do. If that leads to success in the end, that is great. If it does not, at least I have done what I like to do. I found that was very valuable guidance to me over the years.

Q: How many attendees were there at the early SMRM meetings?

Jürgen Hennig: I do not know the number, but I would think of 1000 to 1200 attendees at that time. The early meetings had a reasonable size, and I still remember that it was possible for one to attend most sessions relevant to one's interest, which is different from our meetings in recent years with a much bigger size.

Q Were there many trainees at early meetings or were they mostly senior people?

Jürgen Hennig: Again, I do not have the number, but I always have the impression that ISMRM puts lots of emphasis on the young since its early days, and that the society is trying to bring young people to the field and give them a chance to present their work.

Q: Did the early meetings have any educational programs that are similar to ISMRM meetings today?

Jürgen Hennig: I do not really think it was there in the beginning. In the early days of SMRM, I think the meeting started on Monday morning and there was no weekend education program. I do think, before the weekend educational program was introduced, there was an early morning educational program. I remember I gave some talks in this program which started very early in the morning.

Q: What was the ratio between technical VS clinical abstracts at that time?

Jürgen Hennig: I think the society always gave a balanced program on this. I think the overall structure has not changed much but, of course, the content has changed a lot. In the very early days, we had the SMRI society which was mainly focused on clinical applications of MRI, but SMRM and SMRI were merged later because there was too much overlap.

Q: What were the challenges 30 years ago VS now that the field evolved?

Jürgen Hennig: I was very happy in my early days because there was not too much there when I got into the field. I pretty quickly learned everything because the field was very small. I could get an overview of different trends easily and make my own choice what I wanted to do and what I can do to make an impact. Nowadays, I think a real challenge for someone to come into the field is to get an idea on what is already there. I cannot imagine how I could do that. As a young student today, maybe you see something and you have some idea, but your superior will tell you that this has already been done 20 years ago. To learn what has been done and what has not and to choose something that you can initiate to make an impact can be a real challenge and can be much harder than the old days.

In the old days, though, computers were very limited on what they could do. When I started, the Bruker machine only allowed for 16 lines of code. So, whatever sequence I wrote had to be expressed in 16 lines. So, one had to be very organized on what one could do. On the other side, one really had direct access to everything to learn the scanner, and I helped install MRI scanners all over the world. It was like my very first car. I could build an MRI scanner from scratch. I could build a magnet; I could build a gradient, and I could build an RF coil. Everything was there. Today, it's like a modern car. Everything is so sophisticated and is less accessible than it used to be.

Q: Do you have any advice you can give to young MRI researchers on how to make new ground-breaking research?

Jürgen Hennig: Well, I have trained many students. My aim is always to help students find out what they really want to do. MRI is a fantastic field. If you like to mess around with the hardware, you can do a lot of stuff to build coils and gradients. If you are more into computers, you can do a lot to work either on sequence programming or on image processing, and currently AI is a big topic. If you really like to get into applications, you can go into clinical studies. I think MRI is such a great field and, no matter what your intension is, you will find something to do. When a PhD student comes to me, I always try to push people to discover by themselves what they really want to do. I think the most important thing is that you have to like what you are doing, not just be part of a big group. You have to be motivated by what you are doing. If you are not motivated to begin with, you will not be able to go through difficulties, which will invariably arise. Also, do not simply choose something which you think is good for getting a job or something that is currently interesting for industry. Really, you need to follow what is inside your heart. As a student, you need to find out what you really want to do, not worry about getting a job too much. If you do something you want to do, you will be good at it. If you are good at it, you will find a job.