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## Journal of Magnetic Resonance

journal homepage: [www.elsevier.com/locate/jmr](http://www.elsevier.com/locate/jmr)

## Editorial



## A Tribute to a Friend, a Mentor, a Spin Master, and a Mensch – Eriks Kupce

I first met Eriks Kupce approximately 25 years ago when he was an application scientist at Varian. He was running an experiment, not surprisingly, and he greeted me then with the same smile that he subsequently always did, underlying a warm, personable human being. What I could not have known then was that the dynamics of our relationship would extend beyond spins and magnets, evolving into a scientific coupling and friendship that I greatly appreciated. We collaborated on a great many projects and published papers together, including one that provided me the privilege of working with one of the giants in the field, Ray Freeman, my scientific grandfather through my relationship to another NMR pioneer, Ad Bax. Eriks and I would routinely get together in Palo Alto or in Toronto to run experiments, but it was the free exchange of ideas, rather than the outcome of the experiments, that I remember most. This was an era where the boundaries between NMR company and NMR customer were much less well defined than present day and the academic environment of Varian, and I suspect Bruker at the time, greatly facilitated advancements. Eriks had developed a wonderful program called PulseTool which facilitated recording a great number of experiments using shaped pulses or band-selective decoupling waveforms. Those of us who are old enough to remember writing c-code for our favorite pulses and the multiple steps involved in creating the selective decoupling elements of interest understand what a great addition PulseTool truly was, transforming complicated endeavors to a single command line, that ultimately could read in a  $^1\text{H}$ ,  $^{13}\text{C}$ , and  $^{15}\text{N}$  pulse width at a given power level and produce the desired RF modulation with little, if any, user input.

But, of course, Eriks' accomplishments were much more than simply PulseTool. For example, he was a leading figure in the development of broadband and band-selective pulses that are routinely used in virtually all the sophisticated experiments performed presently. He made seminal contributions to the rapid recording of multidimensional NMR spectra of all sorts through clever ways of recording time domains or via excitation of signals through frequency-domain schemes, work that was acknowledged in the form of a Laukien Prize in 2006. Eriks both demonstrated the utility of multiple receivers in solution NMR and carried out important related applications on proteins and small molecules alike, in the latter case showing how small molecule structure elucidation could be achieved from a single NMR spectrum.

Many of Erik's most important works were carried out in collaboration with Ray Freeman where Erik's wizardry on the spectrometer was matched by Ray's superb prose. A very large series of papers was produced that provide the reader with a wonderful blueprint for doing outstanding spectroscopy, while, at the same time, serving as a reminder of the importance of careful writing and clear figures. In addition to Ray, Eriks worked with many of us in the NMR field and, beyond his research, his legacy will include the incredible contributions made by patiently helping us all perform our own niched experiments. On a personal note, I recall the period when I made the transition from V to B. This was not a particularly enjoyable phase of my career. Fortunately, for me (and many other Varian users), Eriks made the journey first and his leadership in this strenuous time was critical for all of us former Varian users.

Eriks retired in 2023 from his position at Bruker, but he still maintains an important presence in the field through his collaborations with others, and by reviewing many JMR papers for a certain associate editor (me!). Eriks is perfect combination of a superb scientist and a wonderful mensch. We wish him much good health and happiness, and as a small tribute of our affection include a number of recent articles from his friends in what follows.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

No data was used for the research described in the article.

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<https://doi.org/10.1016/j.jmr.2024.107794>

Received 24 October 2024; Accepted 24 October 2024

Available online 17 November 2024

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