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Chair 1989-1991

By the late 1980's the international NMR community was growing rapidly, and would soon be helped further by the fall of many international barriers. The expertise of John Gibson and Gina Howlett from the RSC became even more important as we faced the welcome problem of finding university venues large enough to cope with up to 500 conference attendees. Their support also meant that we did not need the security of funding from publishers, for the price of their demanding yet another publication from each speaker. The NMRDG also continued to resist the balkanisation of NMR into specialist conferences, by covering everything from advances in solid-state techniques to *in-vivo* NMR and imaging. NMR has always been energised by leaders who master a wide range of expertise. However, this range can be rather daunting to those starting in the area, so the 1991 International Meeting at St. Andrews added two late-afternoon sessions for talks exclusively by postgraduates. These were pleasingly well attended. Because students usually also do the donkey work of preparing the posters, we recognised this by introducing a small prize for the best-presented poster. We should not forget the great social interactions that occur at these meetings, nor the sight of our European visitors trying to play on the putting green at St. Andrews.

Back in 1980, 400 MHz proton NMR observation had been seen as excitingly high field NMR. However, by the 90's, we had hopes of near-gigahertz instruments, although these are only now just materialising. There had also been a huge increase in the reliability of instruments and in computing power. Although solid-state NMR was still considered a rather specialist area by chemists, the International Meetings enjoyed inspirational talks by luminaries such as Alex Pines and Bob Griffin, introducing new cross-polarisation ideas and high-power pulse design, and these would soon be supported by large improvements in sensitivity, and hence reductions in sample size and concomitant increases in spinning speeds. The result has been that spectacularly well resolved spectra of solids are now available, and also a new range of 2D solid-state methods.

Solution-state 2D and 3D NMR methods were almost routine by now, and their value was underlined in 1991 by the award of a Nobel Prize to Richard Ernst. He still found the time to support our meetings, and the grace to claim that his prize was really an award to the whole NMR community. By 1991 we were also able to hear of the use of isotopic labelling to extend NMR for structuring even larger proteins, and to approach new challenges such as protein folding (Dobson). We also learned (Freeman, Keeler) how gradient techniques would soon enable simpler 2D spectra to be obtained as rapidly as 1D spectra.

Another essential symbiosis in NMR has always been the one between the pioneers and the instrument manufacturers. We were grateful as ever for the conviviality of their generous hospitality suites, and for the opportunity to compare their products. They also sponsored an excellent concert at the Warwick meeting. But the manufacturers' long-term task is to assess the possibilities of turning the prototypes of the pioneers into integrated techniques that will generate much wider use. They started to make new automated equipment that would, for example, combine NMR and MS with liquid chromatography, and these advances would soon enable pharmaceutical companies to replace

tedious purification by the blanket scanning of unpurified samples. New, broad scanning techniques for biofluids were reported (Sadler, Nicholson) and these would become smoothly interfaced with neural network and other statistical computations to create non-selective methods for medical diagnoses.

This period also brought more discreet, but equally valuable, benefits because of the efforts of manufacturers to widen the usefulness of their instruments further than to NMR experts. Our meetings often allowed more ordinary users to communicate their instrumental needs, and sometimes frustrations, to the ever-helpful manufacturers. These responded, for example, by developing automated sample changers and desktop NMR programs, to allow 24-hour NMR and to let the skilled operators concentrate on less routine matters. NMR was beginning to become accessible to less favoured regions, such as South America and the Southern Mediterranean, helped by new magnets with helium hold-times of up to 6 months, internet techniques for diagnosing electronic faults intercontinentally, and new service networks.

Another less obvious benefit of our meetings was to make it easier to assemble specialist teams of authors. For example, the authors for Joan Mason's *Multinuclear NMR* (1987) were assembled at an International NMRDG meeting in the early 1980s and this compendium has been sufficiently useful to be still selling in 2007 despite the huge amount of subsequent work in the area.

I would particularly like to thank the large number of local organisers and session chairs who gave freely of their time and expertise to the planning and management of all the meetings. The atmosphere of cooperation was always heart-warming.