Remembering ICMRM 2001 - 2009

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The first International Conference on Magnetic Resonance Microscopy (ICMRM) was an endeavor initiated by Winfried Kuhn and Bernhard Blümich, enthused by the many opportunities which pulsed gradient fields in magnetic resonance provide. Both were engaged in Magnetic Resonance Imaging beyond biomedical applications with an interest in materials and plant science [1,2]. It took place in Heidelberg in 1991, the same year that Paul Callaghan's seminal book "Principles of Nuclear Magnetic Resonance Microscopy" was published [3]. Paul Lauterbur gave the opening lecture and Raymond Andrew the after-dinner talk [4]. The success of the conference encouraged the organizers to have the 2nd ICMRM two years later. Then Sir Peter Mansfield gave the opening lecture. At this meeting it was agreed to form Division of Spatially Resolved Magnetic Resonance within the AMPERE Society, and Raymond Andrew subsequently worked out the by-laws. The third ICMRM in Würzburg commemorating the 100th anniversary of the discovery of X-rays by Wilhelm Conrad Röntgen in Würzburg was the first ICMRM organized by the new AMPERE Division.

The year before the first ICMRM, the first International Conference on Magnetic Resonance in Porous Media was organized at the University of Bologna. The second one followed in 1993, the same year the 2nd ICMRM took place. As both meetings were of interest to largely the same community, they were subsequently aligned to take place biannually in alternating years. One major topic at the MRPM was relaxometry with stray-field NMR sensors for well-logging. This stimulated the interest in mobile low-field NMR for materials testing so that in 2001 a Colloqium on Mobile Magnetic Resonance (CMMR) was organized by RWTH Aachen University in Bacherach. The CMMR was subsequently repeated every year with the number of attendees growing form initially about 20 to about 80 in 2006. To alleviate the burden of organizing it, it was eventually made part of the ICMRM and MRPM beginning with the 2007 ICMRM in Aachen. Both conferences feature mobile NMR session still today.

Hot conference topics of the first decade of the current millennium were two-dimensional Laplace NMR, mobile stray-field NMR instrumentation, methodology for well-logging and depth profiling including applications to cultural heritage, fast MRI for studying the dynamics of transient processes, and more [6]. Among others were Paul Callaghan and Eiichi Fukushima were regular contributors. The progress in field of magnetic resonance microscopy over the years is summarized in four edited books based on ICMRM conferences [4–7]. Selected conference highlights of the period from 2001 to 2010 will be reviewed and recalled with photos.

References

[1] B. Blümich, H.W. Spiess, NMR Imaging of Materials, Angewandte Chemie 100 (1988) 1460–1461; B. Blümich, NMR Imaging of Materials, Clarendon Press, Oxford, 2000.
[2] W. Kuhn, NMR Microscopy – Fundamentals, Limits and Possible Applications, Angewandte Chemie Int. Eng. 29 (1990) 1–19.
[3] P.T. Callaghan, Principles of Nuclear Magnetic Resonance Microscopy, Clarendon Press, Oxford, 1991.
[4] B. Blümich, W. Kuhn, eds., Magnetic Resonance Microscopy – Methods and Applications in Materials Science, VCH, Weinheim, 1992.
[5] P. Blümler, B. Blümich, R. Botto, E. Fukushima, eds., Spatially Resolved Magnetic Resonance – Methods, Materials, Medicine, Biology, Rheology, Geology, Ecology, Hardware, Wiley-VCH, Weinheim, 1998.
[6] S.L. Codd, J.D. Seymour, eds., Magnetic Resonance Microscopy – Spatially Resolved NMR Techniques and Applications, Wiley-VCH, Weinheim, 2009.
[7] S. Haber-Pohlmeier, B. Blümich, L. Ciubanu, eds., Magnetic Resonance Microscopy – Instrumentation and Applications in Engineering, Life Science, and Energy Research, Wiley-VCH, Weinheim, 2022.