











Walking With the ISMRM in the Footprints of Our MR History

Stefano Mandija, PhD,^{1#}  Chao Ma, PhD,^{2†}  Ruiliang Bai, PhD,^{3§}  Li Feng, PhD,^{4§} 
 Francesco Giganti, MD, PhD,^{5§}  Andrada Ianus, PhD,^{6§}  Hong-Hsi Lee, MD, PhD,^{7§} 
 Fei Li, MD, PhD,^{8§}  Thomas Welton, PhD,^{9§}  and Fernando Calamante, PhD^{10+*} 

The International Society for Magnetic Resonance in Medicine (ISMRM) has undoubtedly played a central role in helping shape our field. In particular, the annual meetings have been an avenue of choice for presenting new MR methods, tools, and applications of aspects of our field that have greatly impacted and transformed how MR is used today, and those abstracts have become “classic” contributions to our field. In 1994, the ISMRM (or SMR, as it was named at the time) was formed from the joining of the Society for Magnetic Resonance in Medicine (SMRM) and the Society for Magnetic Resonance Imaging (SMRI), which originated in 1982. In those early years, MR was a nascent technology and many of the sequences, analysis tools, and hardware applications we take for granted today had not yet been conceived. Now, as a celebration of the 40th anniversary of these annual meetings, we walk in the “footprints” of the ISMRM and its predecessor Societies: we look back at some

of the classic abstracts presented at the annual meetings, reflect on this long history with some of its early members, and report on the Special Session held to celebrate the occasion at the 2022 Annual Meeting in London.

The “footprints” project was initiated by Professor Fernando Calamante, 2021–2022 ISMRM President, who appointed an ad hoc sub-committee on “Footprints of ISMRM in the MR path” comprising nine ISMRM Junior Fellows, who first convened in October 2021. The goal of the sub-committee was to compile a list of 100 “classic” abstracts that have been transformational in our field.

In the last months of 2021, the committee approached key ISMRM stakeholders to solicit suggestions for abstracts from our vast history. The ISMRM stakeholders included the chairs of all study groups ($n = 30$), the Editors-in-Chief of the Society’s journals, the Gold Medalists, the Distinguished Service (Silver) Medalists, the members of all Chapter Governing

View this article online at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1002/jmri.28459). DOI: 10.1002/jmri.28459

Received Sep 16, 2022, Accepted for publication Sep 19, 2022.

*Address reprint requests to: F.C., The University of Sydney, Brain and Mind Centre, 94 Mallett Street, Camperdown, NSW 2050, Australia. E-mail: fernando.calamante@sydney.edu.au

#Chair of the ad-hoc sub-committee on “Footprints of ISMRM in the MR path”

†Vice-Chair of the ad-hoc sub-committee on “Footprints of ISMRM in the MR path”

‡2021–2022 ISMRM President

§Member of the ad-hoc sub-committee on “Footprints of ISMRM in the MR path”

The same commentary is published in *Magnetic Resonance in Medicine* as a letter.

Evidence Level: 5

Technical Efficacy: Stage 1

From the ¹Department of Radiotherapy, University Medical Center Utrecht, Utrecht, The Netherlands; ²Gordon Center for Medical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA; ³Interdisciplinary Institute of Neuroscience and Technology, School of Medicine, Zhejiang University, Hangzhou, China; ⁴BioMedical Engineering and Imaging Institute (BMEII) and Department of Radiology, Icahn School of Medicine at Mount Sinai, New York, USA; ⁵Division of Surgery and Interventional Science, Faculty of Medical Sciences, University College London, London, UK; ⁶Champalimaud Research, Champalimaud Foundation, Lisbon, Portugal; ⁷Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA; ⁸Huaxi MR Research Center (HMRR), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, China; ⁹National Neuroscience Institute, Singapore & Duke-NUS Graduate Medical School, Singapore, Singapore; and ¹⁰School of Biomedical Engineering and Sydney Imaging, The University of Sydney, Sydney, Australia

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial](https://creativecommons.org/licenses/by-nc/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

Committees ($n = 23$), the Past Presidents, the previous Chairs of the Annual Meeting Program Committee ($n = 38$) and the Chair of 2022 Annual Meeting, the Committee on Historical Archives, the Board of Trustees members, and the Chair of the ISMRM Web Editorial Board. From the responses, a “longlist” comprising over 350 abstracts was compiled.

Between December 2021 and January 2022, the sub-committee searched and accessed each abstract via the ISMRM online archives (<https://www.ismrm.org/members-only/past-annual-scientific-meeting-proceedings-and-syllabi>). The year and abstract number were tabulated, and each abstract graded according to their fit as a “classic” abstract; note, however, that these are not necessarily the first-ever published abstracts on a certain topic, but abstracts that have played an instrumental role in starting, pushing, and/or establishing a particular area of major significance in MR. The average of the sub-committee’s grading was then combined with gradings by an Advisory Group including some of the aforementioned stakeholders. This final score was used to rank the abstracts, which led to selection of 100 abstracts for the initial “shortlist.” This “shortlist” was finally refined by our sub-committee and Advisory Group to identify areas of over- or under-representation to compile 100 “classic” abstracts. With well over 100,000 abstracts having been presented at the annual meetings over the years, the task of producing a list of “classics” is indeed daunting. It should be stressed that this is by no means “the

list” of classics, but just the start of this “Footprints” project and a look at our rich history.

For the 100 abstracts in this list, we extracted additional information including the authors’ names, the first author’s primary affiliation and country, the first author’s sex, and the topic. A visual summary of this information is reported in Fig. 1 and more details of characteristics of the distribution of these abstracts can be found online (<https://www.ismrm.org/footprints>). Several insights can be gained from this list, including related to diversity (in the broad sense and its many dimensions) and the breadth of our field reflected by the wide range of topics.

In the months leading to the 2022 Annual Meeting, online interviews were conducted with some of our members who were present at those earliest meetings to gain their perspective on the history and evolution of the ISMRM. We interviewed Professors Paul Bottomley, Graeme Bydder, Mark Haacke, Jürgen Hennig, David Hoult, Joanne Ingwall, Dwight Nishimura, John Pauly, and Steven Wright. Each interview was transcribed and is available online together with the classic abstract book (<https://www.ismrm.org/footprints>).

Finally, a Special Session was held at the 2022 Annual Meeting. This included an introduction from the ISMRM President, Professor Fernando Calamante, and sub-committee Chair Stefano Mandija, “Technical Footprint” presentations

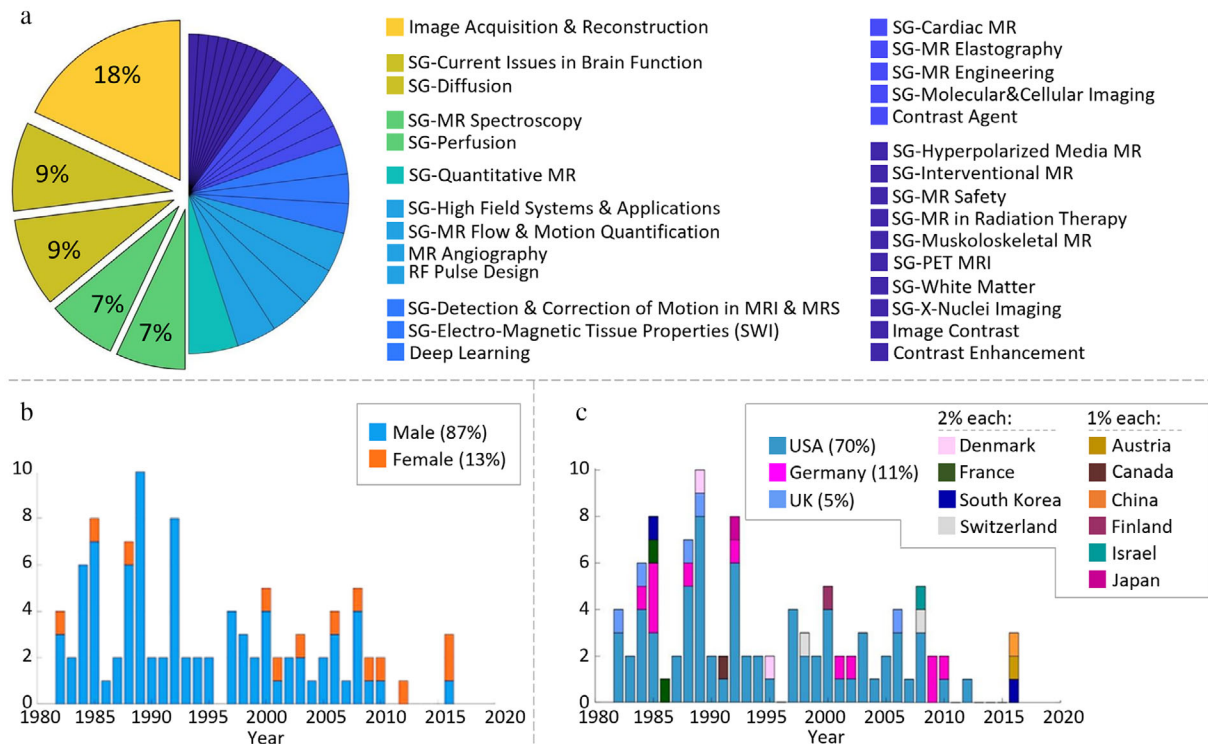


FIGURE 1: (a) Topic, (b) sex and (c) geographical distributions of the compiled 100 classic abstracts. SG = study group, which has been selected as an indicative assignment of an abstract to the topics of current ISMRM Study Groups.

from Professors Paul Bottomley and Jürgen Hennig, a “Clinical Footprint” presentation from Professor Graeme Bydder, a presentation about the Annual Meeting Program Committee by Professor Margaret Hall-Craggs, a “Reminiscence” video from a past ISMRM President, Professor Mark Haacke, recorded for the occasion, and presentations from ISMRM representatives Roberta Kravitz (Executive Director) and Professor Elizabeth Morris (Chair of the Equity, Diversity & Inclusion Committee). This was followed by a lively open discussion with the speakers and audience.

This endeavor has impressed on us the remarkable progress of our Society and respective fields of research since its inception. We hope that these 100 classic abstracts, interviews with early ISMRM members and the 2022 meeting session will not only act as a useful and interesting resource for today’s members but also as a “virtual time capsule” of ISMRM history. By exploring the influential aspects of our past, it can help us envision what the future may look like and inspire us to have high dreams about

it. This is just the start of the journey to unearth the footprints of ISMRM in the MR path and to address some of the gaps and diversity aspects we identified on the list. We look forward to see how the list of classic abstracts will evolve and grow over time.

Acknowledgments

The authors thank Roberta Kravitz and the ISMRM Central Office for their constant support throughout the project; the stakeholders for helping compile the long list of abstracts; the Advisory Group (in particular Professors Peter Jezzard and Mark Schweitzer) for their input to help narrow to the 100 classic abstracts; the members who participated in the interviews; the speakers at the 2022 Annual Meeting session; and all those who contributed to the project. Open access publishing facilitated by The University of Sydney, as part of the Wiley - The University of Sydney agreement via the Council of Australian University Librarians.