

Physica Medica – current status and future perspectives

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Physica Medica – *European Journal of Medical Physics* (EJMP) has seen a great advance during the past decade with respect to the number and the quality of the submissions that led to a well-established position among the journals in the field of medical physics and close applications. This is due to the fantastic work done by the past Editors-in-Chief, Professor Paolo Russo (Naples, Italy), who led the journal for no less than eight years, and Professor Fridtjof Nüsslin (Munich, Germany) as well as the Honorary Editor, Professor Alberto Del Guerra (Pisa, Italy). The past year brought few changes to the Editorial Board. Thus, the journal got not only a new Editor-in-Chief, Professor Iuliana Toma-Dasu (Stockholm, Sweden), but also a Deputy Editor, Dr. Claudio Fiorino (Milano, Italy) and a Managing Editor, Dr. Marta Lazzeroni (Stockholm, Sweden) joining the work to carry on the legacy of the previous editors, to maintain the high status of the journal and to raise it even higher in the endeavour to serve the medical physics community.

The current high status of the journal and its development is reflected by the increase of the impact factor (IF) to 2.685 and the 5-Year IF to 2.736. Several strategies and corresponding actions for ensuring the further development of *Physica Medica* and for better contouring and defining its scope are presented in this article.

Physica Medica is the official journal of many professional associations (EFOMP - European Federation of Organisations for Medical Physics, AIFM - Associazione Italiana di Fisica Medica e Sanitaria, IAPM - Association of Medical Physicists working in Health Care and Academia in Ireland, CSFM - Czech Association of Medical Physicists, EFIE - The Hellenic Association of Medical Physicists and SFPM - Société Française de Physique Médicale) and therefore one could define better its place among the medical physics journals by strengthening the connection with the medical physicist profession. Several actions are therefore planned in this direction including the creation of subsections in the journal corresponding to the major areas of research and professional work of medical physicists such as radiation therapy, diagnostic radiology, nuclear medicine, magnetic resonance imaging as well as closely related topics such as radiation protection, radiation and system biology, artificial intelligence in medical physics, and, last but definitely not least, educational and professional issues. Along the same line of strengthening the connection with the professional societies, a new section called “EFOMP’s Corner” was created starting already from the second edition this year, where one will find the results of the work of the various EFOMP task groups etc. Within this section, a short collection of historical reviews presenting the development of medical physics in different countries was also arranged involving the national societies recognising *Physica Medica* as their official journal.

Another strategic objective for the near future is to expand the journal toward multidisciplinary areas. There are many topics in medical physics (research and development areas) at the crossroad of various disciplines. Progress in these areas implies close collaboration with the other professional categories such as the medical doctors, nurses, technologists, and engineers, as well as radiation protection experts. Our objective should therefore be to make *Physica Medica* more visible and attractive outside the medical physics community by inviting review articles of interest across disciplines and publishing manuscripts that are within the scope of the

Journal, not strictly addressed to the medical physicists, but also to the other professional categories. A new series of invited commentaries by medical doctors, key opinion leaders in radiation oncology, radiology etc. on the expected contribution of medical physicists to the most exciting current research topics in the field was also initiated to support this strategic objective.

Due to the great work of the Past Editor-in-Chief, *Physica Medica* has become better known outside Europe, this being illustrated by the large number of submissions from China, India, Iran, Japan, Australia etc. received by the journal. His work will be continued and even intensified in order to keep pace with the rapidly growing community of medical physicists in regions outside Europe.

Another practice previously introduced that will also continue is the publication of collection of articles in the form of Focus Issues. Four article collections were produced in 2021, all focusing on highly timely and relevant topics in our field. They are listed here in the chronological order they appeared: Optimization of Medical Accelerators, Covid-19 collection, Artificial Intelligence in Medical Physics [1] and New Developments in MRI: System Characterization, Technical Advances and Radiotherapy Applications [2].

There is ongoing work on putting together four new collections of articles to be published in 2022. Two of them emerged following two scientific events organised by the medical physicists' associations: the Focus Issue "ECMP 2020" containing selected papers from contributions to ECMP 2020 - the European Congress of Medical Physics that took place online between 16th and 19th of June 2021 and the Focus issue with the topic: "SFPM 2021" containing selected papers from the 2021 congress of the Société Française de Physique Médicale. They will therefore closely reflect the complex characters of the meetings and they will mostly consist of original research papers on the main areas of professional activities of medical physicists. A third collection planned for next year will also consist of papers selected from scientific meeting, but it will be focussed on a very special topic, FLASH radiotherapy that has seen a revived interest in recent years with the proliferation of proton therapy facilities that could easily deliver the high dose rates required by this technique. Finally, the fourth collection of articles will be dedicated to quantitative magnetic resonance imaging (MRI) focusing on methods for standardisation, accuracy, reproducibility and harmonisation in the field. These are crucial aspects in the era of personalised medicine as well as for national and international collaborations in multicenter studies.

The increased importance of multidisciplinary topics in regular articles as well as those collected in focus issues reflects the continuously evolving roles and interests of medical physics and its practitioners in modern medicine. It is also a reflection of the challenges faced by our profession

which were even higher during these difficult times of the Corona-virus pandemic. The professional dedication of our authors, reviewers, and editorial team, however, helped defeating the challenges and further pave the road to progress through research and development in the field of medical radiation physics.

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