

EDITORIALS

Medical Physics Education – Challenges and Opportunities

Perry Sprawls, Co-Editor

The future holds many opportunities for medical physicists to make greater contributions to improved care for patients, especially in the field of medical imaging. We continue to experience around the world many innovations in both medical imaging technology for diagnosis and therapeutic methods especially for the treatment of cancer. These provide greatly increased capabilities for both diagnosis and treatment, they are also much more complex. This is both a challenge and opportunity for medical physicists in all countries. As the new methods and technology becomes available there is a critical need for physics education to support effective and safe clinical procedures. In the area of medical imaging much of our physics education and activities has focused on the equipment, how it produces images and evaluating performance in the context of quality control procedures. While this is important, it does not address the most significant factors determining image quality for clinical procedures. That is the imaging procedure itself that

is controlled by the complex combination of protocol factors. The goal is to optimize every clinical procedure so that the individual image quality characteristics are balanced to provide the necessary clinical visibility without unnecessary radiation exposure or acquisition times. The focus must be on the image and the procedures and not just the equipment. Medical physicists are becoming major contributors to this both as clinical consultants and educators for the other imaging professionals, especially radiologists and technologists.

One of the special purposes of this journal is to publish articles to serve as resources for this type of education. There are two in this edition.

I will continue to support medical physics educators in this effort with resources through the opportunities of Collaborative Teaching on the web at:
www.sprawls.org/resources

The accents of this MPI Issue

Slavik Tabakov, Co-Editor

This issue of the Medical Physics International (MPI) Journal (2017, No.1) includes a number of useful educational and professional papers from the International Conference on Medical Physics in Bangkok (ICMP2016). These strengthen the impact of the first IOMP School and the IOMP/IUPAP Workshop at ICMP2016, and provide good materials, which can be used in many medical physics lectures and courses.

The current MPI issue includes also detailed educational papers, some very extensive, as the one on MRI Imaging Artifacts and the one on Implementation of RapidArc Treatment. Our statistics shows that such papers have many downloads. We shall continue to invite and publish various papers explaining clinical applications and hands-on practical solutions. In future these will also be used in the IOMP collection of educational materials (Digital Library) – a shared resource to support our teaching and learning.

A specific emphasis of the current MPI issue is the inclusion of several papers with historical emphasis. These include the first public announcement of the large

project History of Medical Physics, which was discussed and supported in IOMP about one year ago. The project will take many years to complete, and will surely attract hundreds of contributors – specialists in various fields. It will be published on parts in MPI, and will be left open for future updates, thus forming a constantly growing record of the achievements of the profession and its benefit for healthcare.

This MPI issue (and the next one, already in development) will also try to include as much as possible papers on professional development in all continents. This is vital for the harmonious global development of medical physics. This will also strengthen the links between the IOMP Federations and will provide additional background for cooperation.

Finally we want to remind our readers that we do not publish research papers – these have to be addressed to the other research-orientated professional journals. At the same time we want to encourage colleagues to send educational, professional, 'historical' and 'other' types of materials. We want to specially thank all colleagues who contribute to the MPI Journal.