



**International Union of Pure and Applied Physics (IUPAP)
Affiliated Commission AC4: Medical Physics
[International Commission on Medical Physics Committee, IComMP]**

Fridtjof Nüsslin, Chair

Report on Activities from Oct-2013 to Oct-2014

Background

The International Organization for Medical Physics (IOMP) represents over near 20,000 medical physicists worldwide and has 84 national member organizations. The mission of IOMP is to advance medical physics practice worldwide by disseminating scientific and technical information, fostering the educational and professional development of medical physics and promoting the highest quality medical services for patients.

Medical Physics is a branch of Applied Physics that applies scientific principles, methods and techniques in practice and research for the prevention, diagnosis and treatment of human diseases with the specific goal of improving human health and well-being. The profession Medical Physicist has been recognized by the International Labor Organization (ILO) in 2010 as a professional group listed in the ILO classification system ISCO-08 under '*Physicists and Astronomers*'. To strengthen Medical Physics science within IOMP and to link IOMP to IUPAP the International Commission on Medical Physics (IComMP) has been established which has been approved as IUPAP Affiliated Commission AC4.

Objectives of AC4:

- (1) to promote medical physics in its scientific and professional aspects in the physics community by interaction with the IUPAP commissions,
- (2) to specifically link to the C6 commission "Biological Physics",
- (3) to apply for support of the ICMP congress series,
- (4) to participate in the IUPAP Young Scientist Award program

Mission of AC 4:

The mission of IOMP is to advance medical physics practice worldwide by disseminating scientific and technical information, fostering the educational and professional development of medical physicists, and promoting the highest quality medical services for patients.

Membership of AC4

IOMP Officers:

Kin Yin Cheung (President IOMP)
Slavik Tabakov (Vice-President)
Fridtjof Nüsslin (Past-President IOMP, Chair IComMP/AC-4)
Madan Rehani (Secretary General IOMP)
Anchali Krisanachinda (Treasurer)

IOMP Committee Chairs

Geoffrey Ibbott (Science, SC)
John Damilakis (Education & Training, ETC)
Raymond Wu (Professional Relations, PRC)
Tae Suk Suh (Publication, PC)

Associate Members from IUPAP Commissions:

Kenichi Yoshikawa (Chair C6, Biological Physics)
Paulo Murilo de Castro Oliveira (C13, Physics for Development)
Robert Lambourne (C14, Physics Education)

3 external scientists co-opted by IComMP

Selected Activities

1. International Conference on Medical Physics (ICMP13):

In remembrance of the foundation of the IOMP 50 years ago, the 20th International Conference on Medical Physics (ICMP2013) was hosted by the UK medical physics organization IPEM on behalf of IOMP in Brighton. Additional to several historic sessions the program covered the wide spectrum of medical physics science like imaging, radiotherapy, nuclear medicine, radiation measurement and protection, biomaterials, nanoparticles, ultrasound, laser, microscopy, modeling & simulation, instrumentation, and many more. This highly successful, four-day event was attended by 835 people and featured 312 international speakers, 212 posters and an exhibition.

2. Symposium on the Development of Medical Physics in Africa held in Brighton

As an initial action of the long term project recently launched by the IOMP, a workshop on the current situation and limitations of Medical Physics in Africa has been organized jointly with the IOMP, IUPAP-AC4 and FAMPO (Reg. Organization of the IOMP in Africa). It was attended by about 60 delegates from 11 African countries (total 100 participants). Furthermore, the WHO and the IAEA were contributing. Based on the meeting papers and the panel discussion an action plan has been developed. The workshop was kindly supported by the IUPAP Congress Sponsoring Program, the funding was exclusively used for travel grants of delegates from Africa.

3. AC 4 meeting in Brighton:

An AC4-business meeting was held at the ICMP13 conference in Brighton and attended by 10 members.

4. Joint Symposium IUPAP AC 4 & C 6 in Brighton:

A very successful symposium crosslinking biological (C6) and medical physics (AC4) has been organized by the Chairs of both commissions (Y.Kenichi-C6, F.Nüsslin AC4). Under the title “*From Molecules to Life*” concepts and future joint research activities in both areas applied in diagnostics and therapy have been discussed.

5. Young Scientists Award 2012 & 2013

The winners of the IUPAP Young Scientist Prize, **Dr. Magdalena Stoeva**, Associate Professor in the Medical University, Plovdiv, Bulgaria, and **Dr. Ferdinand Schweser**, Research Associate in the Medical Physics Group at the Friedrich Schiller University, Jena, Germany, have been awarded in a short ceremony at the IOMP Reception event in Brighton. (Details of the awardees have been given in the last report).

6. Young Scientist Award 2014: The call for nominations has been published (deadline 30th November 2014) by the IOMP Awards & Honors Committee (Chair: Tomas Kron).

7. International Day of Medical Physics:

For the first time the *International Day of Medical Physics* has been celebrated simultaneously in various countries around the world at the 7th Novembre 2013 in remembrance of the birthday of Marie Sklodowska Curie (7.11.1867). Key events have been the ceremonies in Poland and in Paris, both historic locations linked to the life of Marie S. Curie. Several national and regional organizations of the IOMP are planning to organize this year again events, lectures, symposia mainly aiming to attract the science community at large and the public.

8. Medical Physics International – New web IOMP Journal:

Following the first issue of *Medical Physics International*, the official Journal of IOMP, (Editors S.Tabakov & P.Sprawls) published in 2013, now the 4th issue is available at http://mpijournal.org/content_currentissue.aspx

9. *Certification of Medical Physicists*: The deficit of qualified medical physicists, particularly in the developing countries, is a major limitation in providing high quality service in health care. In 2010 the *International Medical Physics Certification Board (IMPCB)* has been founded. Its main objectives are definition of minimum professional standards, establishing proper infrastructures, conducting examinations, maintaining a registry of holders of a certificate and to provide a system of continuing education & training for certified medical physicists. In 2013 the IMPCB started its implementation phase by electing its staff and board members.
10. *Cooperation with the International Centre for Theoretical Physics in Trieste (ICTP)*: Since 2002 the International Medical Physics College was adopted as a regular program of the ICTP. It has developed a recognized activity providing education in medical physics in the developing countries. As a most recent action, a MSc course in medical physics was launched at the beginning of 2014 and now educates the first cohort of students from developing countries. IOMP supported the course from the very beginning and now for the second academic year they have a staggering number of 440 applications.
11. *IOMP Women in Medical Physics Group*: Historically as well today women play an important role in medical physics, and in many hospitals women is the majority of the medical physics staff. Generally, in the industrialized countries about 30% of medical physicists working in a hospital are females. Hence, the IOMP decided to form a group Women in Medical Physics (Chair: Virginia Tsapaki) to strengthen the role of female professionals in our community.
12. *World Congress in Medical Physics and Biomedical Engineering 2015*: WC2015 will be held on 7-12 June 2015 in Toronto. Paper submission will be open these days (see www.wc2015.org)

Munich, 07 October 2014

Fridtjof Nüsslin
Chair AC-4
Past-President IOMP