

## PROFESSIONAL ISSUES

### NEW IOMP EDUCATIONAL AND PROFESSIONAL ACTIVITIES: IOMP SCHOOL AND IOMP/IUPAP WORKSHOP “BUILDING PROFESSIONAL CAPACITY IN DEVELOPING COUNTRIES”

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#### I. INTRODUCTION

The International Organization for Medical Physics (IOMP) launched a new regular activity during the 22<sup>nd</sup> International Conference on Medical Physics (ICMP2016), which took place in Bangkok (9-12 December 2016). This activity – IOMP School was a sequence of 41 educational mini-Symposia, covering various topics of importance for the profession (please see the Book with Abstracts at MPI Journal vol.4 No.2, p.532-574).

Also at the ICMP2016 IOMP organized, with support from the IUPAP, a specific Workshop “Building Professional Capacity in Developing Countries”. Materials from both activities are now included in the current MPI issue.

#### II. IOMP SCHOOL

The new IOMP activity IOMP School was approved by the IOMP ExCom at the end of 2015. During ICMP2016 it was made in the form sequence of Mini-symposia. Topics of the Mini Symposia and the main presenters were as follows:

-Physics, dosimetry and radiation protection; Speakers: KH Ng, K Matsubara, J Damilakis (IOMP)

-New horizon of medical physics and synergetic effect with medical engineering and information science; Speaker: K Inamura

-Current trends of medical physics in radiotherapy and imaging; Speaker: GA Zakaria (U. of Cologne)

-The evolving posture of MP as a profession: medical physics 3.0; Speaker: E Samei (Duke U.)

-The new era of medical physics in Asia; Speaker: K Doi (JSRT)

-Novel retrieval technologies for similar images and personal identification in computer-aided diagnosis and radiation therapy; Speakers: H Arimura, C Muramatsu, H Fujita, YW Chen, K Wakasugi, A Katsumata, T Aoki (JSRT)

-Comprehensive audits in radiotherapy, diagnostic and interventional radiology, nuclear medicine; Speakers: A Meghzifene (IAEA), A Krisanachinda

-Radiation protection in dental radiography; Speakers: J Vassileva, R Pauwels, V Tsapaki (IAEA/IOMP)

-Eye lens dosimetry and study on radiation cataract with interventional cardiologists; Speakers: K Matsubara, S Srimahashota, A Krisanachinda

-Dosimetry of small static photon fields: challenges and solutions; Speakers: MS Huq & S Suriyapee

-Recent developments in dosimetry, treatment planning and quality assurance for intensity modulated proton therapy; Speaker: N Sahoo (MD Anderson)

-Robust optimization and robustness quantification in intensity modulated proton therapy; Speaker: W Liu (Mayo Clinic)

-Stereotactic body radiation therapy: technical challenges and clinical aspects; Speakers: MS Huq, D Kannarunimit, S Oonsiri

-Digital radiography detectors: overview and acceptance testing/quality control update.

Implementation of the IEC 62494-1 exposure index standard; Speaker: JA Seibert (UC Davis)

-Precision medicine through dose optimization and monitoring of medical imaging; Speaker: E Samei (Duke Univ.)

-Radiation dose metrics and dose monitoring for medical imaging procedures; Speaker: JA Seibert (UC Davis)

-Dosimetry in radiopharmaceutical therapy treatment planning; Speaker: G Sgouros (Johns Hopkins U.)

-Medical physics training and education collaboration among both regional organizations; Speakers: H Round, I Duhaini, LA Balooshi

-Dose Tracking and Quality Assurance; Speakers: M Rehani, N Fitousi, V Tsapaki (IOMP)

-ASEAN College of Medical Physics: Workshop on Digital Radiography; Speakers: KH Ng, N Jamal, CH Yeong

-Women in MP conference/meeting; Speakers: HA Azhari, M Stoeva, S Kodlulovich Renha (IOMP women group)

-Pilot survey in participation on women in MP conferences; Speakers: G Martin, S Kodlulovich Renha, P Platoni, A Peralta (IOMP women group)

- European initiatives on medical radiation protection; Speakers: J Damilakis, V Tsapaki, E Lief (EFOMP)

- IAEA/RCA project, RAS6077, "Strengthening the effectiveness and extent of MP education and training; Speaker: A Meghzifene

-Proton therapy (Physics); Speaker: T Bortfeld (MGH)

- Proton therapy (Clinical); Speaker: S MacDonald (MGH)

-New approaches to quality management in radiation therapy; Speakers: MS Huq, P Tangboonduangjit, T Sanghangthum

-Latest MDCT technologies in Japan; Speakers: K Tsujioka & K Ichikawa (JSRT)

- Dosimetry in terms of absorbed dose to water in photon brachytherapy; Speaker: GA Zakaria (U. of Cologne)

-Experience-based lecture on ROC observer studies in diagnostic medical physics; Speakers: J Shiraishi & R Tanaka (JSRT)

-Safety in MRI; Speaker: S Keevil (IOMP)

-The role of medical physicist in clinical trials; Speaker: T Kron

-Radiobiophotonics in cancer therapy; Speaker: R Papineni (KUMC)

-Normal tissue protection in disease and disaster; Speaker: R Papineni (KUMC)

- Current status of mammography in Asia; Speakers: T Endo, H Nishide, P Hansakul, A Krisanachinda

-Radio-adaptive response — more than tumor resistant; Speaker: D Nantajit

-Tumor microenvironment: challenges and perspectives; Speaker: T Tippayamontri

-Practical application of Moodle for e-learning courses in MP; Speaker: V Tabakova (King's College London)

-Fetal dose in radiotherapy – managing the physics aspects; Speaker: JCL Lee

-Three-dimensional (3D) dosimetry; Speaker: GS Ibbott (MD Anderson)

The mini-symposia attracted many colleagues and students and some of the topics were later invited for presentation as educational topics at the MPI Journal. The

paper here about CT Dosimetry (by Dr Matsubara) is one of these excellent presentations.

To accommodate this large number of mini-Symposia, ICMP2016 included a novel organisation of the Programme: having all mornings associated with the mini-Symposia and all afternoons for scientific presentations and poster sessions. This re-organisation of the programme was accepted very well by all participants. It was discussed some of the mini-Symposia to be presented again at the next IOMP-Schools, associated with the AOCMP-AMPICON 2017 in Jaipur, India and with the World Congress in Prague WC2018.

IOMP wants to thank all colleagues who contributed to the IOMP School Mini-symposia

### III. WORKSHOP

Another educational and professional activity during the ICMP2016 was 3rd jointly sponsored IOMP-IUPAP Workshop "Building Professional Capacity in Developing Countries". The Workshop was Co-organised by S Tabakov, A Krisanachinda, Y Pipman, V Tsapaki, SD Charma, and KY Cheung.

The Workshop discussed the global growth of medical physics in the past 20 years. It highlighted the need of more medical physicists specifically in the regions of South-East Asia, Africa and Latin America. It was decided to concentrate on positive examples for building professional capacities. The reports stressed the need of inter-professional collaboration and support for building medical physics educational courses. The new IOMP activities related to International Accreditation of MSc courses and International Certification of medical physicists were also underlined. Examples were given from Thailand, Indonesia, Nepal, Nigeria, Brazil, Cuba, Bulgaria, Philippines, India and South Africa.

The Workshop Programme included:

- Growth of medical physics profession from 1965 to our days; S Tabakov

-The Role of Professional Organizations; KY Cheung

-Current Status of Medical Physics Recognition in SEAFOMP Countries; S Pawiro

-Research innovation stimulates professional growth; Kwan Ng

-IOMP Professional Relations Committee activities; Y Pipman

-Medical Physics in Nepal; M Adhikari

-Examples from developments in Latin America; S Kudlulovich Renha

-Medical physics developments in Thailand; A Krisanachinda:

-IAEA Projects; A Meghzifene

-Discussion and Way Forward

The need of including research elements, together with practical training, was discussed as specific need for building professional capacities in developing countries. Special thanks were expressed to the ICTP College on Medical Physics and related MSc programme for their support for the development of medical physics in these countries. The IOMP Library programme and the AAPM Virtual library initiative were also praised. The IAEA

report showed some of the latest international projects in this field. The role of professional organisations, such as IOMP and IUPAP, was underlined and gratitude was expressed to the Organisations for the financial support of the Workshop.

Some of the presentations from the Workshop are included in the current MPI issue (related to SEAFOMP, ACOMP and Thailand)



Some of the participants at the IOMP-IUPAP Workshop