

HISTORY AND ACHIEVEMENTS OF THE IOMP IN THE PERIOD 2012-2022

S Tabakov¹, KY Cheung²

¹ King's College London, UK; ² Hong Kong Sanatorium & Hospital, HKSH Eastern Medical Centre, Shau Kei Wan, Hong Kong

Abstract: The paper describes the main achievements of the IOMP (the International Organization for Medical Physics) during the period 2012-2022. It is written by the Chairs of the IOMP History Sub-Committees KY Cheung (2015-2018) and S Tabakov (2018-2022), who were also Presidents of the IOMP, respectively in 2012-2015 and 2015-2018. The paper continues the two previous papers on IOMP History (led by A Niroomand-Rad, covering briefly the time from the creation of IOMP in 1963 to 2012). The paper lists the milestones in the past 10 years of the IOMP and the main contributors to these. It specifies the role of the IOMP for the significant growth of the profession during these 10 years and the progress of the global development of medical physics.

Keywords - IOMP history, Medical physics global development

I. INTRODUCTION

The history of the International Organization for Medical Physics (IOMP) since its creation in 1963 was written in 2012 in connection with the 50th Anniversary of the Organisation. This history (in two parts) included the early memoirs of one of the IOMP founders J Mallard. The papers were published by the IOMP Journal Medical Physics International [1,2]. These publications were led by the Chair of the IOMP History Sub-Committees (HSC) 2012-2015 A Niroomand-Rad, who was IOMP President 2003-2006. Additionally, History Tables, including IOMP Officers and Committees Chairs and Members, were prepared in 2012 and are regularly updated by HSC at the IOMP Website [3].

This article covers the past 10 years (2012 – 2022). It is written by the Chairs of the IOMP History Sub-Committees KY Cheung (2015-2018) and S Tabakov (2018-2022), who were also Presidents of the IOMP, respectively in 2012-2015 and 2015-2018.

The milestones in the development of IOMP during this 10 years period are presented below as per the respective milestones and Committees main activities. The history of the period will start with the most important achievements associated with the visibility of the Organisation and the formation of its legal status.

The described activities, main contributors and Committee members are related to the IOMP History Tables annexed to this MPI Special issue.

II. PUBLICATIONS AND VISIBILITY, LEGAL STATUS AND MEMBERS

IOMP Publications

The visibility of the International Organisation and its connections with its National Members Organisations (NMO) is highlighted at various IOMP publications and website pages.

In 2012 the long standing IOMP Newsletter Medical Physics World (MPW) changed its look and delivery of information [4]. Major role for this was played by all IOMP Executive Committee (ExCom), but the main contributors were the MPW Editors V Tsapaki (Chair of the MPW Board 2012-2015) and the Associate Editor M Stoeva (Chair of the MPW Board 2015-2022). MPW also moved as a fully electronic online Newsletter (e-MPW), thus increasing the number of IOMP website visitors. MPW produced not only the regular two issues per year, but also Special issues.

In 2012 IOMP initiated a new online Journal – Medical Physics International, dedicated primarily to educational and professional topics. MPI was developed as the free online IOMP Journal, aiming to support the global development of medical physics. The establishment of this Journal was suggested by S Tabakov, who led the project, supported by all ExCom and the President KY Cheung. The name of the Journal was suggested by the SC Chair W Hendee. The MPI website was developed by M Stoeva. The founding MPI Co-Editors-in-Chief were S Tabakov and P Sprawls and the first issue was ready in 2013 [5]. The members of the MPI Editorial Board are listed in History Table 11, while History Table 12 presents the outline of the MPI issues. The Journal immediately attracted many visitors. Alongside its regular two issues per year, MPI published in supplements various materials and abstracts from International Conferences, such as the International Conferences on Medical Physics (ICMP). From 2017 MPI started a new series of History Issues, published as separate Special Issues [6]. Editors-in-Chief of the History Special Issues are S Tabakov, P Sprawls and G Ibbott. These will be discussed further down.

In 2019 IOMP initiated an electronic publication for current news IOMP Newsletter [7]. The establishment of the Newsletter was led by M Rehani. First Editor-in-Chief was

C H Yeong. This Newsletter has several issues per year, and is distributed by email to all NMOs of the Organisation.

During the period the IOMP Website was reorganised several times (most recently in 2019) and now is a major source of information for the global medical physics community. This activity was led by M Stoeva plus the respective Presidents, supported by ExCom and the Web Subcommittee.

IOMP Legal status

At the time of its establishment IOMP was intended mainly as a coordination link between the NMOs. With the time the Organisation represented the profession at various international institutions and activities. This required the establishment of its legal status. The task was not only difficult, but with no similar precedent at intercontinental basis. The activity was led by S Tabakov with the support of all ExCom. The initial IOMP Council voting on the subject was at the World Congress 2012 (WC2012) in Beijing, where the activity was approved in principle and green light was given for its development. A number of scenarios were discussed over the years and a Task Group was made in 2016 (S Tabakov, S Keevil, S Hawking, with a support by a lawyer). The suggested outcome was formation of a Company Limited by Guarantee, where all members are the elected ExCom (the officers form the Board of Directors). The company members contribute voluntarily to the Company and change as per the IOMP elections. The objectives of the IOMP Company are exactly as these of the IOMP Organisation. All activities of the Company are controlled by the IOMP Council. The IOMP company acts as the legal and business hand of the IOMP Organisation.

In order to link the company with the IOMP Statutes and Bylaws, these were accordingly modified. All this activity was voted by the IOMP Council and after a very high percentage of approval, the IOMP Company was registered in the UK at the end of December 2017 and thus securing the legal status of the Organization [8]. Since this time the IOMP Company Directors and members have regular meetings and report to the IOMP Council. The IOMP Company Directors and members are listed in History Table 30.

International Day of Medical Physics (IDMP)

During 2011 the International Union of Physical and Engineering Sciences in Medicine (IUPESM), where IOMP is a constituent member, achieved the recognition of the medical physicist and biomedical engineer as professional occupations by the International Labour Organisation (ILO). These professional occupations were included in the International Standard Classification of Occupations (ISCO-08): medical physicist under category (2111) and biomedical

engineer under (2149). To celebrate this great achievement IOMP decided to organise an annual International Day of Medical Physics. The idea was proposed by J Pinuela and was presented to IOMP by S Renha and F Nuesslin. During the European Conference on Medical Physics in Sofia (October 2012), J Damilakis, V Tsapaki, S Tabakov and M Rehani discussed and proposed to ExCom the day 7 November (birthday of Maria Sklodowska Curie) as the International Day of Medical Physics (IDMP). A major aim of the IDMP is to increase the visibility and awareness of the communities of the medical physicists and their contributions to healthcare. ExCom approved the proposal and the first IDMP celebrations were in 2013, led by J Damilakis [9]. The IOMP IDMP website was organised by M Stoeva [10]. Following this the IDMP is celebrated annually by each NMO. In 2017 the celebrations alongside the Asia-Oceania Congress of Medical Physics (AOCMP 2017) in Jaipur India, were web-casted over the world. Each IDMP has its own theme and poster (see History Table 33). The main IDMP organisers over this period were: J Damilakis, I Duhaini, A Chougule.

In 2020 a new similar activity was initiated – International Medical Physics Week (IMPW). This activity was based on series of Webinars and was very well accepted [11]. Main contributors to this event were I Duhaini and M Stoeva, supported by all ExCom

Policy statements and Strategic plan

Two IOMP Policy statements were published in 2012-13. These are: IOMP Policy Statement No. 1: “The Medical Physicist: Role and Responsibilities” [12]; IOMP Policy Statement No. 2 “Basic Requirements for Education and Training of Medical Physicists” [13] (both activities were led by KY Cheung); IOMP Policy Statement No. 3: “Predictions of Induced Cancers and Cancer Deaths in a Population of patients exposed to low Doses (<100mSv)” [14] (an activity led by W Hendee).

A document “Way Ahead” was developed by IOMP ExCom in 2006 (led by P Smith and F Nuesslin), focussed on the period 2006-2012. Similar activities were discussed also in the term of office 2015-2018. In 2018 these were formulated in a new document “IOMP Strategic Plan” [15], led by M Rehani with the support of all ExCom. The document was posted at the IOMP Website.

Links with NMOs and Regional Coordination Board (RCB)

During this period the Secretaries General were M Rehani (2012-2015), V Tsapaki (2015-2018 and 2019), E Bezak (2019-2022). They kept good links with all NMOs. The database of NMO representatives was kept up to date and through them important questions and decisions were communicated with the NMOs. In 2015 a new board to the

IOMP was made – Regional Coordination Board (RCB). The activity was led by S Tabakov and included the leads of all Regional Organisations (the Regional Federations, keeping links with the societies in all continents) [16]. The RCB had meetings at WC2015, IDMP2016, WC2018, IDMP2019. All important strategic decision (as the formation of the IOMP Company) were discussed first with the RCB.

In this period the global number of medical physicists had an impressive growth. During the decades 1965-1975, 1975-1985 and 1985-1995 the global growth of medical physicists was about 2000 per decade. With the introduction of novel methods for learning (as e-learning) the global growth in the decade 1995-2005 was 4000, and for the decade 2005-2015 the global growth was close to 8000 [17, 18]. In 2021 the global number of medical physicists was close to 29000 and the expectations are that by 2025 it will be well over 30000.

The increased growth in the Low and Middle Income (LMI) countries was strongly supported by the ICTP Medical Physics College and related MSc programme, by the activities of the American Association of Physicists in Medicine (AAPM) and surely by the many initiatives of the IOMP and its National and Regional Member Organizations.

For the period 2022-2025 M Stoeva was elected as Secretary General.

III. IOMP COMMITTEES' MAIN ACTIVITIES

The IOMP Committees will be listed as per their IOMP website listing: Science Com (SC), Education & Training Com (ETC), Professional Relations Com (PRC), Publications Com (PC), Nominating Com (NC), Rules Com (RC), Awards & Honours Com (AHC), Medical Physics World Board (MPWB), IComMP, Finance Subcom (FSC), History Subcom (HSC), Web Subcom (WSC), Women Subcom (WSC), RCB.

Traditionally the Science, the Education and Training and the Professional Development Committees support various activities of the NMOs. These are numerous and are listed in the respective regular reports from the Committees (in MPW). The history topics here list strategic activities and initiatives of these Committees.

Science Committee (SC)

The SC Chairs during this period were: W Hendee (2012-2013) and G Ibbott (2014-2015); G Ibbott (2015-2018 and 2018-2022). All Committee members during this period are listed in History Table 16.

Major activity of the SC was leading of the Scientific Committees of the World Congresses and the International Conferences of Medical Physics Conferences (ICMP 2013, Brighton, UK; WC2015, Toronto, Canada, ICMP 2016, Bangkok, Thailand; WC2018 Prague, Czech Rep.; ICMP 2019, Santiago, Chile, WC2022, Singapore). All abstracts from the ICMPs during this period were edited by the SC and published in the respective regular issues of the MPI Journal.

Additional activities of the SC was the involvement in activities of the large IOMP partnering organisations: WHO “Consultation to Define Priority Medical Devices for Cancer Management – Targeting Low and Middle Income Settings”; the Expert Group on Medical Exposures - a project of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) [19]; the assessment for IOMP endorsement of many IAEA publications (listed in the respective regular reports from the Committees in MPW).

For the period 2022-2025 M Mahesh was elected as SC Chair.

Education & Training Committee (ETC)

The ETC Chairs during this period were: J Damilakis (2012-2015 and 2015-2018), A Chougule (2018-2022). All Committee members during this period are listed in History Table 15.

Major activity of the ETC was the development of the criteria for IOMP Accreditation in the period 2016-2018, an activity led by J Damilakis with support from S Tabakov and all ETC members and ExCom. This activity required a new Accreditation Board to be established to the ETC and an Accreditation Manual to be published in MPI Journal [20]. In 2016 the first MSc programme was accredited by IOMP (the MSc in ICTP and the University of Trieste).

In the period 2019-2021 ETC developed criteria for accrediting Continuing Professional Development (CPD) activities, a process led by A Chougule with the support of all ETC members and ExCom [21]. These activities resulted in 4 MSc and 9 CPD programmes accredited currently.

A new ETC activity was initiated in 2015 – an IOMP School, an activity led by S Tabakov and J Damilakis for its first issue at ICMP2016. This activity became standard for all WC and ICMP. In 2020 the school took online form through a system of Webinars, an activity with the active contribution of M Rehani, J Damilakis, M Stoeva, A Chougule, G Ibbott and all ExCom. These Webinars were especially useful during the Covid-19 pandemic.

Additionally, during this period ETC supported the development of educational sessions at all ICMP and WC,

as well as assessment for IOMP endorsement of several IAEA publications.

For the period 2022-2025 A Chougule was re-elected as ETC Chair.

Professional Relations Committee (PRC)

The PRC Chairs during this period were: R Wu (2012-2015), Y Pipman (2015-2018 and 2018-2022). All Committee members during this period are listed in History Table 17.

A major activity in the period 2012-2015 was the initiation of the International Certification of Medical Physicists, an activity led by R Wu with the support of KY Cheung and C Orton. This resulted in the establishment of an independent International Medical Physics Certification Board (IMPCB) during 2014 [22]. IMPCB has IOMP as its Principle Supporting Organization and included to its board three IOMP-selected directors. A special Memorandum of Understanding (MoU) that defined the format of collaboration was made between IMPCB and IOMP, an activity led by KY Cheung, F Nuesslin and J Damilakis.

PRC works on several collaborative programmes with the AAPM. The Library program was managed by D Wilkinson, with support from R Wu and Y Pipman (see History Table 18). This activity has created 36 libraries in 27 countries. Currently IOMP works on the development of an online e-library through its website. The other activity with AAPM is the Equipment Donation programme, managed by M K Zaidi with support from R Wu. This programme has not continued after 2016.

An important PRC activity was the development of Workshops for the LMI countries in cooperation with the International Union for Pure and Applied Physics (IUPAP). This activity was supported by F Nuesslin, S Tabakov, R Wu, Y Pipman, J Damilakis. Such Workshops were organised as satellite events to ICMP2013, WC2015, ICMP2016, WC2018, ICMP2019. Alongside this PRC was managing all IOMP Travel Awards, supporting colleagues from LMI countries to attend WC and ICMP [23].

For the period 2022-2025 S Kodlulovich Renha was elected as PRC Chair.

Publications Committee (PC)

The PC Chairs during this period were: Tae Suk Suh (2012-2015 and 2015-2018), P Russo (2018-2022). Committee members during this period are listed in History Table 19.

PC worked with all Medical Physics Journals and engaged their Editors in collaborative dialog [24,25]. A

number of MoUs were made with various Journals, accepting these as IOMP official journals. PC supported in 2012 the establishment of the IOMP Journal Medical Physics International. In 2020 new Guidelines for accepting IOMP official journals were introduced, an activity led by P Russo with the support of PC members and ExCom.

Additionally to the IOMP Journal Medical Physics International, the following Journals have been recognised as official publications of IOMP:

- Physics in Medicine and Biology
- Physiological Measurement
- Medical Physics
- Journal of Applied Clinical Medical Physics
- Physica Medica
- Journal of Medical Physics
- Radiological Physics and Technology
- Physical and Engineering Sciences in Medicine

An important task of PC was keeping the link with the CRC Press Series on Medical Physics and Biomedical Engineering [26]. This is associated with discounted price for IOMP members. Since 1985, when the Series was established, 85 textbooks have been commissioned, selected and approved for publication by the Series Editors (History Table 34). Of those, about 67% in the period 2010-2020 (during the 2010-2020 period Editors of the Series were R Ritenour, K H Ng, S Tabakov and J Webster). A new fast-track publishing CRC Focus Series was initiated in 2016, edited by Tae Suk Suh and M Stoeva. In 2020 new Agreement was made between IOMP and CRC as well as a new Editorial structure managing the editing process. This activity was led by P Russo and M Rehani.

For the period 2022-2025 F Hasford was elected as PC Chair.

Nominating Committee (NC) and Rules Committee (RC)

The NC and RC Chair is as a rule the Vice-President for the current office. During this period the Chairs of NC and RC were: S Tabakov (2012-2015), M Rehani (2015-2018), J Damilakis (2018-2022).

The NC is active during the elections of new IOMP Officers and Chairs. It kept as members representatives from all Regional Organisations.

The RC made several significant changes in 2012, 2015 and 2017. The last one included the formation of the IOMP Company (described above as part of the IOMP Legal Status). All edits and changes of the Statutes and Bylaws were approved by the Council.

NC and RC Committee members during this period are listed in History Tables 20 and 21 respectively.

For the period 2022-2025 both NC and RC will be Chaired by the new Vice-President E Bezak.

Awards and Honours Committee (AHC)

The AHC Chairs during this period were: T Kron (2012-2015), S Kodlulovich Renha (2015-2018 and 2018-2022). Committee members during this period are listed in History Table 13.

AHC was very active in this period. In 2013 a new Honour was established - IOMP Fellowship scheme (FIOMP) an activity initiated in 2006 and led by T Kron, S Tabakov, D Frey and KY Cheung with the support of all AHC members and ExCom. New criteria for FIOMP were established and the scheme was inaugurated in 2013 in connection with the 50th anniversary of IOMP [27]. In 2014 was established another Honour – Honorary member, an activity led by T Kron and M Rehani.

In 2015-2016 two new IOMP awards were introduced and criteria for these were developed. The activity was led by S Renha and S Tabakov with the support of the AHC members and the ExCom. The first award (initiated and criteria developed by S Tabakov) was the John Mallard Award, presented at each ICMP [28]. The award aims to honour a medical physicist who has developed an innovation of high scientific quality and who has successfully applied this innovation in clinical practice. The second one was the IDMP Award, presented annually during the celebrations of the IDMP to representatives from all Regional Organisations. The award aims to acknowledge promoting medical physics to a larger audience and highlighting the contributions medical physicists make for patient care. Its presentation started in 2015 and a large ceremony for this was held during the ICMP2016 [29, 8]. At ICMP2016 were also renewed the awards for best presentation/poster at ICMP or WC.

List of all IOMP Fellows and Awardees is History Table 14.

For the period 2022-2025 K H Ng was elected as AHC Chair.

Medical Physics World Board (MPWB)

The MPWB Chairs during this period were: V Tsapaki (2012-2015), M Stoeva (2015-2018 and 2018-2022) – both Editors-in-Chief of the MPW Newsletter. The Board members during this period are listed in History Table 9. The update of the Bylaws in 2015 included the MPWB Chair in the ExCom.

As described above during the period the MPW Newsletter was completely re-designed and made as e-Newsletter [4]. This activity was led by V Tsapaki and M Stoeva, with the support of all Board members and ExCom. History Table 10 lists the outline of all MPW issues, including the Special Issues.

A very important task during the period was related to the Web subcommittee to MPWB, led by V Tsapaki (2012-2015) and M Stoeva (2015-2018 and 2018-2022). This Committee made two re-designs of the IOMP website, what led to significant increase of visitors [30]. Another very important task in this period was the successful renewal of the industry advertisements through the MPW and the website - an activity, which had declined after the global financial crisis in 2008. This activity was led through the Corporate Liaison of MPWB - V Tsapaki (2012-2015) and M Stoeva (2015-2018 and 2018-2022). In addition to this MPWB produced and disseminated various posters and advertising materials. Members of the Web Subcommittee are listed in History Table 27.

For the period 2022-2025 C H Yeong was elected as MPWB Chair.

IComMP

The International Commission on Medical Physics Committee (IComMP) – an Associate Commission (AC4) to the IUPAP (International Union of Pure and Applied Physics) - is usually Chaired by the IOMP President and some of the officers. The IComMP Chairs, representatives to the IUPAP, during this period were: KY Cheung and F Nuesslin (2012-2015), S Tabakov and F Nuesslin (2015-2018), M Rehani and J Damilakis (2018-2022). Members of the IComMP are listed in History Table 23.

The most important activities in the period were the Workshops for the LMI countries, co-sponsored by IUPAP and IOMP [31]. The activities of these were described in the MPW Newsletter and the MPI Journal. These activities were also related to the annual IUPAP Young Scientist Award in Medical Physics, selected by the IOMP AHC and approved by the IUPAP. The list of awardees is in History Table 14.

Finance Subcommittee (FSC)

The very important Finance Subcommittee is chaired by the IOMP Treasurer. In the past period the Treasurers were: A Krisanachinda (2012-2015 and 2015-2018), I Duhaini (2015-2022). Committee members during this period are listed in History Table 22.

During the period the FSC stabilised the use of electronic banking and the management of the NMOs fees [32, 33]. Most active in these activities were all Treasurers and the

Admin Secretary S Hawking. Through the FSC were handled also the Contracts with the Institute of Physics and Engineering in Medicine (IPEM) UK, which is the official postal address of the IOMP and provides administrative support to the Organisation. In 2013 the dues of NMOs were approved by the Council.

In 2016 FSC arranged the reduction of tax burden of the IOMP. This activity saved significant funds to the Organisation. This activity was led by S Hawking, S Tabakov, A Krisanachinda, S Keevil. In 2018 FSC was handling also business activities of the IOMP Company.

For the period 2022-2025 I Duhaini was re-elected as IOMP Treasurer.

History Subcommittee (HSC)

The HSC is usually managed by some of the past Presidents/Officers. In the past period Chairs were: A Niroomand-Rad (2012-2015), KY Cheung (2015-2018), S Tabakov (2018-2022). Committee members during this period are listed in History Table 24.

The most important activities in the period were: the creation of the History Tables and the preparation of two papers on History of IOMP in 2013 – an activity led by A Niroomand-Rad and C Orton with support from P Smith and S Tabakov; 2016 – the introduction of the MPI History project [34] published by the MPI Special Issues (so far 6 issues published) – an activity led by S Tabakov, P Sprawls, and later G Ibbott; 2019 – the update of the History Tables – led by S Tabakov and KY Cheung; 2022 – the current collection of all IOMP history data in one MPI Special issue (an activity led by S Tabakov).

Women Subcommittee (WSC)

The WSC in the period was chaired by: V Tsapaki (2015-2018 and 2018-2019), M Stoeva (2019-2022).

Committee members during this period are listed in History Table 25.

This Subcommittee was initiated in 2014 as a Women Group [35], it was formed as Subcommittee in 2015 and in 2018 the Council discussed its future move to a full IOMP Committee. WSC organised a number of Workshops and activities [36], related to women in medical physics (at WC2015, IDMP2016, WC2018, IDMP 2019). These activities were led by V Tsapaki, M Stoeva and E Bezak. Also, MPW published a Special Issue on the subject in 2017 (dedicated to the 150th anniversary of the birthday of Maria Sklodowska Curie) and a special web site was developed [37]. These activities were led by M Stoeva.

Links with various organisations and international activities

For many years IOMP has been accepted as a Non-governmental Organisation (NGO) in official relations with the International Atomic Energy Agency (IAEA). In 2013 steps were taken for achieving such status with the World Health Organisation (WHO). This was initially achieved in 2014, an activity led by KY Cheung, S Tabakov and M Rehani. The arrangement of the IOMP legal status in 2017 was very important for the stabilization of the WHO NGO status in 2018. IOMP took very active part (led by W Hendee) in the first Bonn Call for Action - an activity of IAEA, supported by WHO, which seeks to foster coordinated work to address issues arising in radiation protection in medicine.

IOMP took very active part in many IAEA and WHO projects, including contribution to scientific conferences, drafting of safety standards and guidance documents, and endorsement of publications on such topics as education and training and professional development of medical physicists. These documents serve the whole global community of medical physicists. The discussions and approvals of these documents has included the majority of IOMP Officers and ExCom members, as well as the members of the SC, ETC and PRC. IOMP has contributed to the drafting of several important IAEA publications that have significant impact in promoting the visibility and professional status of medical physicists to the authorities of IAEA Member States. A very important one is “International Basic Safety Standards No. GSR Part 3, 2014” (H Svensson, KY Cheung and S Christofides represented IOMP in the IAEA consultation forum on this document). An Interim version of the publication was released in 2011. For the first time the definition, qualification and role of a medical physicist were defined in an IAEA International Basic Safety Standard. Other IAEA publications associated with the growth of the professions were actively supported by IOMP – such as: “Roles and Responsibilities, and Education and Training Requirements for Clinically Qualified Medical Physicists”; “Postgraduate Medical Physics Academic Programmes” ; “Staffing in Radiotherapy: An Activity Based Approach” ; “Medical Physics Staffing Needs in Diagnostic Imaging and Radionuclide Therapy: An Activity Based Approach” ; “Guidelines for the Certification of Clinically Qualified Medical Physicists”. A number of IOMP ExCom members took part in drafting these large professional publications (KY Cheung, M Rehani, S Tabakov, V Tsapaki, A Chougule, J Damilakis, G Ibbott and others), while the assessment of the publications (both professional and scientific) was made mainly by the IOMP Committees members of SC, ETC, PRC.

In addition, a number of Agreements (in various forms) were made between IOMP and other International Organisations with close objectives, such as the

International Radiation Protection Association (IRPA), the International Society of Radiology (ISR), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

IOMP also took part in international projects, such as the Encyclopaedia of Medical Physics and its Scientific Dictionary of Medical Physics Terms (available now in 32 languages) [38]. These free online publications were very useful to many medical physics educational programmes (especially in LMI countries).

As a constituent member of the International Union on Physical and Engineering Sciences in Medicine (IUPESM), IOMP ExCom members took active part in all IUPESM activities. In 2020 IUPESM celebrated its 40th Anniversary and launched a new Fellowship Honour – an activity led by S Tabakov, J Goh and KY Cheung. 58 outstanding international leaders in the medical physics and biomedical engineering professions (from 26 countries) were honoured with the FIUPESM [39]. All IUPESM Fellows and awardees are listed in the respective History Table 35. The Past-Presidents of IOMP and its sister organisation of biomedical engineers (IFMBE) become Presidents or Vice-Presidents of IUPESM by alternation triennially.

Links with the IOMP Regional Organisations (RO)

IOMP has 6 ROs, uniting the activities of the NMOs in all continents: The European Federation of Organizations for Medical Physics (EFOMP, formed in 1980); The Association of Latin American Physicists in Medicine (ALFIM, formed in 1985); The Asia-Oceania Federation of Organizations for Medical Physics (AFOMP, formed in 2000); The South-East Asian Federation of Organizations for Medical Physics (SEAFOMP, formed in 2000); The Middle East Federation of Medical Physics (MEFOMP, formed in 2009); The Federation of African Medical Physics Organizations (FAMPO, formed in 2009); the medical physicists from North America are represented jointly by the AAPM (the American Association of Physicists in Medicine) and COMP (the Canadian Organization of Medical Physicists). The links with all RO are very active, supported by many collaborative initiatives. IOMP actively supported and took part in the various Regional Congresses/Conferences and financially supported some of those (specifically related to attendance from LMI countries). Special mentioning should be made to the collaboration with AAPM through the activity ISEP (International Scientific Exchange Programme) – see History Table 7.

As described above the links between the ROs and IOMP were strengthened and formalized in 2015 by forming the IOMP Regional Coordination Board (RCB) [16]. Members of RCB are listed in History Table 29.

World Congresses on Medical Physics and Biomedical Engineering (WC) and International Conferences of Medical Physics (ICMP)

During the period the following WC and ICMP were organised (presented with their leads):

2012 – 12th IUPESM World Congress organised in Beijing, PR China (incorporating 19th ICMP) - Co-Presidents: Yimin Hu (IOMP), Depei Liu, Yubo Fan (IFMBE), also Raymond Wu (IOMP);

2013 – 20th ICMP (50th Anniversary of IOMP) in Brighton, UK - Co-Presidents: P Sharp, KY Cheung, P Jarritt, also S Tabakov, S Keevil;

2015 – 13th IUPESM World Congress organised in Toronto, Canada (incorporating the 21st ICMP) - Co-Presidents: David Jaffray (IOMP) and Tony Easty (IFMBE);

2016 – 22nd ICMP in Bangkok, Thailand - Co-Presidents: A Krisanachinda, Tae-Suk Suh, S Tabakov;

2018 – 14th IUPESM World Congress organised in Prague, Czech Rep. (incorporating the 23rd ICMP) - Co-Presidents: Jaromír Cmíral (IFMBE), Libor Judas (IOMP) also Lenka Lhotska (IFMBE);

2019 – 24th ICMP in Santiago, Chile - Co-Presidents: J L Rodriguez, R Alfonso, M Rehani;

2022 (postponed from 2021 due to the Covid-19 pandemic) - 15th IUPESM World Congress, Singapore (incorporating the 25th ICMP) - Co-Presidents: L T Chew (IOMP), C T Lim (IFMBE), also J L C Lei and H L Leo – the first hybrid (in person and virtual) IUPESM Congress.

Officers of IOMP and IUPESM during the period

The Chairs of the various IOMP Committees were listed in the previous sections of the paper. Here below are the IOMP and IUPESM officers during the period 2012-2022:

IOMP (History Table 1)

IOMP 2012-2015:

President: K Y Cheung (Hong Kong); Vice-President: Slavik Tabakov (UK); Secretary-General: Madan Rehani (Austria); Treasurer: Anchali Krisanachinda (Thailand); Past-President: Fridtjof Nusslin (Germany)

IOMP 2015-2018:

President: Slavik Tabakov (UK); Vice-President: Madan Rehani (Austria); Secretary-General: Virginia Tsapaki (Greece); Treasurer: Anchali Krisanachinda (Thailand); Past-President: K Y Cheung (Hong Kong)

IOMP 2018-2022:

President: Madan Rehani (USA); Vice-President: John Damilakis (Greece); Secretary-General: Virginia Tsapaki (Greece 2018-2019) and by Eva Bezak (Australia 2020-2022); Treasurer: Ibrahim Duhaini (Lebanon); Past-President: Slavik Tabakov (UK)

IOMP 2022-2025:

President: John Damilakis (Greece); Vice-President: Eva Bezak (Australia); Secretary-General: Magdalena Stoeva (Bulgaria); Treasurer: Ibrahim Duhaini (Lebanon); Past-President: Madan Rehani (USA);

IUPESM (History Table 3)

IUPESM 2012 – 2015:

President: Herb Voigt (IFMBE); Vice-President: Fridtjof Nusslin (IOMP); Secretary-General: James Goh (IFMBE); Treasurer: Peter Smith (IOMP); Past-President: Barry Allen, Australia (IOMP)

IUPESM 2015 – 2018:

President: K Y Cheung, Hong Kong (IOMP); Vice-President: Ratko Magjarevic, Croatia (IFMBE); Secretary-General: Howell Round, New Zealand (IOMP); Treasurer Mark Niessen, Belgium, (IFMBE); Past President: Herb Voigt, USA (IFMBE)

IUPESM 2018 – 2022:

President: James Goh, Singapore (IFMBE); Vice-President: Slavik Tabakov, UK (IOMP); Secretary-General: Leandro Pecchia, UK (IFMBE); Treasurer: Magdalena Stoeva, Bulgaria (IOMP); Past-President: K Y Cheung, Hong Kong (IOMP)

IV. CONCLUSION

Judging by the rate of increase of the number of practicing medical physicists in IOMP member countries over the past few decades, there has been a rapid and encouraging development in the medical physics profession, particularly during the reported period. Through its cohesive efforts and initiatives, IOMP has played a key role in the global progress of the profession. The infrastructure of IOMP has been strengthened to better support the regional and national member organizations as well as the individual medical physicists. IOMP was legally registered in the UK and is now in a better position to establish formal collaborative relationship with international statutory and professional organizations for promoting the development of medical physics. IOMP has collaborated actively with various international organizations, including ILO, IAEA, WHO, UNSCEAR, IUPESM, IMPCB, IUPAP, ISR and IRPS. The organization established a range of publications,

including official journals, communication newsletters and policy statements, which provide useful references and guidance for the profession. Medical physicists are formally recognised by ILO, IAEA and WHO as health professionals. This provided the basis for official recognition of the profession by local or national authorities which in turn helps strengthening the development of the profession at national level, especially visible in the LMI countries. The qualification requirements of medical physicists were standardized and professional accreditation has become formalized and established in most countries. All this places the global medical physics workforce in a better position to contribute to the global healthcare delivery and development.

This paper, together with other IOMP History papers and all updated IOMP History Tables was prepared as part of the MPI Special Issue 7 (MPI SI 7, 2022), which is described in a separate paper in the current SI7 and is available from the MPI History website [40].

References:

1. Niroomand-Rad A, Orton C, Smith P, Tabakov S (2013), A History of the International Organisation for Medical Physics – 50 Years Anniversary – Part I, Journal Medical Physics International, v.1, n.2 p 113-115, available free from: <http://www.mpijournal.org/pdf/2013-02/MPI-2013-02-p113.pdf>
2. Niroomand-Rad A, Orton C, Smith P, Tabakov S (2014), A History of the International Organisation for Medical Physics – 50 Years Anniversary – Part II, Journal Medical Physics International, v.2, N.1 p 7-17, available free from: <http://www.mpijournal.org/pdf/2014-01/MPI-2014-01-p007.pdf>
3. www.iomp.org/iomp-history
4. https://www.iomp.org/wp-content/uploads/2019/02/empw-vol3number1_july2012_.pdf
5. <http://mpijournal.org/pdf/2013-01/MPI-2013-01.pdf>
6. <http://www.mpijournal.org/pdf/2018-SI-01/MPI-2018-SI-01.pdf>
7. <https://www.iomp.org/newsletter/>
8. Tabakov, S. (2018), Drivers of the IOMP Effectiveness and Visibility During the Period June 2015-June 2018 : Continuation of Previous Activities and Introduction of New Initiatives, Journal Medical Physics International, v.6, p 231-241, available free from: <http://www.mpijournal.org/pdf/2018-02/MPI-2018-02-p231.pdf>
9. Damilakis J. (2013), Did You Celebrate the First International Day of Medical Physics? If Not, Next Year You Should!, MPW, Dec 2013, p.9, available free from:

<https://www.iomp.org/wp-content/uploads/2019/02/empw-2013-02.pdf>

10. <https://www.iomp.org/idmp-2021/>

11. <https://www.iomp.org/impw/>

12. https://www.iomp.org/wp-content/uploads/2019/02/iomp_policy_statement_no_1.pdf

13. https://www.iomp.org/wp-content/uploads/2019/02/iomp_policy_statement_no_21.pdf

14. <http://www.mpijournal.org/pdf/2013-01/MPI-2013-01-p098.pdf>

15. <https://www.iomp.org/iomp-strategic-plan-2018-2021/>

16. Tabakov S. (2015), IOMP Regional Coordination Board, MPW, Jun 2015, p.7, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/empw-2015-01.pdf>

17. Tabakov, S. (2016), Global Number of Medical Physicists and its Growth 1965-2015, Journal Medical Physics International, v.4, n.2, p 78-81, available free from: <http://www.mpijournal.org/pdf/2016-02/MPI-2016-02-p078.pdf>

18. Tsapaki V, Tabakov S, Rehani M. (2018), Medical physics workforce: A global perspective, Physica Medica 55, 2018, p.33-39

19. Ibbott G. (2016), Report of Science Committee, MPW, Dec 2016, p.10, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/empw-2016-02.pdf>

20. IOMP Accreditation Manual (2017), Journal Medical Physics International, v.5, n.2 p 163-166, available free from: <http://www.mpijournal.org/pdf/2017-02/MPI-2017-02-p163.pdf>

21. Chougule A. (2020), IOMP initiative for accreditation of medical physics education, residency and CPD programs, MPW, June 2020, p.17-19, available free from: <https://www.iomp.org/wp-content/uploads/2020/07/MPW-2020-01.pdf>

22. <https://www.impcbdb.org/>

23. Pipman Y. (2018), Report of Professional Relations Committee, MPW, Jun 2018, p.16-17, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/mpw-2018-01.pdf>

24. Suh T S (2018), Report of Publications Committee, MPW, Jun 2018, p.20-21, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/mpw-2018-01.pdf>

25. Russo P. (2021), Publications Committee Report, MPW, Jun 2021, p.19-20, available free from: <https://www.iomp.org/wp-content/uploads/2021/08/MPW-2021-01.pdf>

26. Davies R, Barr K. (2019), IOMP Collaboration WITH CRC PRESS / TAYLOR & FRANCIS, Journal Medical Physics International, v.7, n.2, p 253-256, available free from: <http://www.mpijournal.org/pdf/2019-03/MPI-2019-03-p253.pdf>

27. Kron T. (2013), From the Awards and Honours Committee, MPW, Dec 2013, p.11, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/empw-2013-02.pdf>

28. Tabakov S (2017), Interview With Professor John Mallard, Journal Medical Physics International, v.5, n.1, p. 70-72, available free from: <http://www.mpijournal.org/pdf/2017-01/MPI-2017-01-p070.pdf>

29. Kodlulovich Renha S. (2016), Report from Awards and Honours Committee, , MPW, Dec 2016, p.11-13, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/empw-2016-02.pdf>

30. Stoeva M. (2021), Report of Medical Physics World Board and Web Subcommittee, MPW, Jun 2021, p.25-26, available free from: <https://www.iomp.org/wp-content/uploads/2021/08/MPW-2021-01.pdf>

31. Tabakov S. (2016), IOMP IUPAP Workshop “Building Professional Capacity in Developing Countries”, MPW, Dec 2016, p.15, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/empw-2016-02.pdf>

32. Krisanachinda A. (2018), Treasurer Report, MPW, Jun 2018, p.14, available free from: <https://www.iomp.org/wp-content/uploads/2019/02/mpw-2018-01.pdf>

33. Duhaini I. (2021), Treasurer Report, MPW, Jun 2021, p.15, available free from: <https://www.iomp.org/wp-content/uploads/2021/08/MPW-2021-01.pdf>

34. Tabakov, S. (2017), History of Medical Physics – A Brief Project Description, Journal Medical Physics International, v.5 n.1, p 68-70, available free from: <http://www.mpijournal.org/pdf/2017-01/MPI-2017-01-p068.pdf>

35. <https://www.iomp.org/iomp-w/>

36. Tsapaki V, Rehani MM. (2015), Female medical physicists: The results of a survey carried out by the International Organization for Medical Physics, Phys Med. 31(4), p.368-373.

37. <https://www.iomp.org/wp-content/uploads/2019/02/empw-2017-00.pdf>

38. <http://www.emitel2.eu/emitwwsql/index-login.aspx>

39. Tabakov S, Goh J, Cheung KY (2022), IUPESM milestone developments and achievements during 1980–2022—a tribute to the contributors. Health Technol. 21 Apr 2022, available at: <https://rdcu.be/cLRr3>

40. <http://www.mpijournal.org/history.aspx>

Corresponding Author: Prof. Slavik Tabakov, PhD, Dr h.c. IUPESM Vice President, IOMP Past President, Chair IOMP HSC King’s College London, Denmark Hill, SE5 9RS, London, UK
Email: slavik.tabakov@emerald2.co.uk