




The International Organization for Medical Physics – a driving force for the global development of medical physics

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Abstract

The International Organization for Medical Physics (IOMP) is the world's largest professional organization in the field of medical physics and has official non-governmental organization status with the World Health Organization (WHO) and the International Atomic Energy Agency (IAEA). IOMP is charged with a mission 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. IOMP's activities are directed towards the promotion of medical physics globally, improving patient care, and contributing to the benefit of healthcare to the society. Major organizational activities include but are not limited to scientific events, international collaborations, dissemination of information, education, training, and research. For nearly 60 years of existence, IOMP turned into a key factor not only in the field of medical physics, but also healthcare, and other related disciplines. IOMP is looking forward to future perspectives in international collaboration and enhancement of the professional skills, all directed towards enhancing patient benefit.

Keywords International Organization for Medical Physics · IOMP · Medical Physics · www.iomp.org

1 The International Organization for Medical Physics (IOMP)

The International Organization for Medical Physics with its logo depicted in Fig. 1 is the world's largest professional organization in the field of medical physics [1]. IOMP was established in 1963 and currently represents over 27,000 medical physicists worldwide in 87 adhering national member organizations (NMOs), 2 affiliate national organizations and 6 Regional Organizations (RO) namely u: European Federation of Organizations for Medical Physics (EFOMP), Asian-Oceania Federation of Organizations for Medical Physics (AFOMP), Latin American Medical Physics Association (ALFIM), Southeast Asian Federation for Medical Physics (SEAFOMP), Federation of African Medical Physics Organizations (FAMPO), and Middle East Federation of Organizations for Medical Physics (MEFOMP) [2–7].

IOMP is charged with a mission 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. IOMP's

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Fig. 1 The international Organization for Medical Physics (IOMP)

objectives are to organize international cooperation in medical physics and allied subjects; to contribute to the advancement of medical physics in all its aspects, especially in developing countries; and to encourage and advise on the formation of national organizations of medical physics in those countries which lack such organizations.

IOMP has Strategic Plan that is going to be updated in every term. The current plan for 2018–2022 is available on IOMP website [8].

IOMP is in official non-governmental organization status with the World Health Organization (WHO) and the International Atomic Energy Agency (IAEA).

IOMP is a member and one of the two constituent organizations of the International Union for Physical and Engineering Sciences in Medicine (IUPESM) – Union Member of the International Science Council (ISC) [9, 10].

2 IOMP structure

IOMP is society of societies and as such its maintains balanced structure and governance to correspond to the actual relationships at all organizational levels with primary objectives in the fields of international cooperation and advancement of medical physics.

3 Council

The Council is the ultimate authority of the IOMP. The Council is guided in all its decisions by the tradition of free international scientific cooperation.

The IOMP Council consists of: delegates appointed by the national organizations, the officers, the immediate past Secretary-General, representatives of the Regional Organizations, IOMP Committee chairs, the Editor of Medical Physics World, non-voting representatives of the corporate members and non-voting observers.

4 General Assembly

The IOMP General Assembly consists of all the members of the IOMP. Its role is to enable a direct dialogue by individual Members with the Council. IOMP values the contribution of every individual medical physicists and therefore the General Assembly is a tribune each member may attend and speak at.

5 Executive committee

The IOMP Executive Committee (ExCom) is responsible for implementing the decisions of the Council, for performing the operational business of the Organization and for proposing to Council strategies to take forward the objectives of the IOMP. ExCom consists of the Officers and the Chairs of Committees and is chaired by the IOMP President.

6 Collaboration

IOMP works together with International Organizations such as IAEA, WHO and International Labour Organization (ILO) to strengthen the role of Medical Physicists. As a result, ILO had classified medical physicists as a profession in the International Standard Classification of Occupations-08 (ICSO-08). Medical physicist is recognized as a health professional under International Basic Safety Standards which is jointly sponsored by European Commission (EC), Food and Agriculture Organization (FAO), IAEA, ILO, Nuclear Energy Agency (OECD/NEA), Pan-American Health Organization (PAHO), United Nations Environment Programme (UNEP), and WHO, which is an important reference document for governments for recognition of medical physicist IOMP has formal relations with International Commission on Radiological Protection (ICRP) and a Memorandum of Understanding (MoU) with International Radiation Protection Association (IRPA) [11].

IOMP collaborates with organizations in development of a professional certification system for medical physicists that can be implemented on a global basis.

7 Recognition of professional contribution

IOMP is a society of societies, and as such we value the contribution of all our member societies for the development of medical physics. Throughout the year the most brilliant minds working in the field of medical physics have voluntarily contributed their knowledge and expertise to grow the organization and for the benefit of the patients and

healthcare. To acknowledge their contribution and excellence in the various professional aspects of medical physics IOMP has created a set of awards and honours (Table 1). In 2013, IOMP's 50th Anniversary turned into a driving factor to set the selection of 50 Outstanding Medical Physicists (Table 2).

8 Historical record

Like most, if not all, scientific societies, the IOMP relies heavily on the support of our members to preserve history of our organization. Many members have dedicated their time and effort to advance the goals and objectives of the Organization. To document this support, the History Subcommittee provides the Historical Data Tables that document the work of those individuals who have, over the years, committed time and energy to make it possible for IOMP to achieve its aims and aspirations [14, 15].

9 IOMP major activities

IOMP's activities are not only based on top-down approach but include grassroot actions that strengthen medical physicists globally in handling day-to-day work for patient benefit. IOMP actively promotes the profession by reaching out to all parties at global scale (Fig. 2).

The International Day of Medical Physics (IDMP) is celebrated every year on November 7th, the birthday of Marie Skłodowska–Curie. It was established in 2013 and celebrated every year since then. It unites medical physicists throughout the world under different activities related to our profession [16]. During the 10 years of its existence IDMP has been dedicated to a number of themes as below:

- IDMP 2013: Radiation Exposure from Medical Procedures, ask the Medical Physicist!
- IDMP 2014: Looking into the Body – Advancement in Imaging throughout Medical Physics
- IDMP 2015: Better Medical Physics = Better Cancer Care in Radiation Oncology
- IDMP 2016: Education in Medical Physics – the Key to Success
- IDMP 2017: Medical Physics: Providing Holistic Approach to Women Patients and Women Staff Safety in Radiation Medicine (dedicated to Maria Curie's 150.th anniversary)
- IDMP 2018: Medical Physics for Patient Benefit
- IDMP 2019: It's a Medical Physics World (Dedicated to IOMP MPW 35.th anniversary)
- IDMP 2020: Medical Physicist as Health Professional

- IDMP 2021: Communicating the Role of Medical Physicists to the Public
- IDMP 2022: Medical Physics for Sustainable Healthcare (dedicated to 2022—the International Year of Basic Sciences for Sustainable Development)

The International Medical Physics Week (IMPW) is among IOMP's newest initiatives that support networking, collaboration and professional development among medical physicists [17]. IMPW was established in 2019 and first IMPW was celebrated in 2020. It was in consideration of various aspects of strength and weakness of international day, and for us IDMP, that IOMP felt the need to supplement IDMP by IMPW. IMPW is held in-between the 2 consecutive IDMPs. While the date for IDMP is fixed on 7th Nov, the date for IMPW happens either in later part of April or in early part of May. Every year ExCom debates and decides the dates well in advance. It provides possibilities by which member countries can organize events in respective cities and country with the objectives: a) of popularizing the profession among other colleagues in the clinical and non-clinical field as also among public, b). of promoting medical physics among physics colleagues to let them know how their students can find a career in medical physics, and c) to let medical physicists know how they can do better in patient care. Organizers are welcome to choose their theme that best suits them locally.

The IOMP School was established in 2016 and its mission is to extend and coordinate teaching activities globally. Since then, IOMP School activities have been organized in connection with major medical physics events [18]. IOMP School promotes education and exchange of professional knowledge between medical physicists with various expertise. Some of the world's leading medical physicist have delivered lectures as part of the IOMP School programs.

The International Conference on Medical Physics (ICMP) is a triennial event organized by IOMP in collaboration with national and regional organizations [19]. Balanced regional coverage is a major aspect of the ICMPs. The past 25 ICMPs have been organized as stand-alone events or as part of the World Congress:

- 1965: Harrogate, UK
- 1969: Boston, USA
- 1972: Goteborg, Sweden
- 1976: Ottawa, Canada
- 1979: Jerusalem, Israel
- 1982: Hamburg, Federal Republic of Germany
- 1985: Espoo, near Helsinki, Finland
- 1988: San Antonio, USA
- 1991: Kyoto, Japan
- 1994: Rio de Janeiro, Brazil
- 1997: Nice, France

Table 1 IOMP awards recipients [12]

| Awardee | Awarded at |
|--|---|
| MARIA SKLODOWSKA-CURIE AWARD | |
| Prof. John R Cameron, USA | WC 2000, Chicago, USA |
| Prof. Andree Dutreix, France | WC 2003, Sydney, Australia |
| Prof. John R Cunningham, Canada | WC 2006, Seoul, Korea |
| Prof. Azam Niroomand-Rad, USA | WC 2009, Munich, Germany |
| Prof. Charles A Mistretta, USA | WC 2012, Beijing, China |
| Prof. Colin Orton, USA | WC 2015, Toronto, Canada |
| Prof. Kwan Ng, Malaysia | WC 2018, Prague, Czech Republic |
| Prof. Ehsan Samei, USA | WC 2022, Singapore |
| HAROLD JOHNS MEDAL | |
| Prof. Perry Sprawls, USA | 2003, WC Sydney, Australia |
| Dr. Slavik Tabakov, UK | 2006, WC, Seoul, Korea |
| Dr. Madan Rehani, IAEA, Austria | 2009, WC, Munich, Germany |
| Dr. Ahmed Meghziene, IAEA, Austria | 2012, WC, Beijing, China |
| Prof. William Hendee, USA | 2015, WC, Toronto, Canada |
| Prof. Anchali Krisanachinda, Thailand | 2018, WC, Prague, Czech Republic |
| Prof. George Starkschall, USA | WC 2022, Singapore |
| JOHN MALLARD AWARD | |
| Prof. Paul Marsden | 2016, ICMP, Bangkok, Thailand |
| Prof. Thomas Rockwell Mackie | 2019, ICMP, Santiago, Chile |
| IUPAP YOUNG SCIENTIST AWARD IN MEDICAL PHYSICS | |
| Dr. Ali Asghar Mowlai, Iran | 2006 |
| Dr. Leif Schröder, Germany | 2009 |
| Dr. Magdalena Stoeva, Bulgaria | 2012 |
| Dr. Ferdinand Schweser, Germany | 2013 |
| Dr. Jan-Bernd Hövener, Germany | 2014 |
| Dr. Guerda Massillon-JL, Mexico | 2015 |
| Dr. Francis Hasford, Ghana | 2016 |
| Dr. Abdul Nashirudeen Mumuni, Ghana | 2017 |
| Dr Kuo Men, China | 2018 |
| Dr Mitsuhiro Nakamura, Japan | 2019 |
| Dr Jaydev K Dave, USA | 2020 |
| Dr Chai Hong Yeong, Malaysia | 2021 |
| IUPAP YOUNG SCIENTIST AWARD IN BIOLOGICAL PHYSICS | |
| Dr. Habib Zaidi, Switzerland | 2007, 6th International Conference on Biological Physics, Montevideo, Uruguay |
| IUPESM AWARD OF MERIT | |
| Prof. John Mallard, UK (IOMP) | 1988, WC, San Antonio, USA |
| Dr. J. A. Hopps, Canada | 1991, WC, Kyoto, Japan |
| Prof. Rune Walstam, Sweden (IOMP) | 1994, WC, Rio de Janeiro, Brazil |
| Prof. John Cunningham, Canada (IOMP) | 1997, WC, Nice, France |
| Prof. Keith Boddy, UK (IOMP) | 2000, WC, Chicago, USA |
| Prof. Colin Orton, USA (IOMP) | 2003, WC, Sydney, Australia |
| Prof. Pedro Andreo, Spain/Sweden | 2006, WC, Seoul, Korea |
| Prof. Gary Fullerton, USA (IOMP) | 2009, WC, Munich, Germany |
| Prof. Caridad Borrás, USA | 2012, WC, Beijing, China |
| Prof. Peter Smith, UK (IOMP) | 2015, WC, Toronto, Canada |
| Prof. Eliseo Vano, Spain (IOMP) | 2018, WC, Prague, Czech Republic |
| Prof. Xie George Xu, China | WC 2022, Singapore |

Table 1 (continued)

| Awardee | Awarded at |
|--|---------------------------|
| IOMP HONORARY MEMBERS | |
| Dr. Adriana Velazquez Berumen Dr. James A Brink | 2015, WC, Toronto, Canada |
| Mrs. Sally Hawking | 2018, WC, Prague |
| Dr. Noora Al Hamadi Dr. Donald Miller | 2021, virtually presented |
| FIOMP | |
| Barry Allen, Australia Carlos E. de Almeida, Brazil Caridad Borrás, USA/Spain Kin Yin Cheung, Hong Kong Oscar Chomiki, Poland G. Donald Frey, USA Gary Fullerton, USA William R. Hendee, USA Kwan Hoong Ng, Malaysia George Mawko, Canada Azam Niroomand-Rad, USA Fridtjof Nuesslin, Germany Colin Orton, USA Madan Rehani, India Peter Smith, United Kingdom Perry Sprawl, USA Slavik Tabakov, United Kingdom Raymond K. Wu, USA | 2013, ICMP |
| Prof. Ervin Podgorsak Prof. Yimin Hu Prof. Kyio Inamura Dr. Ishmael Parsai Dr. Stelios Christophides Dr. Anchali Krisanachinda | 2015, WC |
| Prof. John Damilakis Prof. Tomas Kron Prof. Tae Suk Suh Dr. Virginia Tsapaki | 2016, ICMP |
| Dr. Agnette de Perio Peralta, Philippines Dr. Ahmed Ibn Seddik, Morocco Dr. Ibrahim Duhaini, Lebanon Dr. Simone Kodlulovich Renha, Brazil Prof. Muthana Al-Ghazi, USA | 2017, AOCMP |
| Prof. Geoff Ibbott Dr. Yakov Pipman Prof. Magdalena Stoeva Dr. Melissa Martin ICMP 2019 Antonny Siebert Ehsan Samei Peter Sharp Mahadevappa Mahesh Howell Round Djawarni Soejoko Marta W. Radwańska (in memorian) | 2018, WC |
| Arun Chougule Fredy Haryanto Habib Zaidi Kharita Hassan Taofeeq Ige Xiaowu Deng Steve Balter Golam Abu Zakaria | 2021 |

Table 1 (continued)

| Awardee | Awarded at |
|---|------------|
| IDMP AWARD | |
| Jamila Salem Humaid Ali, MEFOMP Renato Padovani, EFOMP Kavuma Awusi, FAMPO Hasin Anupama Azhari, AFOMP María Ester Brandan, ALFIM Caridad Borrás, AAPM | 2018 |
| Efi Koutsouveli, EFOMP Eva Bezak, AFOMP Jacob van Dyk, AAPM Hanan Aldousari, MEFOMP Moses Adebayo Aweda, FAMPO | 2019 |
| Tae Suk-Suh, AFOMP Carlos E. Almeida, ALFIM Oliver Blanck, EFOMP Christoph Trauernicht, FAMPO Mohammad Hassan Kharita, MEFOMP Djarwani S. Soejoko, SEAFOMP Robert Jeraj, AAPM | 2020 |
| Stephen Balter, AAPM Shigekazu Fukuda, AFOMP Jose Perez Calatayud, EFOMP Michel Salvator Israel, BSMPE Francis Hasford, GSMP Mashari Al-nuaimi, KAMP/MEFOMP | 2021 |

- 2000: Chicago, USA
- 2003: Sydney, Australia
- 2005: Nuremberg, Germany
- 2006: Seoul, Korea
- 2008: Dubai, United Arab Republic
- 2009: Munich, Germany
- 2011: Porto Alegre, Brazil
- 2012: Beijing, China
- 2013: IOMP 50th Anniversary: Brighton, UK
- 2015: Toronto, Canada
- 2016: Bangkok, Thailand
- 2018: Prague, Czech Republic
- 2019: Santiago, Chile
- 2022: Singapore
- 2023: Mumbai, India

The World Congress on Medical Physics and Biomedical Engineering is the major scientific event for medical physicists and biomedical engineers. It is organized triennially by the International Union for Physical and Engineering Sciences in Medicine (IUPESM) [20]. The list of all World Congresses is as follows:

- Jerusalem, Israel, 1979
- Hamburg, Federal Republic of Germany, 1982
- Espoo, near Helsinki, Finland, 1985
- San Antonio, USA, 1988
- Kyoto, Japan, 1991

- Rio de Janeiro, Brazil, 1994
- Nice, France, 1997
- Chicago, USA, 2000
- Sydney, Australia, 2003
- Seoul, Korea, 2006
- Munich, Germany, 2009
- Beijing, China, 2012
- Toronto, Canada, 2015
- Prague, Czech Republic, 2018
- Singapore, 2022

10 IOMP's role during the global COVID-19 pandemic

The global COVID-19 pandemic affected all aspects of medical physicists' professional life. The role of the professional societies increased as there was a need to add momentum to activities in the background of lull period as a result of the restrictions imposed to our daily and professional routines. IOMP stood to the challenge and played leading role by initialing webinars. It resulted in motivation of societies during this difficult period by keeping up to the best professional standards and increasing educational, academic and clinical skills. To support our members IOMP developed sets of activities directed towards disseminating reliable professional information, supporting networking & collaboration, and further professional development for our members as:

Table 2 50 Outstanding Medical Physicists during the Period 1963–2013 [13]

| Awardee | Country |
|---------------------------|-------------------|
| Allen, Barry J | Australia |
| Allisy-Roberts, Penelope | UK |
| Almeida, Carlos E de | Brazil |
| Almond, Peter R | USA |
| Attix, F Herbert | USA |
| Boddy, Keith | UK |
| Borrás, Caridad | Spain and USA |
| Brahme, Anders | Sweden |
| Cameron, John R | USA |
| Cunningham, John R (Jack) | Canada |
| Fenster, Aaron | Canada |
| Giger, Maryellen L | USA |
| Harder, Dietrich | Germany |
| Hendee, William R | USA |
| Hounsfield, Godfrey N | UK |
| Hu, Yimin | PR China |
| Kalender, Willi | Germany |
| Kappas, Constantin | Greece |
| Kawachi, Kiyomitsu | Japan |
| Kostylev, Valeriy | Russia |
| Krisanachinda, Anchali | Thailand |
| Kron, Tomas | Australia |
| Lanzl, Lawrence H | USA |
| Laughlin, John S | USA |
| Lauterbur, Paul C | USA |
| Ling, C Clifton | USA |
| Mallard, John | UK |
| Malone, Jim | Ireland |
| Mansfield, Peter | UK |
| Mattsson, Sören | Sweden |
| Mistretta, Charles A | USA |
| Ng, Kwan-Hoong | Malaysia |
| Nüsslin, Fridtjof | Germany |
| Orton, Colin G | USA |
| Perez-Calatuyud, Jose | Spain |
| Podgorsak, Ervin B | Canada |
| Pradhan, Ambika Sahai | India |
| Rehani, Madan M | Austria and India |
| Rogers, David W O | Canada |
| Rosenwald, Jean-Claude | France |
| Schlegel, Wolfgang | Germany |
| Suh, Tae Suk | Korea |
| Svensson, Hans | Sweden |
| Tanaka, Eiichi | Japan |
| Thwaites, David | Australia |
| Tosi, Giampiero | Italy |
| Townsend, David W | USA and Singapore |
| Van Dyk, Jacob (Jake) | Canada |
| Webb, Steve | UK |

Table 2 (continued)

| Awardee | Country |
|--------------|---------|
| Wells, Peter | UK |

- On-line information resources on COVID-19 [21]
- IOMP Newsletter [22]
- IOMP Webinars, Table 3 [23]
- Collaboration with partnering organizations

11 Officers

The IOMP officers are the President, the Vice-President, the Secretary General, the Treasurer and the Immediate Past-President of the organization. IOMP officers have the highest rank and responsibility among all ExCom members. Throughout the years some of the most recognizable medical physicists worldwide have served as IOMP officers (Table 4).

12 IOMP committees

IOMP structure is based on the active role of several committees and subcommittees which serve the various functional aspects of the organization and provide the optimum reach-out and collaboration at all levels with IOMP's members and partners [24].

13 IOMP Science committee

The IOMP Science Committee (SC) is responsible for disseminating current information to medical physicists; assisting in the planning and conduct of regional meetings on medical physics; contributing to and reviewing scientific documents prepared by organizations such as the ICRP, the WHO, and the IAEA; and participating in various forums for the generation of scientific information in medical physics.

Members of the SC have contributed to the program committee for the WC 2022.

Several members of the SC have contributed to preparation of a report by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). The final report has undergone extensive review by the Expert Group on Medical Exposures and by national contacts, and aspects of the work have been presented in several venues, including the ICARO-3 conference. The final report is expected to be published soon.

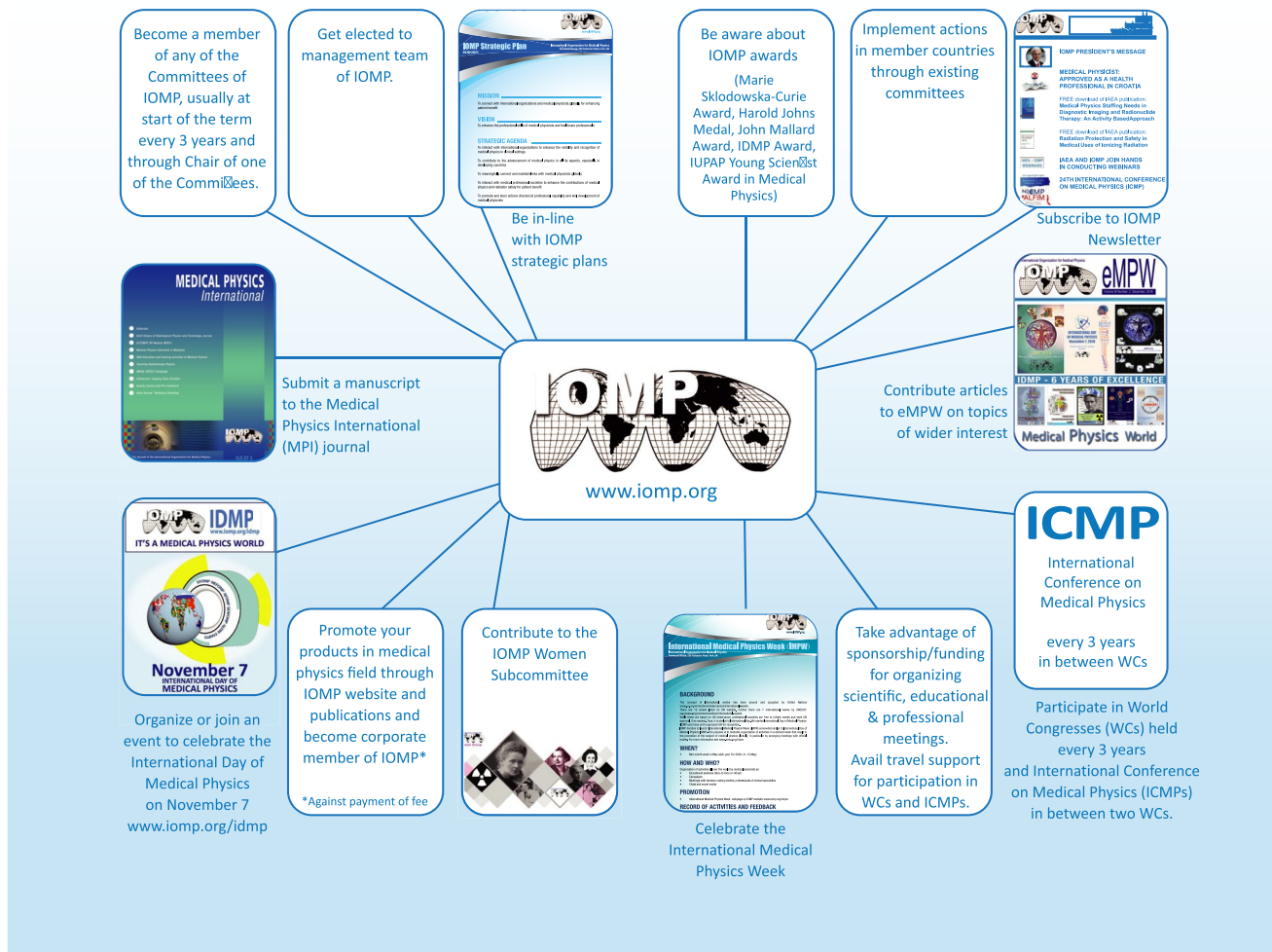


Fig. 2 IOMP pro-actively interacts with its members

The SC regularly reviews applications to the IOMP for sponsorship or support of educational and professional development conferences. Before recommending support or endorsement of a conference, the committee considers the quality of the program and proposed speakers, and the potential benefit to be derived by the intended audience.

14 IOMP Professional Relations Committee

IOMP Professional Relations Committee is focused on promoting and supporting international cooperation on continued improvement in the status of the medical physics profession worldwide. To achieve this mission the committee is charged with the following:

- To advice on and promote the standards of practice in medical physics and professional conduct.
- To identify the need for international professional relations and professional standards development through symposia, regional meetings or workshops, and assist with the funding and organization of these ventures
- To assist regional or national medical physics organizations to prepare IOMP sponsorship proposals for “professional relations” meetings.
- To consider applications from national and regional organisations for sponsoring or endorsing meetings. Applications to be considered in accordance with the document ‘IOMP policy on Scientific, Educational and Professional Meetings’.
- To consider requests for review, comment or endorsement of documents in accordance with the policy and procedure document ‘Documents Submitted to IOMP by External Organisations for Review, Comment or Endorsement’.

Table 3 IOMP Webinars [18]

| Topic | Speaker(s) | Link to recorded version |
|---|---|---|
| CT scan parameters and radiation dose | Mahadevappa Mahesh | https://youtu.be/Z3qOKVP564A |
| Monte Carlo simulation of dosimetry problems in proton therapy | Lorenzo Brualla | https://youtu.be/a2SLeiGhQIA |
| A comprehensive approach to the management of radiotherapy patients with implanted cardiac devices | Dimitris Mihailidis | https://youtu.be/MnRoG7fDnXU |
| Smaller! Faster! More! Advanced X-Ray Breast Imaging and its Role Beyond Cancer Diagnosis | Ioannis Sechopoulos | https://youtu.be/FsqEJOnEmwU |
| Radionuclide therapy patients in public: The original social distancing | Nicholas Forwood | https://youtu.be/XbNKIFo3Mqo |
| Physics Aspect of Clinical Implementation of MR-Linac | K. Y. Cheung | https://youtu.be/rxmis9F8U5w |
| Artificial Intelligence in Medical Physics and Medicine: Challenges and Opportunities | Steve Jiang | https://youtu.be/x373_3g7I9s |
| What is radiomics? What is its relationship to machine learning and deep learning? | Arman Rahmin Mathieu Hatt | https://youtu.be/YIwwerL5j7U |
| Potential value and pitfalls of machine learning for radiomics applications | | |
| Understanding the limitations of current CT dosimetry and the way forward | John Damilakis | https://youtu.be/ecTv9uGQNKU |
| Engaging medical professionals, physicists, engineers, and biologists in medical machine learning projects: experience from the Australian Institute for Machine Learning | Johan Verjans Price Jackson Lois Holloway Jonathan Sykes | https://youtu.be/6bb2scwM4Ro |
| Expanding Quantitative Medicine through AI and Automation | | |
| AI in clinical trials | | |
| Panel discussion | | |
| The importance of certification and accreditation in medical physics | Colin G. Orton | https://youtu.be/K9U9nC8iXZ0 |
| From radiobiological challenges to imaging biomarkers in personalised radiotherapy | Iuliana Toma-Dasu Loredana G. Marcu | https://youtu.be/xdhVMQ0xP-o |
| Proton Facility Shielding: Regulatory and Design Aspects | Katja Maria Langen Nisy Elizabeth Ipe | https://youtu.be/PH0WqCiPLKA |
| Colin Martin: Effective dose in Medicine | Colin Martin | https://youtu.be/BQcTG4ybYCE |
| Effective dose: Is it poor man's cake? | Madan Rehani | |
| Panel discussion: "Is Effective dose thriving or dying?" | | |
| e-Learning in Medical Physics Education – How much, When and How – A Reflection After 20 Years Experience | Slavik Tabakov | https://youtu.be/4v3F4N-j4JY |
| IOMP-IDMP Webinar: Medical physicist as a health professional | Ola Holmberg Giorgia Loretta Madan Rehani Ibrahim Duhaini Ad Maas Brenda Byrne Hassan Kharita Sandra Guzman Taofeeq Ige Arun Chougule Freddy Haryanto | https://youtu.be/2L4Ive6zm-Y |
| Publishing in medical physics journals | Paolo Russo Iuliana Toma-Dasu | https://youtu.be/u2fzJcQ8KIM |
| Personalized dosimetry for CT and interventional procedures | Hilde Bosmans | https://youtu.be/_kkNgvTZSbk |
| IOMP webinar jointly with WHO, IRPA and IAEA on Radiation Safety Culture | Dr. Debbie Gilley, IAEA Dr. Madan Rehani, IOMP Dr. Bernard le Guen, IRPA Dr. Maria Perez, WHO | https://youtu.be/BTm3kC8ft8I |
| Joint IAEA–IOMP–CIRSE webinar: What's new in understanding radiation risks for patients in interventional procedures | Dr. Madan Rehani, IOMP Werner Jaschke (CIRSE) | https://youtu.be/xdxsedOHsSA |
| IOMP-ALFIM webinars in Spanish language: Seguridad y Protección en salas de Resonancia Magnética: Actualización / Safety and Protection procedures in the MRI Suite | Dr. Manuel Arreola | https://youtu.be/IfqJaoqiTc |
| Joint IAEA–IOMP webinar: Patients Undergoing Recurrent CT Imaging: Managing Cumulative Doses | Dr. Madan Rehani, IOMP | https://youtu.be/hKsfmAhR4Fg |

Table 3 (continued)

| Topic | Speaker(s) | Link to recorded version |
|---|---|---|
| Radioterapia de Pulmón utilizando IMRT/VMAT y SBRT / Lung IMRT/ VMAT and SBRT | Cesar Della-Biancia | https://youtu.be/v4SMZ0Ik1U |
| Monochromatic X-rays: A new source with potential to replace century-old technology | Madan Rehani Eric Silver | https://youtu.be/3YKCqYQnBDQU |
| Artificial Intelligence and medical physics: The initial experience of the SIN-FONIA Horizon project | John Damilakis Habib Zaidi | https://youtu.be/UYohMIrpAIY |
| Patient radiation protection: How IAEA and WHO are contributing? | Ola Holmberg Maria Perez | https://youtu.be/-vzduiPsCus |
| Does contact shielding improve patient safety? | Paddy Gilligan | https://youtu.be/tJF1KH5BSgI |
| The management of unintended and accidental exposures | Colin Martin | https://youtu.be/hUZuHfYiRU0 |
| Publishing in medical physics | Katia Parodi John Boone | https://youtu.be/RkGuBCN8TRg |
| I tested this x-ray system: Is it acceptable for clinical use? | Stephen Balter | https://youtu.be/a6rqAh1loPY |
| CTV-PTV Margins in Stereotactic Radiosurgery: Do we need them? | John Shakeshaft | https://youtu.be/b0DBzK6qq9c |
| Cardiac radioablation: An introduction, an overview, and how medical physicists could help shape its future | Suzy Lydiard | https://youtu.be/xDw4le-C8dk |
| New Tools of Phantoms, Monte Carlo Calculations, and AI for Medical Physics Applications | Xie George Xu | https://youtu.be/_MC1HuPw1-k |
| IOMP webinar on IDMP 2021: Communicating the Role of Medical Physicists to the Public | Joan Leach Jeanne Erdmann Peter Rickwood | https://youtu.be/ODgdY-PEFvE |
| Modelling the invasiveness of high-grade gliomas using computational tools – from imaging to radiotherapy target definition | Wille Häger | https://youtu.be/S8NzZjPrsxM |
| Re-igniting the role of physics in medicine | Robert Jeraj | https://youtu.be/O00na0IEntS |
| Image quality monitoring, Medical Physics 3.0, and patient-centered care | Ehsan Samei | https://youtu.be/Z2MukCk5XIA |
| Biologically Targeted Radiotherapy: utilising imaging biomarkers to characterise tumour heterogeneity for precision radiation therapy | Annette Haworth | https://youtu.be/on3jK7zTePw |
| IOMP-ICRP Webinar: Are radiation risks below 100 mGy for example through recurrent CT procedures of real concern for radiological protection? | Werner Ruehm Dominique Laurier Richard Wakeford | https://youtu.be/IAbcnB5Satk |
| Non-cancer effects associated with low to moderate doses radiation exposure: what we know so far from epidemiological studies | Marie-Odile Bernier Sophie Jacob | https://youtu.be/XIS7eGNz2C8 |
| Computational challenges in patient dose | Choonsik Lee Manuel Bardiès | https://youtu.be/AkLoCGVgcRU |
| GEANT4 for medical physics applications: an overview and latest updates & Overview of the Geant4-DNA project | Susanna Guatelli Sebastien Incerti | https://youtu.be/uQEUZ5-SI18 |
| Virtual imaging trials in breast imaging | Hilde Bosmans | https://youtu.be/4kMpBinuaLE |
| Relative biological effectiveness of protons – time for a change? | Iuliana Toma-Dasu | https://youtu.be/wbjFvKzW8AQ |

- To manage the IOMP travel support program, this is to support delegates from developing countries to attend ICMP's.
- To prepare or provide support to develop where appropriate, policy statements, professional recommendations, codes of professional practice, and to establish or help to establish expert groups to address specific national, regional, or worldwide professional issues when needed.
- To manage the Equipment Donation Program
- To manage, in conjunction with the AAPM, the joint IOMP-AAPM Library Program.

15 IOMP Awards and Honours Committee

Following this difficult pandemic period, this committee is pleased to give to present the prestigious awards of 2021 to outstanding recipients during the IUPESM-WC 2022. The prestigious Marie Skłodowska-Curie Award will be given to Prof. Dr Ehsan Samei for his brilliant work in education and training and for the advancement of medical physics. Prof. Dr George Starkchall has won the Harold Johns Medal for his outstanding contributions to education and training and advancement of the profession. The IUPESM Award of Merit in Medical Physics will be given to Prof.

Table 4 IOMP Officers

| Term | Position | Officer | Country |
|-----------|-------------------|-------------------|---------|
| 1962–1965 | President | S. Benner | Sweden |
| | Vice-President | L F Lamerton | UK |
| | Secretary General | J R Mallard | UK |
| | Treasurer | | |
| | Past President | | |
| 1965–1969 | President | W V Mayneord | UK |
| | Vice-President | J S Laughlin | USA |
| | Secretary General | B Waldeskog | Sweden |
| | Treasurer | | |
| | Past President | S. Benner | Sweden |
| 1969–1972 | President | J S Laughlin | USA |
| | Vice-President | R I Magnusson | Sweden |
| | Secretary General | J R Cameron | USA |
| | Treasurer | | |
| | Past President | W V Mayneord | UK |
| 1972–1976 | President | R I Magnusson | Sweden |
| | Vice-President | R Mathieu | Canada |
| | Secretary General | J R Cameron | USA |
| | Treasurer | | |
| | Past President | J S Laughlin | USA |
| 1976–1979 | President | R Mathieu | Canada |
| | Vice-President | J R Mallard | UK |
| | Secretary General | R Walstam | Sweden |
| | Treasurer | | |
| | Past President | R I Magnusson | Sweden |
| 1979–1982 | President | J R Mallard | UK |
| | Vice-President | A Kaul | Germany |
| | Secretary General | R Walstam | Sweden |
| | Treasurer | | |
| | Past President | R Mathieu | Canada |
| 1982–1985 | President | Alexander Kaul, | Germany |
| | Vice-President | Lawrence H Lanzl, | USA |
| | Secretary General | Brian Stedeford, | UK |
| | Treasurer | | |
| | Past President | J R Mallard | UK |
| 1985–1988 | President | Lawrence H Lanzl | USA |
| | Vice-President | John R Cunningham | Canada |
| | Secretary General | Brian Stedeford | UK |
| | Treasurer | | |
| | Past President | Alexander Kaul, | Germany |
| 1988–1991 | President | John R Cunningham | Canada |
| | Vice-President | Udipi Madhvanath | India |
| | Secretary General | Colin G Orton | USA |
| | Treasurer | | |
| | Past President | Lawrence H Lanzl | USA |
| 1991–1994 | President | Udipi Madhvanath | India |
| | Vice-President | Keith Boddy | UK |
| | Secretary General | Colin G Orton | USA |
| | Treasurer | | |
| | Past President | John R Cunningham | Canada |

Table 4 (continued)

| Term | Position | Officer | Country |
|-------------|-------------------|------------------------------|------------------|
| 1994–1997 | President | Keith Boddy | UK |
| | Vice-President | Colin Orton | USA |
| | Secretary General | Hans Svensson, | Sweden |
| | Treasurer | Ann Dixon-Brown, | UK |
| | Past President | Udipi Madhvanath | India |
| 1997–2000 | President | Colin Orton | USA |
| | Vice-President | Oskar Chomiski: | Poland |
| | Secretary General | Gary Fullerton | USA |
| | Treasurer | Gary Fullerton | USA |
| | Past President | Keith Boddy | UK |
| 2000–2003 | President | Oskar Chomski | Poland |
| | Vice-President | Azam Niroomand-Rad | USA |
| | Secretary General | Gary Fullerton | USA |
| | Treasurer | Nisakorn Manatrakul/G. Mckow | Thailand/Canada |
| | Past President | Colin Orton | USA |
| 2003–2006 | President | Azam Niroomand-Rad | USA |
| | Vice-President | Barry Allen | Australia |
| | Secretary General | Peter Smith | UK |
| | Treasurer | George Mckow | Canada |
| | Past President | Oskar Chomski | Poland |
| 2006–2009 | President | Barry Allen | Australia |
| | Vice-President | Fridtjof Nusslin | Germany |
| | Secretary General | Peter Smith | UK |
| | Treasurer | George Mckow | Canada |
| | Past President | Azam Niroomand-Rad | USA |
| 2009–2012 | President | Fridtjof Nusslin | Germany |
| | Vice-President | K. Y. Cheung | Hong Kong |
| | Secretary General | Madan Rehani | Austria |
| | Treasurer | Slavik Tabakov | UK |
| | Past President | Barry Allen | Australia |
| 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 |
| 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 |
| 2018–2022 | President | Madan Rehani | USA |
| | Vice-President | John Damilakis | Greece |
| | Secretary General | Virginia Tsapaki/Eva Bezak | Greece/Australia |
| | Treasurer | Ibrahim Duhaini | Lebanon |
| | Past President | Slavik Tabakov | UK |
| 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 |

Dr Xie George Xu for his brilliant work and significant impact on scientific practice and the development of the profession.

The AHC would like to highlight the IUPAP Award which received this year the highest number of nominations; from 12 countries and totalizing 18 nominees. It is tremendously exciting to evaluate the abundant notable work of these young medical physicists. On this occasion, we are delighted that the Award has gone to Dr Chai Hong Yeong.

Another important category is the awarding of Honorary Membership, which recognizes the significant contributions to IOMP's objectives by professionals who are not themselves practicing Medical Physicists. The distinguished winners on this occasion were Prof. Dr Al Hammadi MD and Prof. Dr Donald L. Miller MD.

In addition, we have new Fellows of the IOMP (FIOMP), recognized for outstanding contributions to IOMP and its regional associations. These are Arun Chougule, Freddy Haryanto, Habib Zaidi, Hassan Kharita, Taofeeq Ige, Xiaowu Deng and Steve Balter.

Finally, during the Congress, the winner of the Young Scientist Competition will be announced. Through their presentation, young medical physicists are able to demonstrate their knowledge, skills and emerging leadership in their profession.

16 IOMP Education and Training Committee

The Education and Training Committee (ETC) of was established during the 7th ICMP in 1985 at Helsinki. First Chair of ETC was Carlos E. de Almeida from Brazil for 1985 – 1989. Present ETC is 11th committee for a period of 2018–2022 and Arun Chougule is Chair. ETC is the oldest committee of IOMP which shows importance IOMP gave to education and training of medical physicists. All the earlier ETC chairs and members have contributed for establishing and the achieving the aims and objectives of ETC.

The main objective of ETC is to advance the practice of physics in medicine by fostering the education, training, and professional development of medical physicists, and by promoting highest quality medical services for patients worldwide. The Education and Training Committee of IOMP is entrusted with development of programs related to education and training of medical physics, promotes internationally sponsored education and training programs, considers applications from national and regional organizations for IOMP endorsement and funding, harmonises and standardizes medical physics education programs, and accredits educational, residency and CPD programs.

IOMP Accreditation Board (AB) was established in 2017 for accreditation of medical physics education programmes, medical physics residency programs and CPD

accreditation of education/training activities [<https://www.iomp.org/accreditation/>]. So far AB has accredited 4 Medical Physics education programmes and granted CPD accreditation for 9 educational training programmes. ETC evaluates applications received from organizers of scientific programmes in national member organization (NMO) countries for IOMP endorsement and/or funding from IOMP and provides the report to IOMP executive committee. ETC took the responsibility to compile and disseminate information about the medical physics education program based on the feedback from IOMP Regional Organizations. This information is available through the IOMP website since 2018. Further ETC has organized medical physics education and certification sessions during ICMP's, NMO, RO conferences and is working closely with the ICMP and World Congress organizers for sessions on Education and Training of Medical Physics. ETC represented on Task group of IAEA's to draft the guidelines for certification of medical physicists TSC71.

17 IOMP Publications Committee

The IOMP Publications Committee (PubCom) (<https://www.iomp.org/publications-2/>) aims at providing or supporting appropriate publications as a result of research, education and professional programs of the organization. The PubCom comprises Editors or past Editors of international scientific journals in the field of Medical Physics (MP). In the last several years efforts were devoted to promoting publications in MP via the IOMP Series in Medical Physics and Biomedical Engineering (MPBME), published by CRC Press, and in the recognition and involvement of main journals in MP. At present, after PubCom proposed the Guidelines for becoming a scientific publication of IOMP, seven Journals external to IOMP are scientific publications of IOMP: Physics in Medicine and Biology, Physiological Measurement, Medical Physics, Journal of Applied Clinical Medical Physics, Physica Medica – European Journal of Medical Physics, Journal of Medical Physics (JMP), Radiological Physics and Technology.

They join the IOMP official publication Medical Physics International (<http://mpijournal.org>), fundamental and worldwide diffused publication of IOMP. Via the agreements with those Journals, IOMP may also indicate members in their editorial board, contributing to promoting their spread and scientific activity. The MPBME Series now comprises 78 titles, with as many as 44 books published in the last 5 years [25]. Sample copies of these publications may be distributed to medical physicists worldwide, in particular in low- and middle-income countries, to facilitate their access to high level scientific publications in MP.

PubCom assists IOMP members wishing to propose publication of new materials in MP.

18 IOMP Medical Physics World Board

IOMP Medical Physics World Board is focused on ensuring the communication between IOMP and our members and partners worldwide as well as providing internal support for IOMP committees and governance on various aspects related to dissemination of information, technical support, marketing, etc.

IOMP Medical Physics World Board 's is charged with the following:

- To contribute to the advancement of medical physics worldwide by providing a bulletin to all members covering IOMP activities and matters of interest to medical physicists.
- To disseminate information, promote communication and provide news of use for all countries but especially in developing countries.
- To seek out information of use to IOMP members from the Officers, Committee Chairs, World Congress Presidents, Regional meeting Organizers and other representatives of IOMP functions and communicate such information to the worldwide membership.
- To assist the IOMP Officers to improve communications by suggesting publication alternatives and preparing proposals for improved methods of achieving MPW goals.
- To seek advertising support for MPW to achieve self-funding of the bulletin.

The committee is also responsible for the publication of the IOMP Medical Physics World (<https://www.iomp.org/medical-physics-world>) – the official bulletin of the IOMP which recently celebrated its 35th anniversary.

IOMP Medical Physics World Board played a key role during the global COVID-19 pandemic which turned the online resources into main communication channel and tool to reach-out to individual MPs worldwide.

19 IOMP History Sub-committee

IOMP History Sub-Committee (HSC) was established in 2008 (during the term of office headed by President Barry Allen). HSC was developed as a Sub-Committee of the IOMP Publications Committee (at that time Chaired by William Hendee). The Description and Charge of the HSC were incorporated in the IOMP Bylaws. HSC main objective includes recognition of the IOMP members who have made

major contribution(s) to the IOMP and acknowledgement of the contributions of EXCOM and various IOMP activities.

The founding members of the HSC (2008–2012) were: Azam Niroomand-Rad (Chair); Colin Orton; Slavik Tabakov; Robert Gould. At that period the main tables with contributors to the IOMP ExCom and various committees were composed and uploaded at the IOMP web site. Also, papers were written about IOMP History and published by the IOMP Journal Medical Physics International (MPI) in connection with the 50th anniversary of the Organisation. In 2009 interviews begun with distinguished medical physicists. These were normally made during the World Congresses.

Azam Niroomand-Rad continued to Chair HSC in the period 2012–2015; HSC Chair (2015–2018) was KY Cheung; HSC Chair (2018–2022) was S Tabakov. In these periods active members of the HSC were C.Orton and P.Smith (alongside the Ex Officio members).

In the period 2018–2022 the History tables were updated and a new activity related to medical physics history was initiated by the IOMP Journal MPI – Special Issues on Medical Physics History—an activity edited by S. Tabakov, P. Sprawls and G. Ibbott, which attracted many eminent medical physicists. These took part in the preparation of 6 Special Issues.

20 IOMP Women Sub-committee

IOMP Women Subcommittee's objective is in compliance with the main IOMP mission 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.

We are focused on various types of activities re to assisting women MPs with their professional development and attracting more women to medical physics and STEM in general.

IOMP Women subcommittee is charged with the following:

- Develop, implement and coordinate tasks and projects related to the role of females in medical physics scientific, educational and practical aspects.
- Popularize the role of the women in medical physics and encourage female medical physicist to advance in the profession.
- Provide regular status/progress updates to the IOMP on all tasks and projects related to the IOMP Female Group.
- Promote the contribution of female medical physicists at major scientific conferences such as WC and ICMP.

21 Looking forward into the future

For nearly 60 years of existence IOMP turned into a key factor not only in the field of medical physics, but also healthcare, and other related disciplines. Being led by the world's most recognized medical physicists and working in close collaboration with its societal and individual members and partners, IOMP is looking forward to future perspectives in international collaboration and enhancement of the professional skills, all directed towards enhancing patient benefit.

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