





Nándor Richter, a good friend, a teacher devoted to help the handicapped, an engineer popularizing the achievements of technical progression, a leader to direct, guide, and lead national and international organizations, an open-minded citizen feeling like home anywhere in the world, passed away on 8th October, 2015.

He received his M. Phil. (mathematics and physics) in 1954 from Eötvös Loránd University, Budapest, and M.Sc. (electrical engineering) from Budapest Technical University in 1962. He also received the EUR ING title delivered by FEANI, created to recognize the competence of professional engineers. From 1954 he was a high school teacher, and in 1961 he joined the laboratory of electronic and nuclear measurements of the Hungarian National Office of Measures. From 1964 to 1991 (when he retired) he was with the Hungarian company Medicor, the largest medical equipment company in Central Europe. He was head of the product development and design laboratory. He also worked for several years in South America as a company representative.

From 1977 until 1993 he worked in several developing countries as a UN as well as independent expert in the field of health-related technical activities. He also worked as an expert for project evaluations in the EU and for UN agencies (UNIDO, WHO). He joined the Institute for Hospital and Medical Engineering (ORKI) in 1990 as a part-time Senior Advisor for Biomedical

Engineering. His IFMBE activities date back to the 1970s. As a result of his efforts, the Hungarian BME Society (Biomedical Engineering Section of the Scientific Society for Measurement, Automation and Informatics, MATE) joined IFMBE as the 18th national society in 1973. He was president of the BME Society of MATE between 1994 and 2003 and honorary life member since then.

He was President (1985 – 1988) of IFMBE and served as Vice President of International Union for Physical and Engineering Sciences in Medicine (1988 - 1991). He is a Founding Fellow of the International Academy for Medical and Biological Engineering, and a Board Member of the Hungarian Academy of Engineering.

In the period 1990 - 1994 he took active part in the organization of meetings supporting East-West European collaboration in the profession, including the co-organization of the first International Conference on Medical Physics Education (Budapest, 1994).

His professional activities were honored by the Kolos Richard Award, Csáki Frigyes Memorial Medal and Dr. Katona Zoltán Medal. He is an Honorary Life Member of IFMBE, of the Biomedical Engineering Society of the Czech Purkinje Scientific Association, and of MEDING (Hungarian National Society of Medical Engineering).

In the 1980s he participated in the reorganization of the Rotary movement in Hungary, and he is founding member of the Budapest Rotary Club (President between 1996 – 1997). He promoted the journal Természet világa (World of Nature) and related to it brought into being a program to support talented young persons. We will painfully miss his help, good humor and optimism.

Ákos Jobbágy

Nándor was the most diplomatic person I have ever met. When the Working Group on Clinical Engineering became a Clinical Engineering Division, Nándor was instrumental in ensuring that it would be created and develop. This was a

major feat considering the time (1985) and some of the complicated politics surrounding this major innovation. Through his vision and leadership skills, all was well and the Division is still very active today. My most cherished memory of Nándor is when he and two colleagues visited me and my department in Moncton in the mid-1980s, a regional clinical engineering service for south eastern New Brunswick. It was part of a North American Tour about clinical engineering and medical devices. After visiting our hospitals and laboratory, we had a meeting with our staff, Nándor, and his colleagues at the Chalet of the Moncton Hospital. We cooked lobster and had a wonderful picnic in addition to a fruitful meeting. He really enjoyed this experience and I can still bear his voice and his laugh which was so contagious. Nándor was so kind, brilliant, a Renaissance engineer! He will be sorely missed!
 Monique Frize

Nándor was a unique person, able to soften any atmosphere and made anyone comfortable. I remember the EMERALD Workshop on Medical Physics Training in Prague, which I organized in 2000 with representatives from 19 countries (mainly from Central/Eastern Europe). Although known by email, most colleagues had not seen each other before. At the evening, in a local pub, Nándor's natural humor, benevolence and diplomacy made its wonders and in an hour we all felt like a family. Next day almost all were under the effect of the previous evening and the work moved quickly and easily. Later, at an IFMBE meeting in London, he was again at the heart of the meeting, with his exceptional diplomatic leadership, and nobody understood how the difficult questions were not such anymore. I had the privilege to know Nándor's fantastic family and to have his advice at several moments of my career. These were always wise, professional and effective - for what I shall always be grateful to him. Nándor was not only a brilliant medical engineer and leader, but also one of those outstanding people who change the world around without much noise and leave it better for all of us. He will be missed by all our professional community!
 Slavik Tabakov

Medical Physics World

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Message from the Editor

Magdalena Stoeva, PhD, Chair MPW Board



Dear friends and colleagues,

It has been a great year!

2015 was another successful year for our professional society and for the IOMP. A year marked by our World Congress, where professionals gathered from every part of the world to exchange knowledge, ideas and friendship. A new IOMP ExCom was elected - experienced with the past and enthusiastic about the future.

IOMP gets wider recognition by the world's leading institutions - WHO accepted IOMP as NGO. Our relations with partner organizations are even stronger. IOMP is partnering with IAEA, IUPAP, IUPESM, IFMBE, ICTP, IRPA, MPCB, ESR/ECR, RSNA in a wide range of activities. IDMP 2015 was an enormous success. For a third year in a row Medical Physicists worldwide celebrate IDMP and gain support for our profession. To mark this, an award dedicated to the IDMP was agreed.

IOMP organized and supported a number of educational and professional

activities, scientific events, publications, IOMP Women endorsed activities.

2016 is nearly here, even more challenging: ICMP 2016 is in preparation; the large project on the IOMP History of Medical Physics; certification and accreditation activities; and of course IOMP is always willing to welcome new members in our large family.

This issue of Medical Physics World is dedicated to Success. To IOMP success in professional and organizational aspects. To the success of each Medical Physicist in their daily professional activities, research and the contribution to the society everyone of us make.

Let me wish everyone a prosperous and successful New Year, as challenging and blessed as it can be!



It has been a great year and yet more to come! ◀

IOMP NMOs

National Member Organisations

Algeria	Nepal
Argentina	Netherlands
Australia & New Zealand	New Zealand (with
Austria	Australia
Bangladesh	Nigeria
Belgium	Norway
Brazil	Pakistan
Bulgaria	Panama
Cameroon	Peoples Rep. of China
Canada	Peru
Chile	Philippines
Colombia	Poland
Croatia	Portugal
Cuba	Qatar
Cyprus	Rep. of China - Taiwan
Czech Republic	Rep. of Macedonia
Denmark	Rep. of Moldova
Ecuador	Romania
Egypt	Russia
Estonia	Saudi Arabia
Finland	Singapore
France	Slovenia
Georgia	South Africa
Germany	Spain
Ghana	Sri Lanka
Greece	Sudan
Hong Kong	Sweden
Hungary	Switzerland
India	Tanzania
Indonesia	Thailand
Iran	Trinidad & Tobago
Iraq	Turkey
Ireland	Uganda
Israel	Ukraine
Italy	United Arab Emirates
Japan	United Kingdom
Jordan	United States
Korea	Venezuela
Lebanon	Vietnam
Lithuania	Zambia
Malaysia	Zimbabwe
Mexico	
Mongolia	
Morocco	<i>NMO status being reviewed</i>

2015 Was a Very Successful Year for IOMP!

President's Address

**Slavik Tabakov, PhD, FIPEM, FHEA,
FIOMP, Hon. Prof., IOMP President**



2015 was a very successful year for IOMP. Many important activities were initiated and completed, to mention chronologically a few of these: funding was assured from IUPAP for the organisation of a large Workshop dedicated to building medical physics activities in developing countries (held in Toronto); IOMP was accepted as Non-Governmental Organisation to the WHO; the World Congress in Toronto was very successful; a new IOMP International Coordination Board was established and had its first meeting in Toronto; a new IOMP membership was established (Affiliated member) and several applications already processed; the IOMP electronic banking system was stabilised; a new IOMP Award

was established related to IDMP (to be introduced in 2016); a system of publications was agreed with the CRC Press; a very successful IDMP was celebrated in even more countries; the first approvals of National Certification Boards were made by IMPCB; several activities helped increasing the international visibility of our profession and IOMP; a system for IOMP accreditation of educational courses was initiated. I would like to thank all IOMP ExCom and Committees members, and all colleagues who took part in these activities.

All those activities supported the mission of IOMP further and I would like to elaborate on one activity - the first international MSc course, targeting developing countries, which just produced its first cohort. This activity of the International Centre for Theoretical Physics (ICTP) and the University of Trieste (Italy), was planned for many years and was initiated two years ago with the strong support from the IAEA, IOMP, EFOMP, the Italian Association of Medical Physics (AIFM) and other Institutions. The course includes academic component and practical placements to build specific skills. A number of Italian Medical Physics Departments took part in this activity, both as providing lecturers and as ▶

IOMP ExCom

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From the Desk of the IOMP Secretary General

Virginia Tsapaki, PhD, IOMP Secretary General



The first 6 months of the new International Organization for Medical Physics (IOMP) Executive Committee (ExCom) have almost passed. We are coming to the end of year 2015 with the rather successful World Congress (WC) taking place in Toronto in Canada. All IOMP Chairs have now set their members which you can find at the IOMP website. A number of initiatives of the new chairs are discussed in the first virtual meeting of the IOMP ExCom. The strategic plan of this term includes a number of new initiatives. More information will be sent soon to all NMOs. Virtual meetings are also planned with the

Regional Organizations (RO) in the coming months to discuss our closer collaboration.

On November 7, 2015 we celebrated the third International Day of Medical Physics (IDMP). This initiative is gaining more and more attention every year with more National Member Organizations (NMOs) as well as Regional Organizations (RO) taking part in this celebration. It is most encouraging that the celebration took place in all continents around the world. Apart from the numerous events ranging from Australia and Africa to Asia, North and South America, the first ever joint celebration by three organizations took place in Qatar. The excellent organization of Middle East Federation of Medical Physics (MEFOMP) brought together IOMP and the European Federation of Organizations of Medical Physics (EFOMP) and gave the opportunity to discuss issues of our profession. We certainly hope to have more of such events in the near future. You can find more information at the IDMP webpage (<http://www.iomp.org/idmp/>) There is close collaboration with the International Union of Physical and Engineering Sciences in Medicine (IUPESM) and within this respect all

national member organizations of IOMP are entitled to on line access to IUPSEM's journal "Health and Technology" published by Springer. Practical information on this issue is already sent to the delegates and presidents of NMOs.

The first applications for IOMP Affiliated Membership, a new category of membership have arrived. The particular membership carries the same privileges as NMOs except voting right. For more information visit the IOMP website (www.iomp.org). The new women webpage of IOMP (<http://www.iomp.org/IOMP-W>) has now all related power point presentations of the WC 2015 in Toronto. In this webpage you will also find a lot of information related to women medical physicists (posters, documents, ppts, etc). Preparations have started for the 21st International Conference on Medical Physics (ICMP) 2016 which will be held in 6-9th December in Bangkok Thailand (www.icmp2016.org). Apart from the high scientific program and number of social activities are being prepared. We hope to see you all in Bangkok next year. ◀

▶ training young medical physicists. I would like to commend the active involvement of these hospitals and of AIFM for helping our colleagues from the developing countries. 12 students are graduating this month and the MSc course Directors R Padovani, R Longo and L Bertocchi received an

overwhelmingly positive feedback from the students. This unique MSc course continues its delivery and IOMP and EFOMP have agreed to support it strongly, while A Meghzifene just informed ICTP about the continuing IAEA support for it.

Such international collaboration is exactly in the spirit, promoted by IOMP, and I would like to thank anyone who took part in this activity, as well as in all activities during 2015. I am using this opportunity to wish to all colleagues a Happy New Year! ◀

Message from Vice President, IOMP

Madan M Rehani

Harvard Medical School and Massachusetts General Hospital, Boston,



Dear Colleagues,

IOMP continues to explore options to serve you better. The amendments in Statutes and Bylaws that were approved by the Council in its physical meeting at WC2015 at Toronto are going to enable us to deal with national and international societies better. For example, there are countries where more than one active medical physics

society exists. Much as we wish each country to have only one medical physics (MP) society and discourage fragmentation, there are exceptional situations that need specific handling. The Council approved providing affiliate status to second national MP society without voting rights. We have now framed the guidelines and prepared application forms for such societies. Also there are international organizations who like to seek affiliation with IOMP. We have created a category in International affiliate in Bylaws for them. The purpose is to jointly move towards the same objective.

The collaboration in the area of radiation protection is progressing well. This covers IAEA, IRPA and WHO. A Workshop on Radiological Protection Culture in Medicine is jointly being organized by IRPA-IOMP and WHO. The first workshop was held at Buenos Aires in April 2015 for Latin American countries and second one is being held

at WHO headquarter in Geneva on 30 Nov-2 December 2015 for Europe region. IOMP had provided inputs to draft Safety Guide being prepared by the IAEA and also provided presentation in the training course organized by the IAEA on implementation of safety guide.

A group of IOMP is working to define medical physics service and this may lead to a policy statement of IOMP. There are two policy statements of IOMP already, one on The Medical Physicist: Role and Responsibilities and second on Basic Requirements for Education and Training of Medical Physicists. They can be assessed on IOMP website at: <http://iomp.org/?q=node/5>

The IOMP is collaborating with IRPA14 meeting being held at Cape Town on 9-13 May 2016.

We welcome your suggestions on how we can serve you better. ◀

Dr. Madan Rehani, awarded the 2015 Alliance for Radiation Safety in Pediatric Imaging Butterfly Award

Congratulations to Madan Rehani, PhD, on receiving the 2015 Alliance for Radiation Safety in Pediatric Imaging Butterfly Award. The award is presented annually by the Alliance for Radiation Safety in Pediatric Imaging to an individual recognized for their leadership and dedication to improving the imaging care of children. Dr. Rehani is a visiting Scientist at the Webster Center for Advanced

Radiation Research and Education, based in the MGH Department of Radiology. ▶

Reference:

<https://www.facebook.com/MGHImaging/photos/pb.248414691844953.-2207520000.1450639268.11074370145916066/?type=3&theater>

IOMP President Awarded Doctor Honoris Causa



On 10 December 2015 the Academic Council of Medical University Plovdiv, Bulgaria bestowed upon Prof. Slavik Tabakov, IOMP President and Director of MSc programmes at King's College London, their Doctor Honoris Causa degree for his contribution to the development of medical physics in Bulgaria and Eastern Europe, and for the introduction of e-learning in the profession. The Rector Prof. Kostyanov and the Chair of Medical Imaging Prof. Velkova spoke about Prof. Tabakov's contribution to the profession and the University where he started his career in medical physics; installed the first Digital X-ray equipment in the country in 1984; established the first Digital Imaging Laboratory and

organised the International Medical Physics Educational Centre with an associated MSc course, which still goes strong.

The official ceremony was attended by more than 300 professors, lecturers and colleagues of Prof. Tabakov from Plovdiv, Sofia and other cities in the country. In his academic lecture, titled "Medical Physics – 50 Years Progress in Service of Healthcare (Medical Imaging Equipment)", he described the development of medical imaging equipment and its impact on medical diagnostics. Prof. Tabakov underlined the importance of medical physics for medicine and paid homage to the main inventors of these imaging methods and equipment. He highlighted the role of IOMP for the global development of medical physics and the great number of educational and training activities, which the Organisation has led during its 50 years of existence. While describing his own contribution to the development of medical physics in Bulgaria and Eastern Europe, he expressed gratitude to the colleagues from Medical University Plovdiv who took part in a number of educational projects, which he has developed and coordinated. Prof. Tabakov underlined also the importance of the pioneering e-learning projects EMERALD, EMIT and EMITEL for the double growth of the profession during the past 20 years, and pointed out that this has been a manifestation of international collaboration of more than 300 colleagues from 36 countries.

The Award ceremony was the final accord of the celebrations of the 70th Anniversary of the Medical University Plovdiv. At the press-conference Prof. Tabakov expressed special gratitude to the Academic Council of Medical University Plovdiv and his colleagues for this award coming from the city he was born in and started his career. He noted how proud he is to be a member of this second Medical University in the country, established in 1945 by a number of distinguished medical doctors, including his grandfather Dr Theophil Gruev, who introduced the first fluoroscopic equipment in the country back in 1920s and played important role in the life of this ancient city, including for the salvation of Bulgarian Jews in 1943. Currently Medical University Plovdiv has 700 academic staff and 4000 students. Prof. Slavik Tabakov is the 24th person awarded with this highest award of the University. ◀

International Day of Medical Physics 2015 Was a Great Success!

John Damilakis, PhD, Chair IOMP Education and Training Committee



On November 7, 2015 we celebrated the third International Day of Medical Physics (IDMP). Numerous events and activities took place on and around IDMP 2015 all around the world. I will give only few examples in this article. The main event was organized in Doha, Qatar (photo). The Hamad Medical Corporation in collaboration with the Middle East Federation of Medical Physics (MEFOMP) and the European Federation of Organizations of Medical Physics (EFOMP) organized a workshop which was initiated by the International Organization for Medical Physics (IOMP). The scientific program focused on the role of the Medical Physicist in the hospital and the theme of the event (Better “Medical Physics = Better Cancer Care in Radiation Oncology”). The opening presentation was given by Dr. Huda Al Naemi, Vice President of MEFOMP. The Italian Association of Medical Physics (AIFM) celebrated the International Day with a discussion panel on the risks and benefits of ionizing radiation examinations performed in children.

Representatives of the Italian Society of Pediatrics, the Italian Society of Radiology, the Italian Association of Nuclear Medicine and managers of the Ministry of Health participated in this event which was organized at the Ministry of Health in Rome on November 6, 2015. A scientific conference dedicated to the IDMP was organized in Plovdiv, Bulgaria by the Medical University – Plovdiv, the Technical University - Plovdiv, the Union of Scientists and the Bulgarian Society of Biomedical Physics and Engineering. To celebrate IDMP, the Canadian Organization of Medical Physicists (COMP) has hosted a contest. Participants were asked 2 questions: ‘How do you describe your role to non-medical physicists? And ‘What does being a Medical Physicist mean to you?’ All participants were entered into a draw to win a \$250 "Curie Credit" which could be used towards annual dues or a meeting registration. The Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) for the first time celebrated IDMP at its 15th Asia-Oceania Congress of Medical

Physics (AOCMP) held in the historical city of Xi’an, China (6-8th November 2015). A report on this event can be found in the current issue of the eMPW. Bangladesh Medical Physics Association (BMPA) organized a seminar and press conference in Dhaka. Also, on the occasion of the 3rd IDMP, the Bangladesh medical Physics Society (BMPS) published its 3rd issue of e-Newsletter. A lecture entitled ‘Back to the Future: some synergies between physics and medicine from history to horizon’ has been given in Australia. Africa has also celebrated IDMP 2016. A scientific meeting with 4 invited speakers (a medical physicist, a radiation oncologist, a radiation oncology nurse and a radiation protection expert) was held at the atomic campus of the University of Ghana in Ghana on November 6, 2015.

I would like to heartedly thank colleagues who have sent material from the IDMP 2015 events they have organized. You can find more information about IDMP activities at <http://www.iomp.org/idmp/>. ◀



Report from Awards and Honours Committee

Simone Kodlulovich Renha, PhD, Chair of Awards & Honours Committee



Since 1998, IOMP has a special committee dedicated to honour scientists who have distinguished themselves by their contributions in education and training, science and to advancement of the medical physics profession. Along these years, Awards and Honours Committee had the privilege to award many medical physics in all world. Through these awards, this committee expects to express IOMP recognition and gratitude to these medical physicists who brighten our profession,

improving diagnostic and treatments, benefiting health care of patients. IOMP, each three years, promotes an election to nominate news members to carry out this important task. This year, a new committee was formed by medical physicists from different regions of the world, and experts from different medical physics modalities. This heterogeneous composition is fundamental to carry out our task of acknowledging medical physicists that are making the difference in any part of the world, and who deserve to be recognised and to receive the IOMP awards.

The first project of this committee is to establish in 2016 an International Day of Medical Physics Award. This award intend to give recognition to the medical physicist of each region who has made a significant contribution to promoting Medical Physics, including development of scientific work, improvements in patient care and/or contributions for education and training in medical physics. This award will be given on the occasion of the celebration of International Day of Medical Physics (IDMP) to one Medical Physicist

from each IOMP Regional Organization (EFOMP, AFOMP, SEAFOMP, MEFOMP, ALFIM, FAMPO and North America), totalizing 7 awards. The award will include an IOMP certificate, and a short Biography of the Awardee will be published in the IOMP Newsletter Medical Physics World. The first announcement of IDMP Award will be made on January, 2016 and the criteria will be published in IOMP web page (www.iomp.org), Awards information (www.iomp.org/?q=content/information). Mindful of the importance for Medical Physicists to have their work recognised by IOMP, this Committee assume the compromise to strive to improve, to update and to develop the range of awards and honours offered. Many plans are in development and very soon we will be present.

In this opportunity, I would like to thank Tomas Kron, ex-chair of the Awards and Honours committee and all members for the excellent work. Also, I would like to welcome the new members who accept the responsibility to collaborate on this important mission for IOMP. ◀

The IDMP Award

Since 2013, medical physicist from all over the world celebrates “The International Day of Medical Physics (IDMP)” on November 7, birthday of Marie Sklodowska-Curie. This is an important annual event where medical physicist can share experiences, improve knowledge, and discuss professional matters and much more. Considering the importance of this date, IOMP decided that it is also an excellent opportunity to give recognition to the medical physicist of each region who has made a significant contribution to promoting Medical Physics, including

development of scientific work, improvements in patient care and/or contributions for education and training in medical physics.

The IDMP award will be given on the occasion of the celebration of International Day of Medical Physics (IDMP) to one Medical Physicist from each IOMP Regional Organization (EFOMP, AFOMP, SEAFOMP, MEFOMP, ALFIM, FAMPO and North America), totalizing 7 awards. The recipients of the Award will be announced on the day before IDMP (Nov, 6th). The award will include an IOMP

certificate, and a short Biography of the Awardee will be published in the IOMP Newsletter Medical Physics World. IOMP expect to receive nominations from all regions in order to be able to sincerely express IOMP gratitude to all medical physicists that despite of all difficulties and challenges are making their best to improve the diagnosis and treatment of patients. We would like to encourage you all to visit the IOMP website and to look the information and requirements of this award. ◀

IOMP Science Committee Report

Geoffrey S. Ibbott, PhD, IOMP Science Committee



The IOMP Science Committee 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 International Commission on Radiation Units and Measurements, the International Commission on Radiological Protection, the World Health Organization, and the National Council on Radiation Protection and Measurements; and participating in various forums for the generation of scientific information in medical physics.

At the end of June 2015 several members completed their terms on the

committee. I would like to express my thanks to Paul Gueye, Yaoxiong Huang, Michael Stabin, Alberto Torresin and George Xu for their contributions to the committee. I also wish to welcome new members including XiaoWu Deng, Wilbroad Muhogora, Maria Elisa Rostelato and Vellaiyan Subramani. The current membership has been approved by the IOMP ExCom and is shown below, with each member's country and regional organization.

Geoffrey Ibbott, Chair, USA
 Facundo Ballester, Spain/EFOMP
 Sha Chang, USA
 Lawrence Dauer, USA
 XiaoWu Deng, China
 Benedick Fraass, USA
 George Kagadis, Greece/EFOMP
 Reinhard Loose, Germany/EFOMP
 Malcolm McEwen, Canada
 Hossein Mozdarani, Iran/MEFOMP
 Wilbroad E. Muhogora, Tanzania/FAMPO
 Hugo Palmans, United Kingdom
 Mark Rivard, USA
 Maria Elisa Rostelato, Brazil/ALFIM
 Ferid Shannoun, Austria
 Vellaiyan Subramani, India
 Yoshiharu Yonekura, Japan

The Science Committee continues to participate in the activities of the World Health Organization (WHO) through the "Consultation to Define Priority Medical Devices for Cancer Management – Targeting Low and Middle Income Settings". This effort is based in part on the IAEA Publication "Setting up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects" and other reports, and has as its goal to identify the essential medical equipment for radiation therapy treatment of the six cancers that the WHO has prioritized in LMI countries: cervical, breast, lung, prostate, colorectal and leukemia.

It is an honor to serve as chair of the Science Committee, and I am looking forward to the activities of the committee over the next years. ◀

**World Congress on Medical
Physics & Biomedical Engineering**

June 3–8, 2018, Prague, Czech Republic



**IUPESM
PRAGUE 2018**

Report from the Publication Committee

Tae Suk Suh, PhD, Chair Publication committee



The new members of the Publication Committee (PC) for 2015-2018 were selected and approved by IOMP ExCom. Most of them are currently editors of national or regional journal of medical physics. Members who have worked for the last three years are existing members with some new addition. One of main task of PC is on-line access to medical physics related

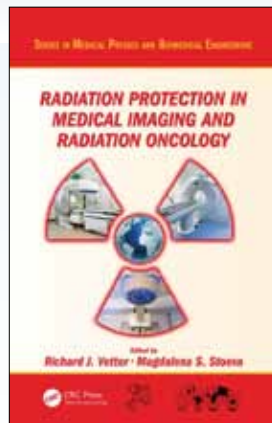
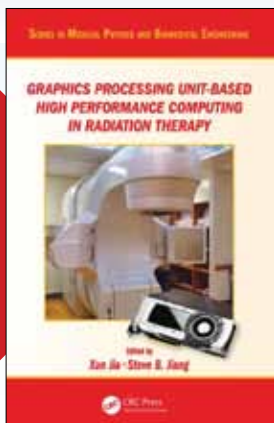
materials (books, journals, data for education and research). Previously, IOMP PC has worked jointly with Raymond Wu (PRC chair) for accessing journals by HINARI libraries, which are mainly supported by WHO and widely used for developing countries. With new PRC chair Yakov Pipman, IOMP PC will continue to work on the utilization and continuous collaboration with HINARI Library. In order to provide medical physicists easy access to medical physics related journals, IOMP PC will try to ask medical physics journal editors and presses for their cooperation. In particular, as with JACMP (Journal of Advanced Clinical Medical Physics) the goal is to allow free access or make them available at a low cost. This would have to be done on the levels of regional and national cooperative framework.

The future plan of PC is to establish the short and long term plans. First, the continuous development of IOMP PC's primary role, the new book idea, and to search for potential editors. We will also try to publish a special volume that overviews regional and national medical physics history in commemoration of IOMP's 50th anniversary. Second, establish collaboration framework between regional organizations and allow to share published magazines in the region through on-line access. This would allow advanced countries and developing countries to teach and learn from each other. Third, increase the use of existing IOMP website and MPI journals thus encouraging the use of e-platform resources. Lastly, IOMP with CRC Press will continue to work closely together on book publishing and publicity activities. ◀

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The International Union for Physical and Engineering Sciences in Medicine

Kin Yin Cheung, President of IUPESM

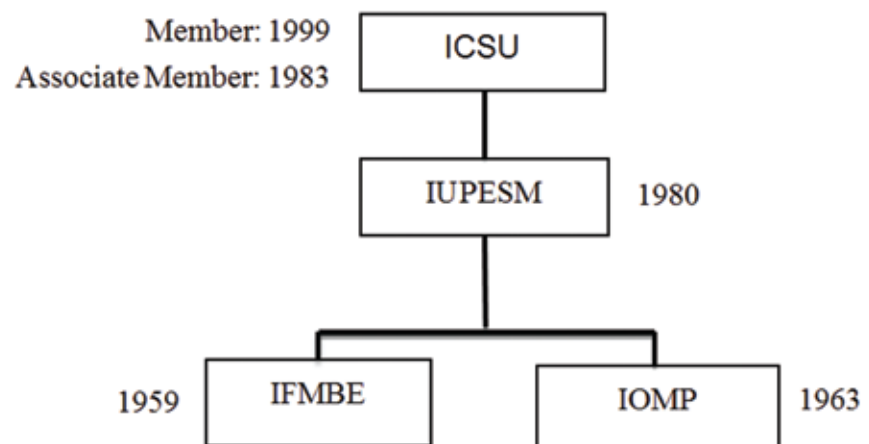


The International Union of Physical and Engineering Sciences in Medicine (IUPESM) was jointly formed in 1980 by IOMP and International Federation of Medical and Biological Engineering (IFMBE). The key objectives of forming the umbrella organization were to contribute to the advancement of physical and engineering sciences in medicine for the benefit human health, to organize international cooperation among the medical

physicists and biomedical engineers and to coordinate activities of mutual interest such as international scientific conferences, seminars, and working groups. Another important objective of forming the Union was to gain membership to International Council of Scientific Union (ICSU) - an international scientific organization with a wide spectrum of scientific expertise in the membership that allowed it to address major, international, interdisciplinary issues. IUPESM became an Associate Member of ICSU in 1983 and a Member in 1999. ICSU currently has a global membership of 153 consisting of national scientific bodies and international scientific unions. IUPESM is one of the 31 International Scientific Union Members of ICSU. It represents the combined efforts of more than 40,000 medical physicists and biomedical engineers working on the physical and engineering science of medicine. The Union plays an

important role in bringing together medical physicists and biomedical engineers from all parts of the world to exchange ideas on issues of common interest and to share their knowledge and research findings for the purpose of promoting human health through advances in science and technology in healthcare.

The key agenda items in the IUPESM activities is the planning and organizing the World Congress in Medical Physics and Biomedical Engineering 2018 to be held in June 2018 in Prague, Czech Republic. Appropriate technology in healthcare, urban health and women in medical physics and biomedical engineering are some other important agenda items treated with high priority in IUPESM. The Union in cooperation with the World Health Organization publishes jointly with Springer its official journal, Health and Technology. ◀





MPW Presents: The International Radiation Protection Association (IRPA)

Renate Czarwinski, President of IRPA

Magdalena Stoeva, Chair IOMP MPW Board



Ms Renate Czarwinski is the current IRPA President. She studied Physics and finalized a postgraduate study in Nuclear Safety and Radiation Protection. In 1996 she was appointed as Head of Radiation Protection at Workplaces Section in the German Federal Office for Radiation Protection. From 2007 to 2012 Ms Czarwinski acted as Head of Radiation Safety and Monitoring Section of the International Atomic Energy Agency (IAEA) in Vienna. In 2012 Ms Czarwinski received the HPS Landauer Lecturer Award which is to honor prominent individuals who have made significant contributions to the field of radiation research and protection. Since 2004 she is Member of the Executive Council of the International Radiation Protection Association (IRPA) and was elected as President of IRPA in 2012.

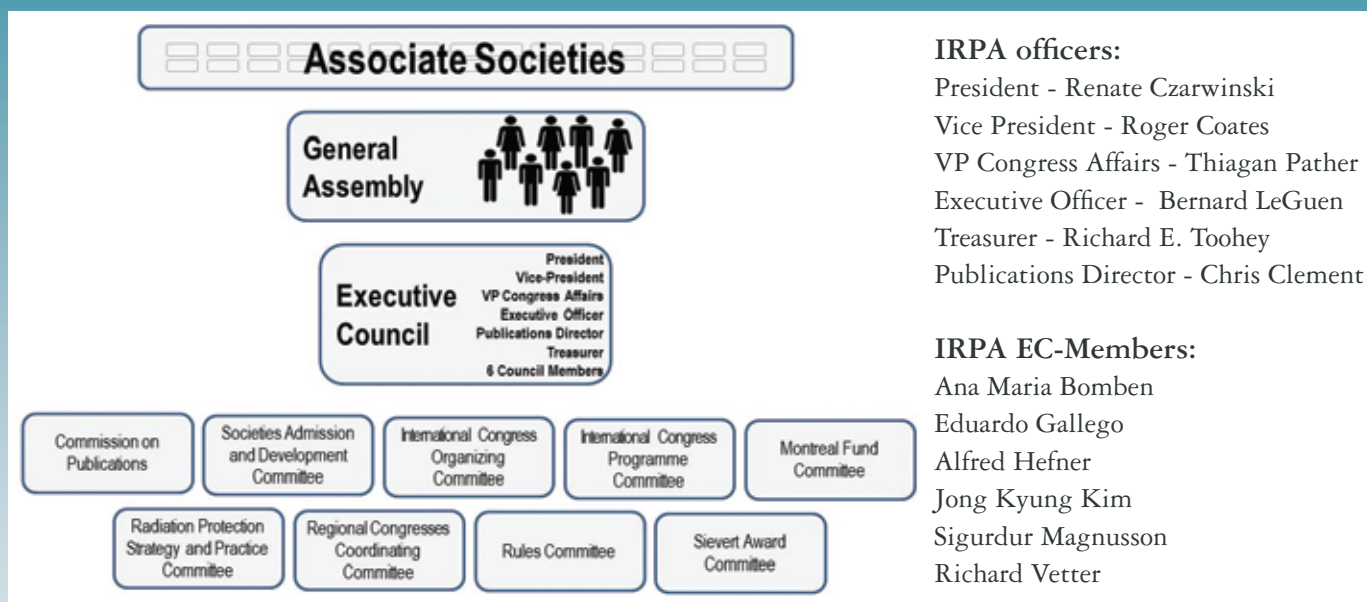
Dr Magdalena Stoeva is the Chair of IOMP Medical Physics World Board. She serves several other active roles in the IOMP: Technical Editor of IOMP Journal Medical Physics International; Member of IOMP Publication Committee, Web Committee, Women Subcommittee; responsible for IOMP-W website.

The International Radiation Protection Association was founded in 1964, following decades of active work by the Health Physics societies towards recognizing both the professional and the formal role of health physicists in the field of radiological protection. The following years mark an intensive growth within the newly formed organization and an increase in its role for the professional societies and the general public. The first IRPA Congress was held in Rome in 1966, covering a wide subject area, but still focused on radiation protection, and setting the scene for the following events. During the time of this first world congress, the first IRPA General Assembly was held, electing President, officers and adopting the Constitution. Nowadays IRPA represents around 18,000 members from 50 associate societies representing 63 countries. IRPA's vision is to be recognized by its

members, stakeholders and the public as the international voice of the radiation protection profession in the enhancement of radiation protection culture and practice worldwide. IRPA promotes excellence in the practice of radiation protection through national and regional Associate Societies and radiation protection professionals by providing benchmarks of good practice and enhancing professional competence and networking. It promotes the application of the highest standards of professional conduct, skills and knowledge for the benefit of individual and society. The primary purpose of IRPA is to provide a medium whereby those engaged in radiation protection activities in all countries may communicate more readily with each other and through this process advance radiation protection in many parts of the world. This includes relevant aspects of such branches of knowledge

as science, medicine, engineering, technology and law, to provide for the protection of man and his environment from the hazards caused by radiation, and thereby to facilitate the safe use of medical, scientific, and industrial radiological practices for the benefit of mankind.

It is a major task for IRPA to provide for and support international meetings for the discussion of radiation protection. The International Congresses of IRPA itself are the most important of these meetings. These have been held about every four years since 1966. For all Associate Societies of IRPA and individual members, it is an important objective to attend the next International IRPA Congress IRPA14 which will be held at the International Conference Centre in Cape Town/South Africa from 9 – 13 May 2016. The IRPA14 International Congress will highlight the latest developments in protection policy, ▶

**IRPA officers:**

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 VP Congress Affairs - Thiagan Pather
 Executive Officer - Bernard LeGuen
 Treasurer - Richard E. Toohy
 Publications Director - Chris Clement

IRPA EC-Members:

Ana Maria Bomben
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 Jong Kyung Kim
 Sigurdur Magnusson
 Richard Vetter

standards, and culture, and provide radiological protection professionals worldwide with a forum for information exchange and learning from experience. For many other related professions it is an excellent opportunity to communicate on the achievements, scientific knowledge and operational experience in radiation protection.

Further objectives of IRPA are:

- encourage the establishment of radiation protection societies throughout the world as a means of achieving international cooperation
- provide for and support international meetings for the discussions of all aspects of radiation protection
- encourage international publications dedicated to radiation protection

- encourage research and educational opportunities in those scientific and related disciplines which support radiation protection

- encourage the establishment and continuous review of universally acceptable radiation protection standards or recommendations through the international bodies concerned.

IRPA maintains relations with many other international organizations in the field of radiation protection:

- **Inter-Governmental Organizations:** International Atomic Energy Agency (IAEA), International Labor Organization (ILO), Nuclear Energy Agency (NEA), United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), World Health Organization (WHO),

European Commission

- **Non-Governmental Organizations:** International Commission on Non-Ionizing Radiation Protection (ICNIRP), International Commission on Radiological Protection (ICRP), International Commission on Radiation Units and Measurements (ICRU), International Organization for Standardization (ISO), World Nuclear Association (WNA)
- **Professional Organizations:** International Organization for Medical Physics (IOMP), International Society of Radiology (ISR), International Society for Radiation Oncology (ISRO), World Federation of Nuclear Medicine and Biology (WFNMB), Image Gently. ◀





IOMP 2015 - 2018 IN A GLANCE

The International Organization for Medical Physics (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 Represents over 18 000 Medical Physicists and over 80 National Member Organizations worldwide.

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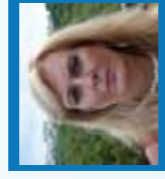
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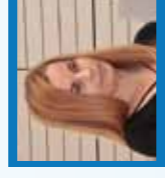
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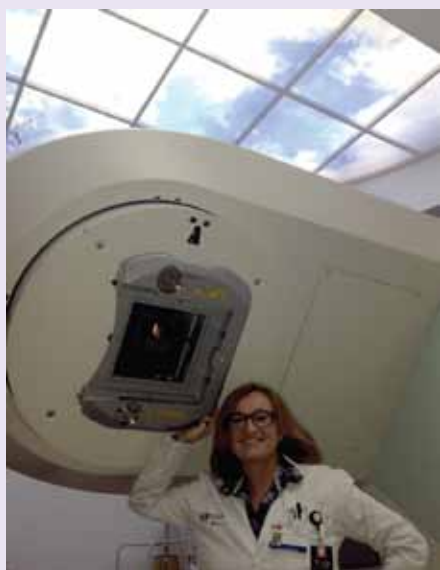
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Interview with Virginia Tsapaki

Are women underrepresented in the field of Medical Physics ? Is the situation equal for them in all countries?

Guadalupe Martín, Medical Physicist, EFOMP representative for Spain, Hospital Universitario de Fuenlabrada (Madrid), Spain



Virginia Tsapaki, medical physicist born and working in Greece. She is member of the boards of several international organizations of Medical Physics as IOMP, EFOMP (European Federation of Organizations for Medical Physics) and HAMP (Hellenic Association of Medical Physics) of which she is the president. She decided to conduct a study to obtain information on the status of women in our field worldwide. Her study consisted of a survey to several organizations of Medical Physics of countries all over the world to identify the number of women medical physicists and a possible gender imbalance in our profession. This study served as the basis to launch an international working group on women in Medical Physics. In this interview Dr. Tsapaki tells us about the findings of her study and her opinion about it.



Guadalupe Martín: How do you came up with the idea of conducting an International Survey on the percentage of woman MP around the World?

Virginia Tsapaki: I have been present at the IAEA (International Atomic Energy Agency) courses for more than 10 years now. During these years, I have visited a number of developing countries and realized that situation with women varies substantially between countries. There is an enormous literature that deals with the representation of women in the professional environment in general. There are also attempts to explain the lack of women in science, such as societal discouragements, innate differences in ability between the sexes, or differences in aspirations. There is even an association of women in science open to all women and men who support equality for women in science. However, the gender

composition of the existing MPs around the world is basically unknown. When I joined IOMP, we discussed the issue with Prof Madan Rehani, now Vice President and then Secretary General of IOMP and we agreed on performing a survey to see the situation in terms of men and women in medical physicist around the world. Without his cooperation this would not have been possible and this is how we started.

What were the main findings you were expecting?

The findings were different than what I really thought. Of course, the representation of women within countries were quite large with Africa having the lowest level of medical physics services around the world. I was expecting less women in eastern part of the world and more women in developed countries like USA or Europe, but what I found was completely the opposite. In Greece, we are more than half!! So when I went outside Greece, I started realising the differences on this. I was expecting completely the opposite, actually.

What were the main results you found? Did they surprise you somehow?

First of all, this was just an initial survey, because we did not know how people would react on it. But there was a very good response. The survey had a lot of comments and people were interested in it. We could not make a very detailed questionnaire because of the different perception, the different knowledge of the English and the ▶

► different levels of expertise in the countries. A detailed questionnaire would have been like 4 pages of questions so in order to have a good response rate at the beginning we had just 3 or 4 questions to see if NMOs would respond. It was not easy; however now people are becoming more interested in the subject, not only for women but generally on what is the situation of medical physicists around the world, for example percentage of PhD, MSc and BSc levels around the world, what is the level of knowledge, the level of training, etc.

[What do you think about the underrepresentation of women in well developed countries such as USA \(21%\)? What do you think are the reasons for this imbalance?](#)

It was striking that USA reported the highest number of MPs (6330 members), the number of women (1316) is one of the lowest among the developed countries that provided data for this study. This could possibly be because women reach up to a certain level. When family and children are a reality it is difficult for them to cope with demanding work and children. I am afraid I do not have a good explanation at the moment because our study was an initial survey with simple questions. For us, in Europe it is somehow different probably because of the different mentality about family or because we can count on relatives such as grandparents to take care of the children. Even in the South of Europe is different than in the North of Europe.

[You argued in your study that many traditional countries seem to follow a change in attitude related to gender imbalance in Medical Physics, so do you think this change is reflected too by a more balanced gender situation in higher positions of our career?](#)

I think if women decide to reach a high level, they can definitely do so. I see these changes. In the past of course and in some countries in which the perception from men to women is still like a taboo field, there is a difference. An interesting finding though was that Middle East countries had a lot of women medical physicists who also reached high positions.

[So, do you think that there is no glass ceiling effect in our field? By considering glass ceiling effect the fact that reflects that women have impediments to reach higher positions in the hierarchy in companies, Hospitals, etc. As it is found in the literature, in the medical sector most of the professionals are women, around 80% but then, higher levels of the hierarchy are occupied in the majority by men \(around 80-90%\). So, even though I agree with you that it is a good sign for an NMO to have a woman as the president, it doesn't mean that women really have overcome glass ceiling. For instance, for Spain there is a 29% of women in the Spanish Society of Medical Physics and its president is a woman, but then in our committees there is generally a lack of women representation and a majority of men in lectures, symposiums and oral sessions at congress.](#)

Well, I think that this is not like a glass ceiling effect. I think it is a matter of the demand effect on women that make impossible for them to cope with all this. Also, because of the fact that you have to work 10 times more than a man to prove you are worthy. Besides, women have a commitment with their families that men don't have, which means that you don't have 100% of your time for your work. At least half of the day or 1/3th of the day is devoted to family issues which is

usually not the situation for most men. You have to do what you have to do in less time per day than men, and not only that, you have to prove you are doing it correctly, which means that what you do you have to do 10 times more work in order to prove it!. I think the good point about this is that a woman that is determined can make it happen. Some years ago this would not be allowed. Even if you worked 100% more hours per day, and you did not have a family, you would not be given the chance. At least we have the chance to prove it.

[So, despite your study has some limitations, what do you think your data indicate?](#)

I think the main conclusions from the survey are the differences from continent to continent and from country to country. This is why I think the IOMP women subcommittee is important, in order to disseminate all this information. I think it is not useful to sit in front of the table and complain, I think we have to have a positive attitude and try to convince other women to do so as well. I think we should, as women, do the best positively, and persuade other women to join us in these efforts.

[Do you think it's important to set up task groups on women inside the National Organizations of Medical Physics?](#)

I can tell you that this IOMP ExCom board has many women compared to other years. I think it is extremely important to set up task groups on women inside the National Organizations of Medical Physics.

[And talking on your commitment to women in MP's issue, what is actually your involvement at a national or International level? Do you know if gender issue is being considered in European projects of big funding? ►](#)

▶ Within the European Commission (EC) there is a 40% representation target. What this means in practice is that the EC supports all efforts that will increase the presence of women in all levels to reach a level of 40% representation. According to the European Commission's policy on women in science, "achieving equal and full participation of women in all scientific disciplines at all levels in the scientific job market" is a fundamental part of its mission. Furthermore, the EC gives a higher rate to EC project proposals that address the gender issue. For more information you can read the "She Figures" reports produced by the European Commission (EC). The reports are based on data collection undertaken every three years as a joint venture of the European Commission and the Helsinki Group on Women and Science. I am not aware of similar movements or initiatives in an international level.

[Finally can you tell us a bit more of this IOMP Women group initiative?](#)

For all these reasons, the IOMP Women Sub-Committee (IOMP-W) was created; to target on actions to raise the profile of women in Medical

Physics. The objectives of our group is to develop, implement and coordinate tasks and projects for women MP, to popularize their role, to encourage them to advance in the profession and to promote the contribution of women MP at major scientific conferences such as WC and ICMP. The members of the group come from various parts of the world trying to represent as many regions of the world as possible. The group has broad regional representation. The group can be opened to more members including men. The activities of the group will be reported in the IOMP newsletters. With the great help of Magdalena Stoeva who is a member of the group a logo and a webpage were created. If you go into the webpage of IOMP-W (<http://www.iomp.org/IOMP-W>) you will find a number of these initiatives. There are for example posters created to promote the role of women medical physicists free for downloading, a number of articles related to ionizing radiation medical procedures in pregnant woman/children are being prepared by 2 members of our group. In the near future participation in international campaigns is also in our

plans. We had a very active participation in the World Congress 2015 in Toronto and we have to thank Monique Frize one of the organizers for this. All the presentations are uploaded in our webpage also free for downloading. I have also to thank Simone Kondulovich which kindly arranged with PTW to produce T-shirts with our IOMP-W logo which were distributed in the IOMP Presidential reception to all women who were present. Furthermore, we joined efforts with the AAPM LinkedIn group to work together with the AAPM women. This is group in LinkedIn under the name Women MP which is actually a networking group for women working in medical physics. Nicole Ranger who is coordinating this activity is also a member of our group. Finally I must acknowledge the collaboration with Monique Frize last years which led us to joined activities with the Women committee in IFMBE and Women in IUPESM. We have a lot of work to do the coming years so we invite all women medical physicists to join us in this effort to raise the profile of the women within our profession. ◀



Donation of Equipment – PRC Report Jan-Jun 2015

Mohammed K. Zaidi, Program Manager, IOMP PRC



The objective of the Equipment Donation Program (EDP) of International Organization for Medical Physics (IOMP) is to help developing countries acquire used equipment in good working condition. The EDP-SC member verifies as-far-as possible that it meets the need of the recipient country and the shipping expenses born by the recipient. Some financial help is available in really needed circumstances. The equipment donated to our Program is in good working condition but we don't guarantee its usefulness. The donations of used equipment are sometime tax deductible. IOMP will not be held responsible for any warehousing expenses or loss if the used equipment donated couldn't be shipped.

A donation of 7 boxes of cerrobend and a heating pot (designed by Radiation

Products) has been offered by Dr. Aaron Odom of Norton Healthcare, Cancer Institute Radiation Oncology. PRC-EDP is thankful for the award of this donation. They are being shipped to Dr. Magatte Diagne, Hospital Aristide Le Dantec, Department of Radiotherapie, 30 Avenue Pasteur, Dakar, Senegal and to Dr. Adam Shulman, Sweden Ghana Medical Center, East Legon Hills, Katamanso, East Legon, Accra, Ghana.

A donation of Omega Model B-200 Fluoroscope was offered by Dr. Abid Fakhri, a Cardiologist at Latrobe Hospital, Latrobe, PA, USA and necessary arrangement were made to ship it to Rana Al-Habib Memorial Hospital, Raiwind, Pakistan. The hospital administration disagreed with the arrangements and the deal dropped.

A large donation of 30 pieces of equipment used in calibration of radiographic and therapeutic machines and also a used CT and a mammographic machine by Ms. Anita Galkin-Dwork (daughter of Late Benjamin M Galken (who was a member of AAPM all his life) offered by the Estate in Philadelphia. Our plan to ship it to Dr. Kalu, Amazing Grace Clinic, Umuahia, Abia State,

Nigeria, never worked out and at this moment this consignment of about 400 lbs. will be shipped to couple of hospitals in Egypt. Necessary arrangement for their shipment are being made.

A request for Block-cutter from Ghana Society of Medical Physics, Oncology Directorate, Komfo Anokye Teaching Hospital, Kumasi, Ghana. They badly need this.

We are looking forward that the donors should come with useable equipment which should be less than 10 year old. Some of the items recently offered and we are looking for a home are: Water tanks, hydraulic lift assembly, dual channel electrometer – this system is controlled by Wellhofer's OmniPro Accept software. TLD reader, farmer ionization chambers, USG Doppler, Video-EEG equipment and CT machine.

If you want to donate, or want specific used equipment donated to your organization, please contact the EDP Manager. For more information, please email your request to zaidimk@gmail.com. ◀





International Atomic Energy Agency

IAEA Activities in Medical Physics

Theocharis Berris, MSc(1), Ahmed Meghzifene, PhD(1),
Ola Holmberg, PhD(2)

(1) Dosimetry and Medical Radiation Physics Section, IAEA

(2) Radiation protection of patients Unit, IAEA

During the last few decades, the International Atomic Energy Agency (IAEA) has been supporting medical physics through its Human Health Programme. Currently there are two entities within the IAEA which are heavily involved in supporting medical physics and radiation safety globally: The Dosimetry and Medical Radiation Physics (DMRP) section and the Radiation protection of Patients (RPOP) Unit. The two entities have contributed to the promotion and implementation of safe and effective use of radiation in medical imaging and therapeutic applications. Through RPOP and DMRP the IAEA advances radiation safety in medicine and develops safety standards and internationally harmonized protocols for QA and dosimetry. Both entities provide appropriate guidance to member states for the implementation of programmes improving all aspects of medical physics, resulting to patient well-being and safety.

A. Dosimetry and Medical Radiation Physics section

The objective of the IAEA Sub programme in Dosimetry and Medical Radiation Physics is to provide guidance on safe and effective use of radiation in radiation medicine in IAEA Member States. This is achieved by focusing on the quality assurance (QA) aspects of the use of radiation in medicine and education and training of health care professionals. The accurate measurement of radiation dose (dosimetry) is an integral part of DMRP's work. Dosimetry is vital in various applications such as radiation oncology, diagnostic radiology, nuclear medicine and radiation protection. The experimental work of the sub programme is carried out in the IAEA's Dosimetry Laboratory, located at the IAEA's Seibersdorf Laboratories. DMRP manages numerous activities in support of medical physics. Only the most important of them are

presented here.

I. IAEA/WHO Network of Secondary Standards Dosimetry Laboratories

Some IAEA member states have no means, other than the Agency, to get traceability and/or verify the quality of their calibration and measurement capabilities (CMCs). As part of its activities, DMRP provides dosimetry calibration services to Member States through the joint IAEA/WHO network of Secondary Standards Dosimetry Laboratories (SSDLs). To be able to function as a calibration laboratory, it is necessary for the Agency to maintain its own calibrated measurement standards, to compare them with other internationally recognized national standards and to operate a quality assurance system, based on ISO-17025. The Agency is supported in these activities by international collaborators, such as the WHO, the Bureau International des Poids et Mesures (BIPM), the International Commission on Radiation Units and Measurements (ICRU) and several Primary Standards Dosimetry Laboratories (PSDLs). Dosimetry verification services are provided both for SSDLs and for end-user institutions engaged in radiotherapy, diagnostic radiology and radiation protection. The primary beneficiaries of these activities are patients undergoing medical procedures involving radiation, radiation workers and the general public that benefit by improved radiation protection practices.

In response to requests by Member States, the Agency provides radiotherapy dose quality audits to hospitals that have no other means to participate in a national dose verification process. Thermoluminescent dosimetry (TLD) is used as the basis of the Agency's dose audits in radiotherapy since it offers adequate precision and reliability of operation to serve the auditing purpose well. An integral part of

the auditing process is resolving discrepancies that are discovered. The Agency's radiotherapy quality audit services are co-ordinated with national audit networks operating in some Member States and with NGOs that provide dose audits in industrialized countries. Organizations such as the WHO and PAHO are active partners with the Agency in providing these services.



Calibration of an ionization chamber at the IAEA Dosimetry Laboratory

II. Comprehensive and Quality Audits

The successful application of nuclear technology in the health care sector depends strongly on assuring accuracy in dose determinations and quality in clinical practices. ▶



IAEA methodologies for comprehensive clinical audits in radiation medicine

► A key element in quality assurance is an independent verification (or audit) of radiation dose delivery and clinical practice at the end-user institution. DMRP has developed methodologies for comprehensive audits in diagnostic radiology (QUAADRIL), Nuclear medicine (QUANUM) and radiotherapy (QUATRO) taking into account all aspects of clinical practice, ranging from dosimetry quality audits to review of policies and procedures within a department or institution.

III. Strengthening Research

In order to maintain high quality imaging and treatment capabilities in Member States and also provide reliable calibration services to enable proper dissemination of dosimetry standards by SSDLs, it is essential that research and development in radiation dosimetry techniques be performed and encouraged. IAEA's Co-ordinated Research Projects (CRPs) are helping towards the direction of strengthening scientific research. Through collaboration with well-established institutions, reference hospitals, SSDL members and professional bodies, the IAEA is able to assist their work in the area of dosimetry and to benefit from early access to on-going projects. The beneficiaries of this project are hospitals, national dosimetry auditing institutions, SSDLs and the communities they serve.

IV. Quality Assurance in Clinical Applications

Even though knowledge of dosimetry is fundamental to the effective use of nuclear applications in human health, the need for collaboration between physicians and medical physicists broadens the mandate of the sub programme beyond dosimetry. Quality assurance measurements and dosimetry auditing programmes are used to verify that radiation dosimetry standards are properly disseminated and applied by end users. Development of new dosimetry auditing procedures is also important. In radiotherapy, patients expect their treatments to be effective and the morbidity associated with the procedures to be acceptably low, thereby intrinsically coupling the outcome and the dose. In the case of diagnostic procedures (diagnostic radiology, nuclear medicine), the information content of an image (image quality)

must be optimized taking into account the dose absorbed by the patient, illustrating again the coupling of outcome and dose. This linkage of medical outcome and dose expands the mandate of medical physics to include other scientific and technical aspects of nuclear technology that affect the health of patients globally. The beneficiaries of this project are patients undergoing diagnosis and treatment.

V. Education and training

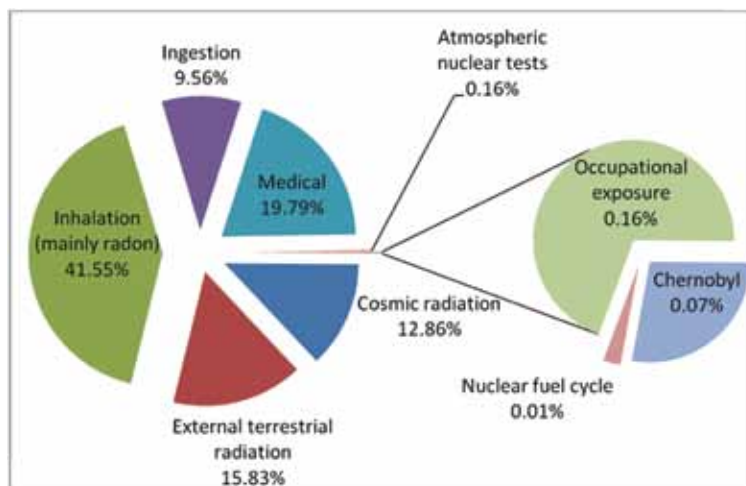
The IAEA promotes education and training in medical physics by supporting training of medical physicists internationally. Training events are organized through regular, extra-budgetary or technical cooperation funding addressing the needs of medical physicists around the world, with a special focus on those working in low and middle income countries. DMRP also maintains online training material on the Human Health Campus website (<https://nucleus.iaea.org/HHW/MedicalPhysics/NuclearMedicine/index.html>). Training material in the form of E-learning modules, tutorial videos and PowerPoint presentations are also available. IAEA publications are a major contribution to the education and training of medical physicists. Textbooks for medical physicists working in diagnostic radiology, nuclear medicine and radiotherapy are available for free download. Technical reports and documents, proceedings as well as non-serial publications are also available. A list of all resources may be found at the following link (http://www.naweb.iaea.org/nahu/DMRP/documents/IAEA_Resources_in_Dosimetry_and_Medical_Radiation_Physics.pdf).

B. Radiation Protection of Patients Unit

Medical use of radiation is by far the largest manmade source of radiation exposure. Human population is subject to increasing medical exposure to radiation with billions of diagnostic X ray examinations performed annually. Much of this medical exposure is beneficial to patients as it serves medical purposes. However, there is also a part that falls into the category of "unnecessary" — be it owing to lack of justification or lack of optimization. Accidental exposures constitute a further problem. Information collected by the IAEA has shown that there is great scope for the avoidance of such unnecessary or accidental exposures. The Radiation Protection of Patients Unit of the IAEA helps ensure that unnecessary radiation exposure of patients is minimized while medical purposes of the use of radiation are served.

I. The RPOP Website and Social Media

The RPOP Unit maintains the RPOP website (<https://rpop.iaea.org>). This website receives a very high number of visits per year and serves as a valuable resource for health professionals, patients and the public regarding the safe use of medical radiation. In its hundreds of pages, interested users may find a lot of information on the radiological safety aspects of medical practice in diagnostic radiology, nuclear medicine, radiotherapy interventional procedures and other modalities. RPOP publications including safety guides, standards, reports and technical documents may be found on the dedicated section of the website. ►



Contributions to the average annual dose according to the UNSCEAR report of 2008



Screenshot of the RPOP website featuring links to important material

► The website also hosts a great amount of training material in the form of PowerPoint presentations. These presentations may be downloaded for free and used for training by any interested user, provided that proper attribution is given. Outreach material for professionals and patients in the form of posters and leaflets is also provided. The material has already been translated in many languages and this process is still ongoing. Interested users may also find information on upcoming events, latest news and latest literature. This information is circulated through a monthly newsletter to more than 10000 recipients working in healthcare. RPOP manages its own social media accounts on Facebook and Twitter. Followed by more than 4000 interested users, these social media channels serve as an important outreach tool.

II. Competence and skill development for justification and optimization

Inappropriate imaging can lead to unnecessary medical radiological exposures and cost, and may fail to answer the clinical question. In medical diagnostic uses of ionizing radiation, the principle of justification is implemented effectively as part of the process of determining 'clinical appropriateness'. This process uses an evidence-based approach to choose the best test for a given clinical scenario, taking into account the diagnostic efficacy of the radiological procedure as well as alternative procedures that do not use ionizing radiation. Essential tools to support this decision-making process are the clinical imaging guidelines that are usually developed by professional societies. Targeting referring practitioners as recipients of such training and information is a very important step in reducing

unnecessary radiation exposure. Consistent with the International Action Plan for the Radiation Protection of Patients, RPOP provides assistance to IAEA Member States in competence and skill development for justification and optimization of protection in medical exposures. A Technical Meeting on Justification of Medical Exposure and the Use of Appropriateness Criteria takes place every year in Vienna, with the participation of many delegates from many member states.

III. Patient Exposure Tracking

In 2006 the IAEA launched the Smart Card/SmartRadTrack project. The aim of this project is to promote adoption in Member States and support the creation of infrastructure and mechanisms to achieve patient exposure tracking, be it the information on individuals' radiological procedures and/or radiation dose as appropriate. Knowing the exposure history of patients could help in making practice of radiation medicine worldwide safer. Access to exposure information of large populations could also help towards the improvement of epidemiological data regarding cancer incidence at low radiation doses and dose rates.

IV. Educational and Reporting Systems in Interventional Procedures and Radiation Oncology

The IAEA develops and maintains educational reporting systems for interventional procedures (SAFety in RADiological procedures – SAFRAD) and radiation oncology (SAFety in Radiation Oncology - SAFRON). These are integrated voluntary reporting and learning systems of radiological incidents and near misses. The main goal of SAFRAD and SAFRON is to improve the safer use of radiation in diagnostic radiology and radiotherapy by

sharing safety-related events and safety analysis around the world.

V. Bonn Call for Action

The "International Conference on Radiation Protection in Medicine: Setting the Scene for the Next Decade" was held 3-7 December 2012 in Bonn, Germany. It aimed to identify gaps in current approaches to radiation protection in medicine, review advances and propose possible tools for improvement. More than 500 participants from 77 countries and 16 international organizations attended the Conference, and an important outcome was the identification of responsibilities and a proposal for priorities for stakeholders regarding radiation protection in medicine for the next decade. The 10 proposed actions of the conference were:

- Action 1: Enhance the implementation of the principle of justification
- Action 2: Enhance the implementation of the principle of optimization of protection and safety
- Action 3: Strengthen manufacturers' role in contributing to the overall safety regime
- Action 4: Strengthen radiation protection education and training of health professionals
- Action 5: Shape and promote a strategic research agenda for radiation protection in medicine
- Action 6: Increase availability of improved global information on medical exposures and occupational exposures in medicine
- Action 7: Improve prevention of medical radiation incidents and accidents
- Action 8: Strengthen radiation safety culture in health care
- Action 9: Foster an improved radiation benefit-risk-dialogue
- Action 10: Strengthen the implementation of safety requirements globally.

C. Epilogue

Considering rapid technological advances, it is expected that the complexity of tasks will only increase. In view of the coming changes RPOP and DMRP will intensify their collaborative efforts to support governments and health professionals in tackling the rising tide of challenges ahead. ◀

IMPCB Accredits Certification Boards in Korea and Hong Kong

Colin G. Orton, IMPCB President



This past year has been a busy one for the International Medical Physics Certification Board (IMPCB). After discussions with the IOMP in late 2014, it was recommended that the IMPCB should be changed from a membership-type organization to an independent board-type organization by eliminating "Members" and replacing them with "Supporting Organizations", with the IOMP designated as the Principal Supporting Organization with three representatives on the Board of Directors. This was approved by the IMPCB Board of Directors in May and a Memorandum of Understanding was signed to this effect by the two organizations in June, 2015.

One of the major activities of the IMPCB is the accreditation of national medical physics certification boards, and the first two such boards to apply

for accreditation were the Korean Medical Physics Certification Board (KMPCB) and the Hong Kong Institution of Physicists in Medicine Medical Physics Certification Board. Their applications were reviewed by the IMPCB Accreditation Committee, which recommended approval of both applications. This was submitted to the IMPCB Board of Directors in August, 2015 and the Board voted to grant conditional approval of accreditation for both boards pending site visits to be conducted in November.

A 1st site visit team was sent to Seoul, Korea and they conducted the site visit there on November 2nd and 3rd. The visitors were Drs. Tomas Kron, Accreditation Committee Chairman, Raymond Wu, Chief Executive Officer, and Colin Orton, President, with Siyong Kim, IMPCB Board ▶



Left: The 1st medical physicist to be certified by the Korean Medical Physics Certification Board, Dr. Jeong-Woo Lee, being presented his certificate by Drs. Colin Orton and Eun-Kyung Choi.

Bottom: Korean Medical Physics Certification Board Officers and site visitors (front row) and the 1st group of medical physicists certified by the new Board (back row).



▶ Member as Consultant. The visitors met with faculty, students, and residents at one graduate and one residency training program and, later, with Executive Committee members of the KMPCB. The site visit team subsequently voted to recommend full accreditation and Dr. Kron informed members of the Accreditation Committee seeking their approval, which they granted. The awarding of accreditation was officially announced on the afternoon of November 3rd at a forum entitled "System Renovation for Safety in the Field of Radiation Medicine" conducted at the Korean National Assembly and supported by the Ministry of Health and Welfare (MHW), the Nuclear Safety and Security Commission (NSSC), the Korean Society for Radiation Oncology (KOSRO), the Korean Society of Nuclear Medicine (KSNM), and the Korean Society of Medical Physics (KSMP). Congratulatory addresses were presented by Sang-Jin Shin, Member of the National Assembly representing the MHW and NSSC, representatives from the Korean Academy of Medical Science and the Korea Institute of Nuclear Safety, as well as KOSRO President Dr. Eun-Kyung Choi, KSNM President

Jae-Tae Lee, as well as Drs. Kron, Wu, and Orton. During this meeting, the first medical physicists to be certified by the KMPCB was presented with their certificates by IMPCB President Colin Orton and KMPCB President Eun-Kyung Choi (see photos).

One week later, a second site visit team conducted the site visit to Hong Kong. This time Drs. Wu and Orton were joined by Accreditation Committee member Dr. Carmel Caruana. As in Korea, the site visitors met with faculty, students, and residents at two facilities, and also with officers of the Hong Kong Institution of Physicists in Medicine (see photo). Subsequently, the visitors recommended full accreditation and Dr. Caruana contacted Dr. Kron and Accreditation Committee members seeking their approval, which was granted. The official announcement was made by Dr. Caruana at a seminar that evening (see photo) with congratulatory remarks from Drs. Caruana, Wu, and Orton.

The IMPCB realized that one of the major reasons Korea and Hong Kong were seeking accreditation of their certification boards was to enhance the

status of medical physicists and, especially, certified medical physicists, in their countries. Consequently, during these visits, the site visitors stressed to government and health care officials attending the various meetings that accreditation is important because it provides assurance to fellow medical professionals (radiologists, radiation oncologists, nuclear medicine specialists, referring physicians, etc.), health care providers and officials and, most importantly, patients and the general public, that certification by the national medical physics certification board meets the highest standards established worldwide. It assures that those certified by the board satisfy educational and training requirements specified by international authorities such as the IAEA and the IOMP. In order to enhance the status of medical physicists and the important role of certification, other national/regional certification boards are encouraged to apply for accreditation by the IMPCB. ◀



Dr. Carmel Caruana making the announcement of accreditation of the Hong Kong Institution of Physicists in Medicine Medical Physics Certification Board.



The site visit team with Officers of the Hong Kong Institution of Physicists in Medicine Medical Physics.

AAPM/IOMP/ISEP Imaging Physics Workshop “Building Foundations for Sound Clinical Practice”

11 – 14 November 2015, Armada Hotel, Petaling Jaya, Selangor, Malaysia

Chai-Hong Yeong, PhD (Workshop Co-Director - Host)

Cheng B Saw, PhD (AAPM/ISEP Chairman and Workshop Co-Director)

Jihong Wang, PhD (Workshop Co-Director - AAPM)

A four-day AAPM/IOMP/ISEP Imaging Physics Workshop was held at the Armada Hotel, Petaling Jaya, Selangor, Malaysia, from 11st - 14th November 2015. The workshop was jointly organized by the Medical Physics Subgroup of Institute of Physics, Malaysia and University of Malaya in collaboration with the International Scientific Exchange Program (ISEP) of the American Association of Physicists in Medicine (AAPM). The workshop was endorsed by the International Organization of Medical Physics (IOMP), Southeast Asian Federation of Organizations for Medical Physics (SEAFOMP), ASEAN College of Medical Physics (ACOMP), Malaysian Association of Medical Physics (MAMP), Malaysian College of Radiology (MCOR), Malaysian Oncological Society (MOS) and Malaysian Society of Radiographers

(MSR). This workshop was approved for Continuing Medical Education credits by the Ministry of Health, Malaysia, Continuing Professional Development (CPD), Medical Dosimetrist Certification Board (MDCB,) and Commission on Accreditation of Medical Physics Education Programs (CAMPEP). This workshop also celebrated the 3rd International Day of Medical Physics, which falls on 7th November annually, to commemorate the birthday of late Madam Marie Curie.

Being the first time held in Malaysia, the workshop hosted six world-leading medical physicists from AAPM: Cheng B Saw, PhD, John M Boone, PhD (President of the AAPM), Geoffrey D Clarke, PhD, Michael O'Connor, PhD, Jihong Wang, PhD and Aaron Kyle Jones, PhD. The

members of the faculty also included three distinguished speakers from the Ministry of Health, Malaysia, Mr. Zunaide B. Kayun @Farni, Mr. Nik Mohamed Hazmi Bin Hj Nik Hussain, and Mr. Ahmad Shariff Bin Hambali.

This focus of this workshop is towards the needs of the medical imaging professionals, including radiologists, oncologists, medical physicists, medical dosimetrists, radiographers, technologists as well as researchers who are involved in the practice of diagnostic, nuclear and oncologic imaging. A comprehensive program which covered most of the recent medical imaging modalities such as digital radiography, mammography, computed tomography, magnetic resonance imaging (MRI), functional MRI, hybrid nuclear imaging and ▶



► image-based radiotherapy and treatment planning was conducted. The theme for the workshop was “Building Foundations for Sound Clinical Practice”. Through an enhanced understanding of the fundamental physics in this rapidly growing specialty, the level of expertise in medical imaging can be elevated to improve the healthcare and wellness of the people in our region, said the organizers.

At the opening ceremony, Dr. Chai-Hong Yeong, the host workshop director gave a brief introduction of the workshop, starting with the background of the AAPM/ISEP sub-committee followed by the introduction of each invited speaker. She then introduced the local organizing committee members and thanked everyone for their efforts in making this workshop a success. She announced that a total of 214 participants had registered in this workshop, of which, 202 participants were from Malaysia and 12 were from other countries including Australia, Brunei, Indonesia, Philippines, Qatar and Singapore. Among the 214

participants, 32% were medical physicists, 27% radiographers, 20% students, 5% researchers, and 16% of other specialties. Officiated the opening ceremony was Prof Dr. Awang Bulgiba Awang Mahmud, the Deputy Vice Chancellor of University of Malaya. Prof Dr. Awang thanked AAPM and IOMP for their generous supports and all the faculty members for travelling all the way from the United States to share their tremendous knowledge in the field of medical physics. According to Prof Dr Awang, medical physics is a relatively young profession in Malaysia. There are currently two institutions offering the Master and PhD programmes of medical physics in Malaysia, namely University of Science Malaysia in Penang and University of Malaya in Kuala Lumpur.

A forum consisting of invited speakers and chaired by Dr. Chai-Hong Yeong on the combined topics of “Accreditation of Qualified Medical Physicists (QMP) in Radiology, Nuclear Medicine & Radiotherapy” and “The Roles of AAPM in Continuing Education of Medical

Physics” was conducted on the last day of the workshop. Due to overwhelming responses from the participants, the forum was extended for an additional half-an-hour. The workshop was closed by a speech from Prof Dr Kwan-Hoong Ng, the local advisor of the workshop.

On behalf of the AAPM/ISEP faculty, the AAPM co-directors wish to thank the host and her staff for their hospitality. The host director also wishes to thank AAPM/ISEP and IOMP for funding this workshop, and SEAFOMP, ACOMP, MAMP, MCOR, MOS and MSR for their endorsements. The willingness of the AAPM faculty to travel to Malaysia to share their knowledge are well-appreciated by the host director and the local committee. Lastly, the organizers would like to express their deepest gratitude to all the sponsors and exhibitors of the workshop. ◀



Photo taken during the opening ceremony of the workshop. Sitting at the first row from the left: Prof. Dr. Awang Bulgiba Awang Mahmud, Assoc Prof Dr. Aaron Kyle Jones, Prof. Dr. Michael O'Connor, Assoc. Prof. Dr. Jihong Wang, Prof. Dr. Azura, Prof. Dr. Geoffrey Clarke, Mr. Zunaide Kayun @Farni, Prof. Dr. Cheng B Saw and Prof. Dr. Norlisah Ramli.

Middle East Federation of Organizations of Medical Physics

Ibrahim Duhaini, Past President of MEFOMP



MEFOMP countries have participated in many activities throughout its territories most of which are done during the International Day of Medical Physics Celebrations. Some of these activities are the following:

1. Lebanon (By Ibrahim Duhaini)

The Lebanese Association of Medical Physicists (LAMP) has celebrated the International Day of Medical Physics and Radiology Day by organizing a Symposium on Tuesday November 10, 2015 at Rafik Hariri University Hospital in Beirut, Lebanon.

The Program included the Following:

1. Welcome Speech, by Ibrahim Duhaini,

MS, Program Organizer

2. What is Radiation Therapy? Wassim Jalbout, PhD, AUBMC

3. Who are the Medical Physicists?

Ibrahim Duhaini, MS, RHUH

4. Radiation, how it works?, Phillip Taddei, PhD, AUBMC

5. Pediatric Imaging Techniques in Radiology, Ahmad Lakkis, MD & Aline Geara, MD, RHUH

6. Radiation Safety in Medicine, Zeina Kattar, PhD, LU

7. Buffet Reception and Gathering

This event was attended by more than 90 participants (Medical Physicists, Radiologists, Radiotherapy Technologist, Radiology Technicians, Nurses, Administrative staff, and other hospital staff) from the following hospitals and Universities in Lebanon:

1. Rafik Hariri University Hospital
2. The American University Hospital
3. Middle East Institute of Health, Bsalem
4. Mount Lebanon Hospital
5. North Medical Center, Zgharta
6. Al Rasoul Alaazam Hospital
7. San George Hospital
8. Lebanese University, Beirut
9. Lebanese University, Saida
10. Lebanese University, Tripoli

After the symposium, all participants

enjoyed the celebration with an open Buffet and gathering. It was the Second time that this occasion has been celebrated together especially that the themes of both events this year stress the importance of Better Medical Physics, Better Care in Radiation Oncology for IDMP and Pediatric Imaging in Medicine for IDR. This event was sponsored by Intermedic. A general meeting for all the Medical Physicists attended was held afterwards and the following were discussed as part of the Lebanese Association of Physicist in Medicine (LAMP) general meeting forum:

1. Evaluation of the general situation of Medical Physicists in Lebanon
2. Planning for new Election for the LAMP officers in 2016 encouraging the junior physicists and lady physicists to have bigger role and involvement.
3. Seeking the Ministry of Health to recognize MP as an official profession in the country.
4. Update on the new technologies in the country.

Below are some photos of the occasion:

2. Qatar (By Dr. Huda Al Naemi)

More than 150 healthcare professionals at Hamad Medical Corporation (HMC) gathered to celebrate the International Day of Medical Physics which aims to raise awareness on the role that medical physicists play in patient care. This was celebrated on 7 and 8 November, 2015 ▶





► in Hamad Medical Corporation, Doha, QATAR. On this day HMC honored the work of healthcare professionals including medical physicists, biomedical engineers, radiographers, oncologists, radiologists, nuclear medicine specialists, technicians and radiation safety officers HMC in collaboration with the Middle East Federation of Medical Physics (MEFOMP) and the European Federation of Organizations of Medical Physics (EFOMP) have organized the workshop in observance of the event, which was initiated by the International Organization for Medical Physics (IOMP).

The scientific program focused on the role of the Medical Physicist in the hospital and the theme of the event this year which is Better "Medical Physics = Better Cancer Care in Radiation Oncology". Oncologist and Medical Physicist from radiation therapy were also part of the scientific program. The opening presentation was given by Dr. Huda Al Naemi, Vice President of Middle East Federation of Medical Physics (MEFOMP) followed by seasoned professionals Ms. Virginia Tsapaki, General Secretary of International Organization for Medical Physics (IOMP), Prof. Abdulla Al-Haj, President of Middle

East Federation of Medical Physics (MEFOMP), Prof. John Damilakis, President of European Federation of Organization in Medical Physics (EFOMP).

By the end of the event one of the qualified Medical Physicist have been awarded as physicist of the year 2015. This award went to Mr. Mahmoud Tarabeih in recognition and appreciation of the contribution he have made to HMC over the year 2015.

3. Oman (by OMPS)

The 3rd IDMP International Day of Medical Physics 2015 Organized by Ministry of Health Royal Hospital. An Exhibition to highlight Medical Physics Activities in the Royal Hospital, Sultan Qaboos University, and Radiation Protection Services Department in Ministry of Health.

The medical physicists from these institutions arranged an Exhibition called 'Medical Physics Open Day' on 8th November, 2015. The Exhibition was inaugurated by Dr. Qasim Al Salmi, Director General Royal Hospital, and many senior consultants from different departments visited the exhibition, and appreciated the medical physics contribu-

tions in the past decades in Oman. There were 10 posters were displayed on service and research contributions by many medical physicists from Radiation Oncology, Nuclear Medicine, Radiation Protection departments, and College of Science participated actively in the display of exhibits.

A slide show highlighted Madame Curie's profile and her contributions to the medical world. 8th November was selected because it coincides with the date of Discovery of X-rays by Prof. Roentgen. An illustration on a decontamination procedure around an Iodine-131 treated patient was shown with practical phantom model. Following photographs illustrate the conduct of the 3rd IDMP Exhibition in Muscat, Oman.

4. Iraq (By Dr. Hassan AbuelAinain)

On behalf of the Iraqi Medical Physics Society (IMPS) members, I would like to congratulate all the IOMP members in the occasion of the IDMP, I wish to all the colleagues more progress and more achievements in the field. I would like to inform you that the IMPS celebrated this day through a workshop in "Radiation Therapy" where many of the Iraqi oncologists and medical physicists attended it on Nov. 7 in Baghdad Medical City/ Radiotherapy Unit. At the beginning of the event, the lecturer Dr. Hassan Shafik Abu Al-Ainain introduced this occasion and he showed the significant role of medical physics in the advancement of radiotherapy and referred to the IDMP theme of this year as reported by the IOMP. ◀



CALENDAR OF EVENTS - Ibrahim Duhaini, Calendar Editor

- ▶ **The 1st Medical Physics Workshop in Computed Tomography**
 When: 31 December 2015 - 01 January 2016
 Where: EDUCATION CENTER (Classroom 1&2), Doha, QATAR
 Organizer: Occupational Health and Safety Department, MEFOMP
 Sponsoring Body: Hamad Medical Corporation, www.hmc.org.qa
- ▶ **National Proton Conference 2016**
 When : Jan 19 – 22, 2016
 Where: New Orleans, LA Roosevelt Waldorf Astoria Hotel, USA
 Website: <http://www.npc2016.org/>
- ▶ **Fundamentals of Medical Physics**
 When: 25 January - 19 February
 Where: Universidad Internacional de Andalucía, Spain
 Sponsoring Body: Spanish Society of Medical Physics (SEFM).
 Language of course: Spanish
 Website: <http://www.sefm.es/fisica-medica/es/formacion/5/fundamentos-fisica-medica-baeza-2016/100>
- ▶ **Winter School of the Canadian Organization of Medical Physicists - Quebec**
 When: Feb 7 – 11, 2016
 Where: Fairmont le Château Montebello, Montebello, QC J0V 1L0, Canada
 Website: <https://www.comp-ocpm.ca/2016-winter-school/>
- ▶ **Int'l Conf. of Nuclear Sciences and Applications and the IRPA-Egypt Radiation Protection Workshop - Egypt**
 When: Feb 20 – 24, 2016
 Where: Hurghada, Qesm Hurghada, Red Sea Governorate, Egypt
 Website: <http://www.irpa.net/page.asp?id=54663>
- ▶ **Workshop on Medical Physics**
 When: 22nd -23rd February 2016
 Where: Dhaka, Bangladesh
 Organizer: Bangladesh Medical Physics Society (BMPS)
 Website: www.bmps-bd.org
- ▶ **European Congress of Radiology - Vienna**
 When: Mar 2 – 6, 2016
 Where: Vienna, Austria
 Website: http://www.myesr.org/cms/website.php?id=/en/ESR_ECR_news.htm
- ▶ **Mexican Symposium on Medical Physics - Mexico City**
 When: Mar 18 – 21, 2016
 Where: Mexico City, Federal District, Mexico
 Website: <http://www.xivmsmp2016.fisica.unam.mx/>
- ▶ **AAPM / ISEP Diagnostic Imaging Symposium - Morocco**
 When: Mar 25 – 28, 2016
 Where: Rabat, Morocco
 Description: AAPM / International Scientific Exchange Programs (ISEP)
 Website: <http://www.asso-ampm.com/isep/>
- ▶ **IEEE Symposium on Biomedical Imaging (ISBI) - Prague**
 When: Apr 13 – 16, 2016
 Where: Prague, Czech Republic
 Website: <http://biomedicalimaging.org/2016/>
- ▶ **IRPA: Int'l Radiation Protection Association Congress - Cape Town**
 When: May 9 – 16, 2016
 Where: Kaapstad, Foreshore, Cape Town, 8001, South Africa
 Website: <http://www.irpa2016capetown.org.za/>
- ▶ **AAPM 58th Annual Meeting & Exhibition - Washington, DC**
 When: Jul 31 – Aug 4, 2016
 Where: Washington, DC, USA
 Website: www.aapm.org
- ▶ **1st European Congress of Medical Physics - Athens**
 When: Sep 1 – 4, 2016
 Where: Athens, Greece
 Website: <http://www.ecmp2016.org/>
- ▶ **47th Annual Meeting of the German Society of Medical Physics (DGMP)**
 When: Sep 7 – 10, 2016
 Where: Würzburg, Germany
- ▶ **The Annual Scientific Meeting, EPSM 2016**
 When: 6 – 10 November 2016
 Where: Sydney, Australia
 Organizer: ACPSEM members in Australia and New Zealand for medical physicists, biomedical engineers and radiopharmaceutical scientists
 Website: <http://epsm.org.au/>
- ▶ **2nd Vietnam Conference for Medical Physics**
 When: November 7, 2016
 Where: Vietman
 Organizer: VAMP
- ▶ **5th Annual Conference of Bangladesh Medical Physics Society (ACBMPS-2016)**
 When: 22nd-23rd November 2016
 Where: Dhaka, Bangladesh
 Organizer: Bangladesh Medical Physics Society (BMPS)
 Website: www.bmps-bd.org
- ▶ **22nd Int'l Conference on Medical Physics (ICMP 2016) - Bangkok**
 When: Dec 6 – 9, 2016
 Where: Bangkok, Thailand
 Website: <http://www.icmp2016.org>

1ST EUROPEAN CONGRESS OF MEDICAL PHYSICS

SEPTEMBER 1-4, 2016
Eugenides Foundation
Athens - Greece

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OF MEDICAL PHYSICISTS
(HAMP)



Welcome Message from Thai Medical Physicist Society



On the behalf of Thai Medical Physicist Society and the local organizing committee, I am pleased to extend our warm welcome to the 22nd International Conference on Medical Physics 2016 held on December 9-12, 2016 at the Shangri-La Hotel, Bangkok, Thailand.

The Theme of the Conference is

"Medical physics propelling global health"

The Conference is hosted by the cooperation of:

- International Organization of Medical Physics (IOMP)
- Asia - Oceania Federation of Organizations for Medical Physics (AFOOMP)
- European Federation of Organizations for Medical Physics (EFOOMP)
- Middle East Federation of Organizations for Medical Physics (MEFOOMP)
- South-East Asian Federation of Organizations for Medical Physics (SEAFOOMP)
- Japanese Society of Radiological Technology (JSRT)
- Thai Medical Physicist Society of Medical Physics (TMPS)
- Thailand Convention & Exhibition Bureau (TCEB)

It is the first time that Thailand hosts the International Conference on Medical Physics (ICOMP) in Bangkok, the 'City of Angels' and the 'Venice of the East' which you can enjoy the Asian culture of the gorgeous temples and Grand Palace along the Chao Phraya River with the fantastic world famous Thai food.

The Scientific and Commercial Exhibition Committee are preparing for the highest scientific and educational quality through lectures, symposium, workshop, proffered papers, e-posters together with the radiological products of advanced technology from every corners of the world.

I wish you participate the coming conference arranged with the Welcome Reception, Lunch Symposium, Scientific and Exhibition sessions with several social programs in December 9-12, 2016 Bangkok, Thailand.

Thank you,

Anchali Kisanachinda

Anchali Kisanachinda, Ph.D.
President, TMPS
November 12, 2015

