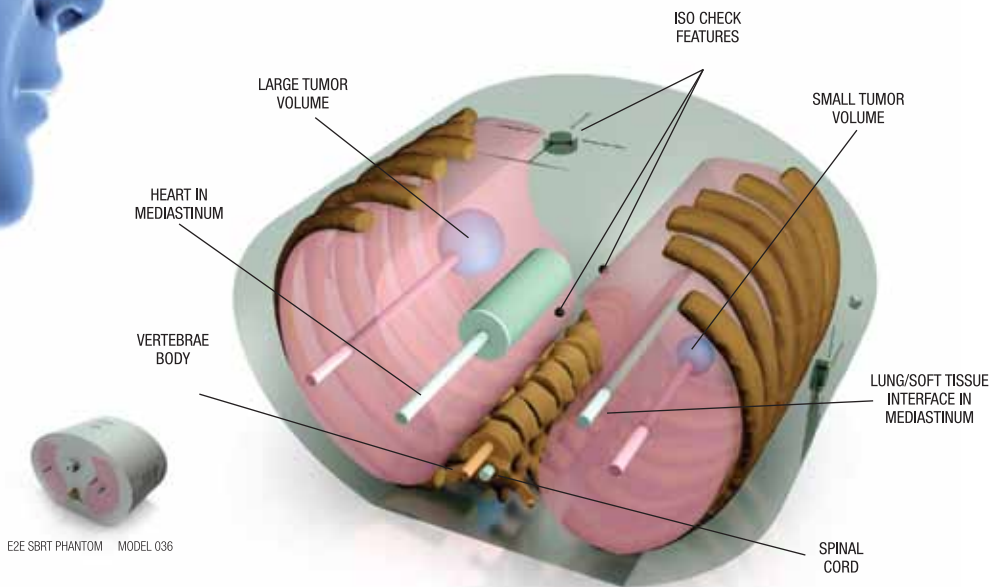




# Site Specific End-to-End SBRT QA



## MEASURE DOSE AT CRITICAL STRUCTURES AND HIGH DOSE-GRADIENT AREAS

The E2E SBRT phantom allows precise measurements within critical structures and high dose-gradient areas using small volume ion chambers. The tissue-equivalent surrogate patient contains anthropomorphic internal anatomy including articulated spine, ribs and lungs.

All materials are suitable for use in kV and MV energy ranges. The phantom is also machined with concentric circle targets, point targets and alignment marks to perform daily systems checks and facilitate phantom positioning.



### CIRS SITE SPECIFIC SBRT PHANTOMS



STE2EV PHANTOM



MODEL 038

DYNAMIC PELVIS PHANTOM



MODEL 008P

DYNAMIC THORAX PHANTOM

MODEL 008A

© CIRS 2013



2428 Alameda Avenue Suite 316 • Norfolk, Virginia 23513 • USA • Tel: 757-855-2765 • [WWW.CIRSIINC.COM](http://WWW.CIRSIINC.COM)



# Medical Physics World

## Table of Contents

1.	Message from the Editor	4
2.	President's Message	5
3.	IOMP Female in Medical Physics Group	6
4.	From Secretary General desk	7
5.	AFROG VII – Conference of the African Radiation Oncology Group	8
6.	From the Awards and Honours Committee	10
7.	The top 3 reasons why we should celebrate the International Day of Medical Physics this year	11
8.	Professional Relations Committee Report	13
9.	CALENDAR OF EVENTS 2014 - 2015	14
10.	Recent Activities of EFOMP	16
11.	8th European Conference of Medical Physics (ECMP 2014), 11-13 September 2014 Athens, Greece, Europe	17
12.	Medical Physics International	18
13.	AFOMP Activity in the Last Six Months	19
14.	FAMPO Second General Assembly in Accra, Ghana – a Short Report	20
15.	DONATION OF USED EQUIPMENT – PRC REPORT FOR Jan-Jun 2014	21
16.	Another Successful Event for the Radiation Protection Society	21
17.	MEFOMP Activities during the last 6 months	22
18.	Workshop on the Physics of Advanced Radiotherapy Techniques: The Role of Medical Images	25
19.	What is the CERN-HERMES network?	27

## IOMP NMOs

### National Member Organisations

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

# Message from the Editor

Virginia Tsapaki, Chair Editor eMPW



Dear friends and colleagues,

Welcome to the July edition of the eMPW Newsletter. The editorial board has once more tried its best to gather for you a wide range of fascinating publications. This is the second year of International Day of Medical Physics (IDMP). Our front page has one of the IDMP posters in order to remind and drive national member organizations (NMOs) to start planning IDMP activities. The eMPW welcomes reports on NMO initiatives to this direction and is planning to publish in its next issue. If you are planning to have such an activity please share it with us and send us pictures and relevant information to inform our readers. This will be a great way not only to raise awareness within the local community but will also drive other NMOs to work in this respect. Following successful presence of IOMP in the European conference of Radiology (ECR) last year it was decided to continue in 2014. IOMP had again a booth in ECR. A big banner with information on NMOs as well as regional organizations but also the mission statement of IOMP was produced for this purpose. Free issues of

eMPW were distributed to show the work of IOMP to radiologists, medical physicists and other professions during the conference. Leaflets on various activities of IOMP were also distributed all through the conference. eMPW was also present in the International Conference of Radiation Protection held in Varna in the end of May. Similar activities are being planned for the Annual meeting of AAPM in Austin, USA this month.

We must not forget that IOMP is not only its officers or ExCom members but is also its regional and national member organizations. A number of regional organizations such as EFOMP, AFOMP, MEFOMP and FAMPO report on their latest activities in this issue. Most of you know the CERN but how many of you know what is the CERN-HERMES network? Learn all about this network in this issue of eMPW! Do not forget that we value your feedback so please do not hesitate to contact us if you would like to make any suggestions or submit brief papers on your scientific or educational work that would be of interest to our members. Let me remind you our Calendar Editor, Ibrahim Duhaini (duhaini@yahoo.com). Please contact him for scientific or international events so as to be included in eMPW. ◀



## MPW/eMPW

### Editorial Board

Virginia Tsapaki, Chair Editor  
 Medical Physics Department  
 Konstantopoulou General Hospital  
 3-5 Agias Olgas Str, Nea Ionia, Athens, Greece  
 Tel: +30-2132-057-132  
 virginia@otenet.gr

Dr. Magdalena Stoeva, Associate Editor  
 Medical Imaging Dept., Medical University  
 15A V. Aprilov Blvd, Plovdiv, Bulgaria  
 ms\_stoeva@yahoo.com

Dr. KY Cheung  
 Medical Physics & Research Department  
 Hong Kong Sanatorium & Hospital  
 Happy Valley, Hong Kong, China  
 Tel: +852 28357002, Fax: +852 28927557  
 kycheung@hksh.com

Dr. Slavik Tabakov  
 Dept. Medical Engineering and Physics  
 King's College London, United Kingdom  
 Tel. & Fax +44 (0)20 3299 3536  
 slavik.tabakov@emerald2.co.uk

Dr. Ibrahim Duhaini, Calendar Editor  
 CEO and General Manager  
 Radiation Experts Group  
 Cell: 00961 3656354  
 duhaini@yahoo.com

Dr. Madan Rehani  
 Director, Radiation Protection  
 European Society of Radiology, Vienna  
 Ex-Professor of Medical Physics  
 & Ex-staff of the IAEA, Vienna  
 Tel.: +43-676-3407850,  
 sg.iomp@gmail.com

Dr. Anchali Krisanachinda  
 Department of Radiology, Faculty of Medicine  
 Chulalongkorn University  
 Rama IV Road, Bangkok 10330, Thailand  
 Tel: +66 2 256 4283, Fax: +66 2 256 4162  
 kanchali@yahoo.com

Prof. A.W.K Kyere  
 Head of Department of Medical Physics  
 Graduate School of Nuclear and Allied Sciences  
 SNAS, University of Ghana, Legon, Ghana  
 Tel: 0208147520  
 kwaamkyere@yahoo.com

# 2014 will be an exciting year for IOMP! IOMP ExCom

## President's Message

**Kin Yin Cheung**



Medical physicists in healthcare have the responsibility to address radiation safety issues in the clinics. They support radiologists, radiation oncologists and referring physicians by providing professional advice with supporting scientific data if needed on justification of radiological procedures, radiation dose optimization and protection measures. They also provide counseling service to patients receiving medical exposures to address any radiation safety concerns they may have. The professional competence and standard of practice of medical physicists is important in the discharge of such duties effectively. The professional competence of the regulators on radiation protection is equally important in healthcare. Regulators have a tendency of setting stringent requirements on

regulatory control on safe use of ionizing radiation, quite often not for safety reasons. They are proud to inform the public that they have adopted the highest safety standard in the world. The ALARA principle is often not practiced appropriately in some countries. In searching through the internet, one may notice the vast differences in regulatory requirements on dose rate outside radiological equipment rooms in different countries. Some countries demand that such facility be shielded to meet the instantaneous dose rate limits as low as 3 uSv per hour in any public accessible area in addition to annual dose limits, while in some countries only annual dose limits are specified. The latter is in line with IAEA and ICRP recommendations. For radiological equipment that operates infrequently in the clinics, the application of an instantaneous dose rate limit of 3 uSv per hour in shielding design would lead to excessive shielding, a requirement that most often is completely out of proportion with the annual dose limit and background radiation. The large variation in regulatory requirements on radiation shielding in different countries is rather unsatisfactory. This may be due to the differences in interpretation and adaptation of the international safety standards. In a debate on whether an instantaneous or a time-averaged dose rate limit should be adopted as a regulatory requirement in the ▶

[www.IOMP.org](http://www.IOMP.org)

### IOMP OFFICERS

**President Dr. Kin-Yin Cheung**  
 Medical Physics & Research Department  
 Hong Kong Sanatorium & Hospital  
 Happy Valley, Hong Kong, China  
 T: +852 28357002, F: +852 28927557, E: [kycheung@hksh.com](mailto:kycheung@hksh.com)

**Vice President Dr. Slavik Tabakov**  
 Dept. Medical Engineering and Physics  
 King's College London - School of Medicine, Faraday Building  
 King's College Hospital, London SE5 9RS, United Kingdom  
 T&F: +44 (0)20 3299 3536, E: [slavik.tabakov@emerald2.co.uk](mailto:slavik.tabakov@emerald2.co.uk)

**Secretary General Dr. Madan Rehani**  
 Director, Radiation Protection,  
 European Society of Radiology, Vienna  
 Ex-Professor of Medical Physics & Ex-staff of the IAEA, Vienna  
 T: +43-676-3407850, E: [sg.iomp@gmail.com](mailto:sg.iomp@gmail.com)

**Treasurer Dr. Anchali Krishanachinda**  
 Department of Radiology, Faculty of Medicine  
 Chulalongkorn University  
 Rama IV Road, Bangkok 10330, Thailand  
 T: +66 2 256 4283, F: +66 2 256 4162, E: [kanchali@yahoo.com](mailto:kanchali@yahoo.com)

**Past President Prof. Dr. Fridtjof Nuesslin**  
 Klinik für Strahlentherapie Klinikum Rechts der Isar  
 der Technischen Universität München, Germany  
 E: [nuesslin@lrz.tu-muenchen.de](mailto:nuesslin@lrz.tu-muenchen.de)

### IOMP CHAIRS

**Science Committee Prof. William Hendee**  
 University of Wisconsin, Wisconsin, MA, USA  
 E: [whendee@mcw.edu](mailto:whendee@mcw.edu)

**Education & Training Prof. John Damilakis**  
 University of Crete, Iraklion, Crete, Greece  
 E: [John.Damilakis@med.uoc.gr](mailto:John.Damilakis@med.uoc.gr)

**Professional Relations Dr. Raymond Wu**  
 St. Joseph's Hospital, Phoenix, AZ, USA  
 E: [RayKWu@GMail.com](mailto:RayKWu@GMail.com)

**Publications Committee Prof. Tae Suk Suh**  
 Catholic Medical Center, Seoul, Korea  
 E: [suhsanta@catholic.ac.kr](mailto:suhsanta@catholic.ac.kr)

**Awards and Honours Dr. Tomas Kron**  
 Peter McCallum Cancer Centre  
 Melbourne, Australia  
 E: [tomas.kron@petermac.org](mailto:tomas.kron@petermac.org)

**MPW Board Dr. Virginia Tsapaki**  
 Konstantopoulou General Hospital, Athens, Greece  
 E: [virginia@otenet.gr](mailto:virginia@otenet.gr)

▶ country, a regulator advocating the former used the speed limit in the traffic ordinance as a justifying argument. His logic was that radiation shielding should be controlled in the same manner as speeding on the road. He emphasized that radiation risk would become unacceptable when a time averaged dose rate limit was used because this would allow a high dose rate for a short period of time. This indicates that some regulators do not really understand the principles behind dose limit and health effect of radiation at this low dose level. The implementation of excessive stringent radiation shielding requirements in some countries can only jack up the cost of radiation medicine in these countries unnecessarily. Room shielding is much more demanding if instantaneous dose rate limit is used as a shielding design condition. In such

case, parameters such as workload, duty cycle, use factor, and occupancy factor are not taken into account in the shielding calculations, and this would lead to a significantly increase in room shielding cost. This is inappropriate application of the ALARA principle in radiation protection and is a failure in optimizing the use of resources in healthcare. It is interesting to notice that countries that have the most stringent shielding requirements are not the most developed countries. The concept and principles of radiation protection should be put to the right perspective and correctly applied in healthcare. International standards and guidelines on radiation safety are published by IAEA in International Basic Safety Standards and in related IAEA guidance documents. Application of sound professional judgment and proper

optimization in the use of radiation resources in healthcare, especially in resource limited countries, is essential for optimum patient benefits. This goal is possible only if correct interpretation and application of the radiation protection principles is exercised by both legislators and radiation users in the clinics. While appropriate training for all relevant regulatory and healthcare professionals is important, a good dialogue and collaboration between medical physicists, health physicists and regulators can help formulating the appropriate adaptation of the International Basic Safety Standards in healthcare. IOMP in collaboration with IAEA, WHO, IRPA, and its national member organizations will have an important role to play on this issue. ◀

## IOMP Female in Medical Physics Group

**Magdalena Stoeva, Associate Chair, IOMP Female Group**



Medical Physics is among the fastest progressing scientific and practical areas. Historically women played an important role in the field of physics,

contributing to some of the leading achievements in the area. IOMP is working towards strengthening the role of the females in our professional society. A step towards achieving this is the formation of IOMP Female group.

The IOMP Female Group's objective is in compliance with the main IOMP mission and directive directives to advance medical physics practice worldwide by disseminating scientific and technical information, fostering the educational and professional development of medical physicists, and promoting the highest quality medical services for patients.

IOMP Female Group functions are directed towards:

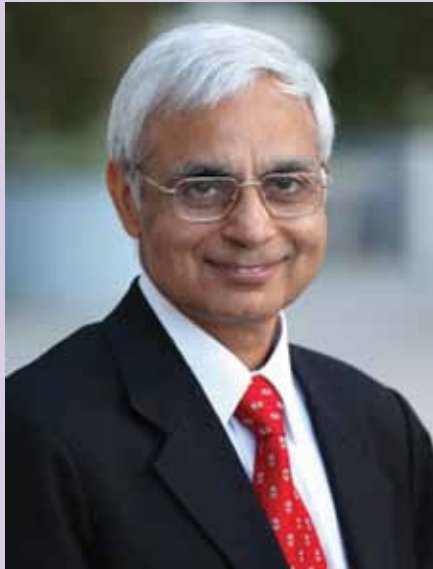
- Development, implementation and

coordination of tasks and projects related to the role of females in medical physics scientific, educational and practical aspects.

- Dissemination of the experiences, good practices and learning within IOMP NMOs and other relevant accessible areas/across the globe.
- Popularizing the role of the women in medical physics and encouraging female medical physicist to advance in the profession.
- Organizing international cooperation in medical physics and related specialties.
- Providing regular status/progress updates to the IOMP on all tasks and projects related to the IOMP Female Group. ◀

# From Secretary General desk

**Madan M Rehani, PhD, IOMP Secretary General**



The preparations for the World Congress (wc2015.org) which will be held on 7-12 June 2015 in Toronto have begun. Paper submission will open in September 2014. Submission deadline will be in January 2015. Further details including submission guidelines and categories will be available in July 2014 itself. Please keep a watch on the conference website.

We are planning to have two meetings of ExCom (one with old ExCom and another with new), two meetings of Council combined with General Assembly, meetings with IAEA, WHO, regional organizations, AAPM and meetings of each committee of IOMP. There will be Presidential Reception where awards other than Marie Curie and Harold medal shall be presented. Major awards shall be presented during opening of the conference.

IOMP has already sponsored or endorsed 7 scientific events in 2014. If more applications are received, they will be dealt with expeditiously. The

information about IOMP support is available at <http://www.iomp.org/?q=node/101>.

You are encouraged to utilize opportunity of IOMP endorsement or sponsorship in accordance with norms.

In 2013, IOMP established IOMP fellowship. First batch of Fellows of IOMP were awarded in International Conference on Medical Physics (ICMP) held in Brighton 1-4 Sept 2013. Guidelines for FIOMP are available at <http://www.iomp.org/sites/default/files/fellow-of-iomp-guidelines.pdf>

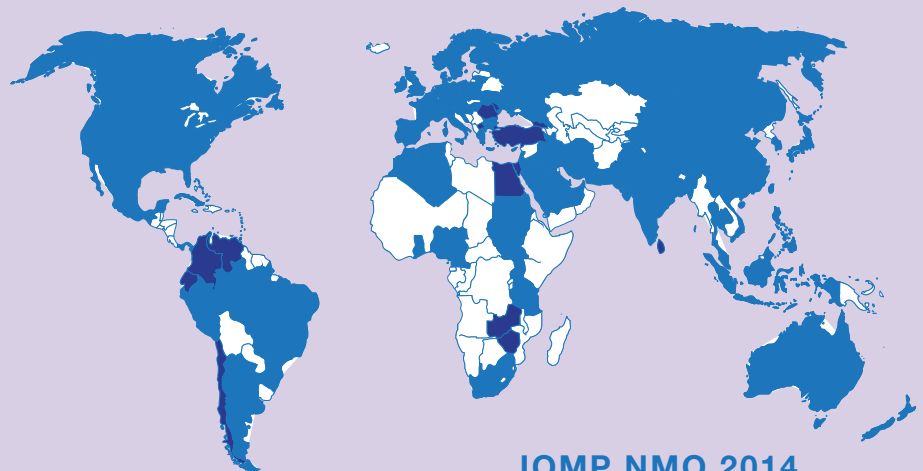
To recognise significant contributions to the objectives of IOMP by persons who are not practicing Medical Physicists themselves, the IOMP Awards and Honours Committee has now prepared guidelines that are being debated within ExCom. This follows decision taken by the IOMP Council in its meeting in wc2012 at Beijing, in which the award was agreed in principle. The guidelines will be submitted to IOMP Council soon.

The extended deadline for submission of bids to host 21st International Conference on Medical Physics was over on 30th May. Two bids were received till 30th May and one on 31st May. The recommendations of the review committee shall be submitted to the Council for voting in coming weeks.

There has been regular and timely release of electronic Medical Physics World (eMPW) and Medical Physics International journal. Please see respective reports to have more information or visit IOMP website where all issues are available for free download. The reports of each Committee of IOMP are also available in issues of eMPW.

You are encouraged to visit page of International Day of Medical Physics (IDMP), which is being celebrated in many countries on 7th November 2014.

We wish to have your participation in various activities of IOMP. Please feel free to write to me at [sg.iomp@gmail.com](mailto:sg.iomp@gmail.com). ◀



**IOMP NMO 2014**

# AFROG VII – Conference of the African Radiation Oncology Group

Fridtjof Nuesslin

Past President IOMP



As layed down in its Constitution the objectives of the AFROG among others are promoting (i) the professions dealing with radiation oncology on the African continent, (ii) the co-operation and communication, (iii) the practices related to Radiation Oncology and Medical Physics within the region, (iv) the training of professionals in Radiation Oncology and Medical Physics, and (v) research & development in Radiation Oncology, Medical Physics and Radiation Therapy techniques and practice. Membership of AFROG includes Radiation Oncologists, Medical Physicists and Radiation Therapy Technologists, Engineers and Technicians. Good reason for IOMP with its focus on Africa to engage with AFROG. There is already a close link between AFROG and the IOMP Regional Organization FAMPO which as co-organizer is yet

well represented in all AFROG conferences (e.g. invited speakers, topical sessions on medical physics subjects, incorporation of FAMPO Council meeting).

The AFROG-Conferences are traditionally organized in collaboration with the IAEA. The AFROG-VII was hosted by Dr. Joel Yearney, National Centre for Radiotherapy and Nuclear Medicine, Korle-Bu Hospital, Accra, Ghana.

The thematic guideline of the program (10 to 11 April 2014) was Improving Quality of Life of Cancer Patients through Innovative Treatment. Sessions on Innovative Treatment, Access to Cancer Treatment, and Palliative Care were included. Additional sessions with proffered papers from radiation Oncology and Medical Physics were organized, mainly presented by speakers from Africa (Egypt, Tanzania, Nigeria, Morocco, Cameroon, Zimbabwe, Ghana, Uganda, Malawi). The conference was attended by about 100 delegates.

Anticipating a separate report from FAMPO later, here just a brief information on Medical Physics in Ghana as I could pick up from discussions at the tea-breaks and of course the wonderful pool party at the conference hotel. Particularly, I am grateful to Dr.Cyril Schandorf who kindly provided me with some material. He expressed clear wishes for a closer cooperation of the Ghana Society for Medical Physics (GSMP) with IOMP and FAMPO in

performing the already established Ghana Medical Physics Education & Training Program. I am citing from his recent email-response:

The collaborating Institutions for Medical Physics programme are: Ghana Atomic Energy Commission; School of Nuclear and Allied Sciences, University of Ghana, The Two teaching Hospitals in Ghana and Sweden Ghana medical Centre Ltd.in collaboration with IAEA. The degree is awarded by the University. The two years MPhil Medical Physics programme started in 2006.

Statistics of Students who have graduated : 2006- 2012 ,24 have graduated ; 2012/2013 intake 11 ; 2013/14 intake 13.

The Ghana Society for Medical Physics(GSMP) is also active and has been able to get Medical Physics recognized as part of the Allied Health Professions under the Allied Health professional Council of Ghana governed by the Health Professions Regulatory ACT, Act 857 of 2013. Under this Act we are working on Medical Physics practice regulatory standards , code of ethics etc. The Society celebrated the International Day of Medical Physics for 2013.

The Modalities for the certification of Qualified Medical Physicists is being pursued by the GSMP , and Allied Health professional Council of Ghana.

During the AFROG and particularly the FAMPO Council meeting I was impressed how well FAMPO and ▶



▶ some national medical physics organizations are developing. It is fascinating to learn about the wide ranging actions of the Education and the Scientific Committee of FAMPO. Also several national activities in the African Region are remarkable. For instance, it is quite surprising to note the successful implementation of a MSc-Program in Medical Physics in Ghana (see Appendix). However, many African countries suffering from the limited financial and staffing resources still need engagement of the international community to establish sustainable infrastructure for science and educational programs. In this context, the essential support by the IAEA is a most valuable and efficient activity.

Of course collaboration of IOMP and FAMPO with AFROG matches perfectly the important long term initiative of the IOMP to advance Medical Physics in Africa (see S.Tabakov, "IOMP PROJECT SUPPORTING THE DEVELOPMENT OF MEDICAL PHYSICS IN AFRICA", Med.Phys.International 2013). In fact, the IOMP, particularly the Working Group on Medical Physics in Africa, FAMPO and the internationally operating organizations like the IAEA and the WHO are facing enormous challenges indeed. ◀

#### ▶ Appendix:

#### Ghana Society for Medical Physics – Master Program Medical Physics (from Cyril Schandorf)

MASTER OF PHILOSOPHY (M.PHIL) IN MEDICAL PHYSICS  
ADMISSION REQUIREMENTS

i. The minimum qualification for this programme is a good first degree (at least a second class lower division) in Physics from any approved University.

ii. A candidate who does not satisfy the requirement in an appropriate field of study as above but is otherwise adjudged suitable by virtue of appropriate experience will be considered.

YEAR 1. COURSE CODE COURSE TITLE CREDITS

MPHY 601: Selected topics in Anatomy, Physiology and Chemistry 4

MPHY 605: Radiation Physics 2

MPHY 607: Radiobiology and Radiation Protection 3

MPHY 609: Electronics, Instrumentation, Signal Analysis, Imaging and Display 3

NSAP 613 Research Methods and Scientific Communications 2

MPHY 611: Dosimetry for Photon and Electron Beams 4

MPHY 613: Practicals in Radiation Dosimetry 3

MPHY 615: Practicals in Radiotherapy 3

MPHY 602: Ultrasonics, Theory, Instrumentation and Practice 2  
MPHY 604: NMR Spectroscopy and Imaging 3  
MPHY 606: X-Rays and Diagnostic Radiology 3  
MPHY 608: Nuclear Medicine 3

MPHY 612: Radiotherapy 4

MPHY 614: Applications of Digital Computers, Lasers And Ultraviolet radiation in Medicine, 2

MPHY610: Seminar 1 3

SNAS 602: Nuclear Law & Legislation 2

SNAS 604 Quality Management in Testing Laboratories 3

MPHY 613 AND MPHY 615 are Inter-Semester break practicals

YEAR 2. COURSE CODE COURSE TITLE CREDITS

MPHY 600: Thesis 30

MPHY620: Seminar 2 3

MPHY 630: Clinical Practice in Radiotherapy, Diagnostic Radiology and Nuclear Medicine at the Hospital 4

Total Credits in year 1: (including practicals) 46

Total Credits in year 2: (including practicals) 37 ◀



## From the Awards and Honours Committee

Tomas Kron, Chair Awards and Honours Committee



The main objective of awards is to recognise publically the significant achievements of a person or a group. They often express gratitude for supporting the objectives of an organisation and as such implicitly promote both the awardee and the objectives of the organisation giving the award. This is similar within IOMP and the Awards and Honours Committee is discussing ways how we can acknowledge all the persons who have supported IOMP over the years.

This must include persons from other professions and we did not have an appropriate means to recognise these people. In recognition of this issue the AHC is proposing a new award for persons who have contributed significantly to the objectives of IOMP without actually practicing as a medical physicist themselves. What better way to recognise these individuals than making them 'honorary medical physicists' or more explicitly 'Honorary Member of IOMP' or MIOMP(Hon) for short. As such, the AHC is proposing to MIOMP(Hon) as an award that recognises significant contributions to the objectives of IOMB by persons

who are not Medical Physicists themselves. It is anticipated that the award would be given at the Medical Physics and Biomedical Engineering World Congress and announced in eMedical Physics World

In addition to this new recognition we are delighted to call for nominations from the two existing highest honours within IOMP: The Marie Sklodowska-Curie Award and The Harold Johns Medal.

The Marie Sklodowska-Curie Award was established to honour scientists who have distinguished themselves by their contributions in 1. Education and training of medical physicists, medical students, medical residents, and allied health personnel; and/or 2. Advancement of medical physics knowledge based upon independent original research and/or development; and/or 3. Advancement of the medical physics profession in the IOMP adhering national and international organizations.

The Harold Johns Medal honours scientists who have distinguished themselves through excellence in teaching and contributions to international education.

Both awards are given triennially at the World Congress on Medical Physics and Biomedical Engineering, the next being in Toronto, June 7-12, 2015. Nominations should be made – preferably through IOMP's regional organisations or its officers – to the Chair of the IOMP Awards and Honours Committee by the International Day of Medical Physics, November 7, 2014. Nominations should include supporting material such as a curriculum vitae and a statement supporting the nomination.

Finally, this gives me an opportunity to remind everyone of the IUPAP Young Scientist Award in Medical Physics 2014. The award which was established by the International Union of Pure and Applied Physics recognises original and/or applied work of outstanding scientific quality in medical physics by a younger member of our profession. Details on the IOMP webpage.

As always, please do not hesitate to contact any member of the AHC for ideas, suggestions or comments. ◀



# The top 3 reasons why we should celebrate the International Day of Medical Physics this year

John Damilakis, Chair, IOMP Education and Training Committee



To raise awareness of our profession, the International Organization for Medical Physics celebrates annually the International Day of Medical Physics (IDMP) on November 7. The theme of IDMP 2014 is 'Looking into the Body: Advancement in Imaging through Medical Physics'. Here are the top 3 reasons why we should celebrate the IDMP this year.

**1. Reason # 1. Inform the public.** Medical Physicists have invented Computed Tomography, MRI and PET. Medical Physicists have developed various medical X-ray and ultrasound techniques. It is true that Medical Physicists contribute significantly to patient care and ensure quality in medical imaging. It is also true that Medical Physicists educate and train healthcare professionals in medical radiation protection and medical technology. Nevertheless, the general public is not aware of the critical role medical physicists play in providing services in medical, educational and research institutions in radiation medicine. It is important to inform the public, on the responsibilities of medical physicists

and draw attention of the media to the important role that medical physics play in the health care system in general and especially in medical imaging.

**2. Reason #2. Inform the health services managers.** Without a clinically qualified medical physicist, the implementation of imaging procedures can lead to the following events: a) the patient may receive higher dose than required for medical diagnosis and b) the medical staff and the public might be in danger of radiation exposure. According to international recommendations, there should be an adequate number of medical physicists to support medical imaging. IDMP is a good opportunity to explain health services managers and decision makers the role of Medical Physicists in medical imaging, explain why the services of Medical Physicists contribute to the cost-effective operation of the

institution and ask them to hire medical physicists for quality assurance, radiation protection and optimization of imaging procedures.

**3. Reason #3. Attract the best students to 'Physics of Medical Imaging'.** Medical imaging is an exciting scientific field. Medical Physics has a longstanding relationship with Radiology and Nuclear Medicine. Radiology and Nuclear Medicine could not exist without the contribution of Medical Physics and the development of new imaging techniques and Medical Physics could not innovate without clinical direction. IDMP is an opportunity for us to give lectures for undergraduate physics students who want to explore the physics of medical imaging. If we want a bright future for medical imaging, it's time to attract the best physics students to study Medical Physics. ◀

## The Latest Books in Medical Physics and Biomedical Engineering

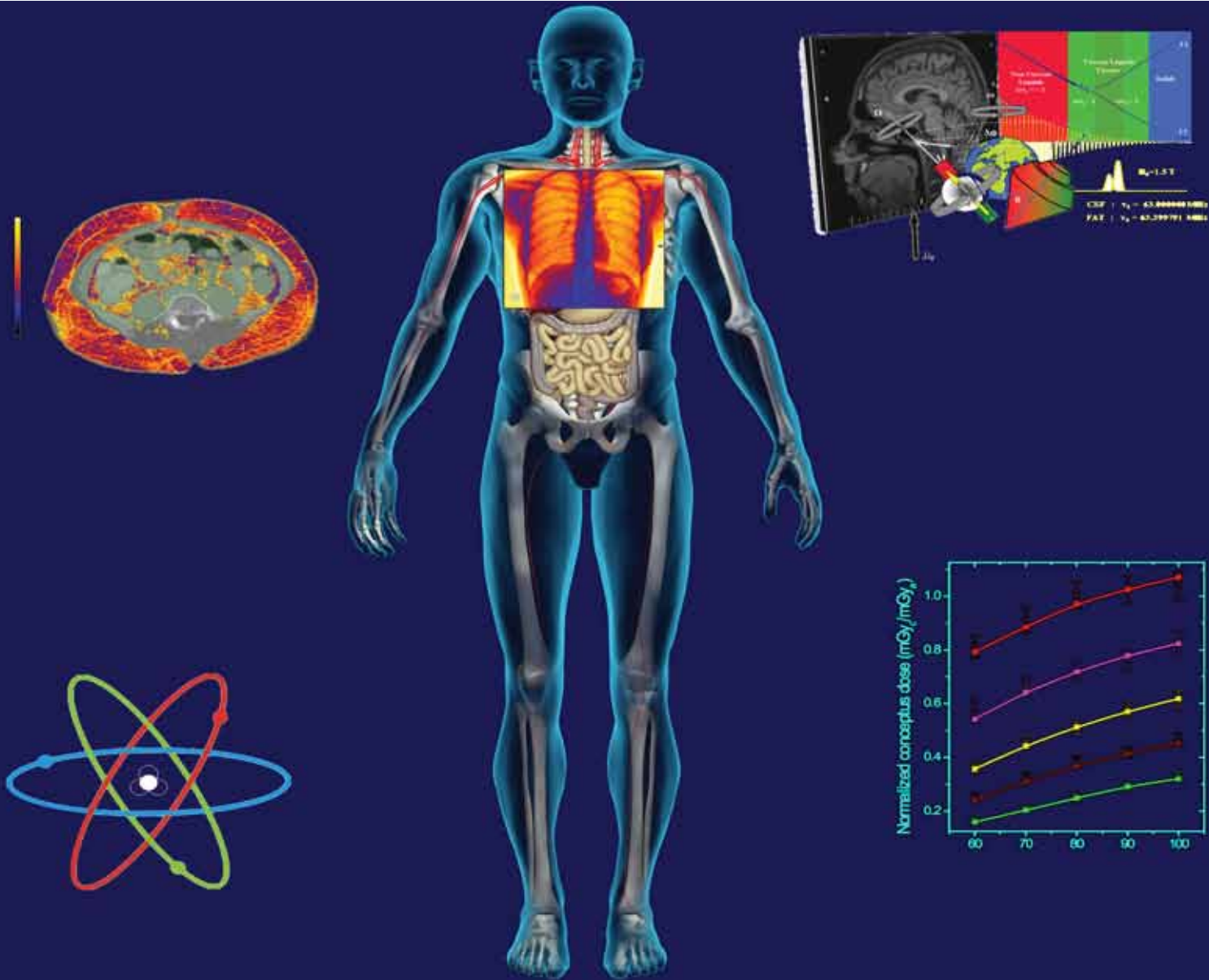
Click for details about each book.

Enter code **DZM10** when ordering at [www.crcpress.com](http://www.crcpress.com) to save 25%.

View more books from the [Series in Medical Physics and Biomedical Engineering](#).

If you have a book proposal for the series, email Francesca McGowan at [Francesca.McGowan@tandf.co.uk](mailto:Francesca.McGowan@tandf.co.uk).

[WWW.CRCPRESS.COM](http://WWW.CRCPRESS.COM) CRC Press  
Taylor & Francis Group



# International Day of Medical Physics

## November 7, 2014


Looking Into the Body - Advancement in Imaging  
through Medical Physics



International Organization for Medical Physics

 Like us on Facebook



@intDayofMedPhys 



# Professional Relations Committee Report

Raymond Wu, PhD, PRC Chair



## IMPCB

PRC has worked hard in the past few years for a way to mark the achievements of clinical medical physicists who have fulfilled the requirements in education and training as described in Policy Statements No. 1 and 2. For this goal the International Medical Physics Certification Board was formed on May 23rd, 2010. It took the subsequent two years to write the By-Laws, create guidelines for certification, and incorporate to be recognized as a legal entity. Towards the end of last year, the new organization elected its first team of officers and board (BOD) members. The lists of the leadership team and the committee and subcommittee members are available on its official website [www.IMPCB.org](http://www.IMPCB.org). The 21 elected office holders held a virtual meeting, chaired by Colin Orton in January, and resolved several important issues on the agenda. The approved minutes may be obtained by addressing the organization directly. Some highlights include the approval to form three subcommittees under the Accreditation Committee to be chaired by Tomas Kron. The charge is to establish guidelines and procedures to evaluate national certification programs applying for accreditation based on the Model

Certification Program Part I, Part II, and Part III requirements, and to prepare operation details such as check lists for evaluation, cost effective methods to do evaluations, and etc. Another resolution is to task the Finance committee to determine how much IMPCB should charge the 1-time fee when national organizations apply to join as new regular members. The BOD accepted the report of the Nomination and Election Committee which includes the deadline of July 31st to present the slate to the BOD. Later in May, the BOD adopted the new logo as shown here.



## HINARI (Programme for Access to Research in Health)

As mentioned in the article about HINARI in the December issue of eMPW, The PRC and PC have been working with the WHO staff Kimberly to make the web resources more useful for medical physicists. One of the tasks we are working on is to recommend several medical physics scientific journals for inclusion in HINARI. Currently, there are four such journals already included: BMC Medical Physics, Journal of Applied Clinical Medical Physics, Journal of Medical Physics (India), and Medical Physics International. These four are easy since they are open access journals. HINARI has a Publisher Liaison who will do much of the work contacting the editors and publishers to make possible

“Group A” medical physicists free access of full texts of scientific publications while protecting the business interest of the publishers. We are inviting suggestions of scientific journals. Since the last issue of the eMPW, we have collected a list of journals to recommend to HINARI for inclusion. I am listing a few here: Annals of the ICRP, Australasian Physical & Engineering Sciences in Medicine, British Journal of Radiology, European Journal of Nuclear Medicine, Health Physics, IJROPB, Journal of Magnetic Resonance Imaging, Medical Dosimetry, Medical Physics, Physics in Medicine and Biology, Radiotherapy Oncology, Technology in Cancer Research and Treatment, etc.

## International Libraries

In the previous issue of eMPW, it was mentioned that the Curator is continuing the effort of updating the active libraries with additional books, and removing from the list the inactive libraries. Since then a new library was established in Tallinn, Estonia. The contact person is Eduard Gershkevitsh, Ph.D. The books had been shipped directly from IPEM, UK to him. Additional shipments are being planned for contact persons of the active libraries: Dr Hasin Anupama Azhari of Bangladesh, Maria Cristina Plazas of Colombia, Dr Chougule of India, Mohammad Toossi of Iran, Dr. Wassim Jalbout of Lebanon, Nisa Chawapun of Thailand, Axel Tibinyane of Namibia, Dr. Ricardo Contreras of Guatemala, Prof Ye-cho Huang of China, and Antonio Almonte of Republica Dominicana when shipping fund is available. Some of the book shipments are already on the way. The Curator is in the process of establishing a new library requested by Dr Francis Hasford of Ghana.





# 2014

# 2015

July 2014							August 2014							September 2014							October 2014							November 2014							December 2014																			
No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa							
27			1	2	3	4	5	31						1	2	36			1	2	3	4	5	6	40					1	2	3	4	44							1	49							1	2	3	4	5	6
28	6	7	8	9	10	11	12	32	3	4	5	6	7	8	9	37	7	8	9	10	11	12	13	41	5	6	7	8	9	10	11	45	2	3	4	5	6	7	8	50	7	8	9	10	11	12	13							
29	13	14	15	16	17	18	19	33	10	11	12	13	14	15	16	38	14	15	16	17	18	19	20	42	12	13	14	15	16	17	18	46	9	10	11	12	13	14	15	51	14	15	16	17	18	19	20							
30	20	21	22	23	24	25	26	34	17	18	19	20	21	22	23	39	21	22	23	24	25	26	27	43	19	20	21	22	23	24	25	47	16	17	18	19	20	21	22	52	21	22	23	24	25	26	27							
31	27	28	29	30	31			35	24	25	26	27	28	29	30	40	28	29	30					44	26	27	28	29	30	31		48	23	24	25	26	27	28	29	53	28	29	30	31										
								36	31							41	31							46	31							54	31																					

January 2015							February 2015							March 2015							April 2015							May 2015							June 2015																	
No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa					
1				1	2	3		6	1	2	3	4	5	6	7	10	1	2	3	4	5	6	7	14					1	2	3	4	18						1	2	23						1	2	3	4	5	6
2	4	5	6	7	8	9	10	7	8	9	10	11	12	13	14	11	8	9	10	11	12	13	14	15	5	6	7	8	9	10	11	19	3	4	5	6	7	8	9	24	7	8	9	10	11	12	13					
3	11	12	13	14	15	16	17	8	15	16	17	18	19	20	21	12	15	16	17	18	19	20	21	16	12	13	14	15	16	17	18	20	10	11	12	13	14	15	16	25	14	15	16	17	18	19	20					
4	18	19	20	21	22	23	24	9	22	23	24	25	26	27	28	13	22	23	24	25	26	27	28	17	19	20	21	22	23	24	25	21	17	18	19	20	21	22	23	26	21	22	23	24	25	26	27					
5	25	26	27	28	29	30	31									14	29	30	31					18	26	27	28	29	30			22	24	25	26	27	28	29	30	27	28	29	30									

July 2015							August 2015							September 2015							October 2015							November 2015							December 2015																
No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa	No.	Su	Mo	Tu	We	Th	Fr	Sa				
27			1	2	3	4		31						1	36			1	2	3	4	5	40					1	2	3	4	45	1	2	3	4	5	6	7	49					1	2	3	4	5		
28	5	6	7	8	9	10	11	32	2	3	4	5	6	7	8	37	6	7	8	9	10	11	12	41	4	5	6	7	8	9	10	46	8	9	10	11	12	13	14	50	6	7	8	9	10	11	12				
29	12	13	14	15	16	17	18	33	9	10	11	12	13	14	15	38	13	14	15	16	17	18	19	42	11	12	13	14	15	16	17	47	15	16	17	18	19	20	21	51	13	14	15	16	17	18	19				
30	19	20	21	22	23	24	25	34	16	17	18	19	20	21	22	39	20	21	22	23	24	25	26	43	18	19	20	21	22	23	24	48	22	23	24	25	26	27	28	52	20	21	22	23	24	25	26				
31	26	27	28	29	30	31		35	23	24	25	26	27	28	29	40	27	28	29	30				44	25	26	27	28	29	30	31	49	29	30						53	27	28	29	30	31						
								36	30	31					41	31							45	31							54	31																			

# CALENDAR OF EVENTS 2014 - 2015

- 20-24 July 2014  
AAPM 56th Annual Meeting  
Austin, TX USA  
American Association of Physicists in Medicine  
<http://www.aapm.org/meetings>
- 17-20 August 2014  
XIX Congresso Brasileiro de Física Médica  
GoIânia, Brazil  
<http://acquaviva.com.br/CBFEM2014/index.asp>
- 20-22 August 2014  
2nd Int'l Conference on Medical Physics in Radiation  
Oncology and Imaging (ICMPROI-2014)  
combined with the 3rd Annual Conference of the  
Bangladesh Medical Physics Society (BMPS)  
Dhaka, Bangladesh  
<http://bmeps-bd.org/icmproi2014>
- 31 Aug - 3 Sep 2014  
EPI2k14 - 13th Int'l Conference on Electronic Patient  
Imaging:  
Aarhus, Denmark  
<http://www.epi2k14.dk>
- 4-6 September 2014  
Monte Carlo Methods in Radiation Therapy  
Oxford, UK  
<http://montecarlo-method-course.weebly.com/>
- 4-7 September 2014  
8th Int'l Conference on 3D Radiation Dosimetry  
Ystad, Sweden  
<http://ic3ddose.org>
- 7-10 September 2014  
Joint Conference of the Swiss Society of Radiobiology and  
Medical Physics (SGSMP), the German Society of Medical  
Physics (DGMP) and the Austrian Society for Medical  
Physics (ÖGMP)  
Zürich, Switzerland  
<http://www.medphys-kongress.de/>
- 9-12 September 2014  
28th Int'l Congress of Radiology  
Dubai, UAE  
<http://www.icr2014.org/>
- 11-13 September 2014  
European Conference on Medical Physics (ECMP2014);  
Athens, Greece  
Hosted by the Hellenic Association of Medical Physics  
(HAMP) and the European Federation of Organizations  
for Medical Physics (EFOMP)  
<http://www.efomp-2014.gr/>
- 13-17 September 2014  
AFR-IRPA 04.  
"Strengthening radiation protection infrastructures for  
health and sustainable development in Africa"  
Rabat, Morocco
- 14-17 September 2014  
ASTRO 56th Annual Meeting  
San Francisco, CA USA  
<https://www.astro.org/Meetings-and-Events/2014--Annual-Meeting/Index.aspx>
- 14-17 September 2014  
Annual Meeting of the German Biophysical Society  
(DGfB)  
Lübeck, Germany  
<http://www.biophysical-congress.de/>
- 22-23 October 2014  
British Institute of Radiology Annual Congress  
London, U.K.  
<https://membersarea.bir.org.uk/multievents/displayEvent>.
- asp?Type=Full&Code=5212
- 8-15 November 2014  
IEEE Nuclear Science Symposium and Medical Imaging  
Conference  
Seattle, WA USA  
<http://nssmic2014.npss-confs.org>
- 30 Nov - 5 Dec 2014  
RSNA Annual Meeting  
Chicago USA  
Radiological Society of North America  
<http://rsna.org/>
- 4-8 Mar 2015  
ECR 2015  
Vienna Austria  
European Congress of Radiology  
<http://www.myscr.org>
- March 26-30, 2015  
ISEP- AAPM Conference in Iraq in collaboration with  
IOMP, the Iraqi Ministry of Health and the Iraqi Medical  
Physics Society (IMPS)
- 7-12 Jun 2015  
World Congress on Medical Physics and Biomedical  
Engineering  
Toronto, Canada  
<http://www.wc2015.org>
- 21-27 September 2015  
The 53rd National SAAPMB Congress (South African  
Association of Physicist in Medicine and Biology).  
Sponsor by the Department of Medical Physics,  
University of the Free State, Bloemfontein, South Africa.  
[rkc@telkomsa.net](mailto:rkc@telkomsa.net)

# Recent Activities of EFOMP

Peter Sharp, EFOMP President



The issuing of the revised BSS with its definitions of the role of the Radiation Protection Expert (RPE) and the MPE, together with RP174 (European Guidelines on the Medical Physics Expert), which gives guidance on its implementation, and RP175 (Guidelines on Radiation Protection, Education and Training of Medical Professionals in the European Union) has led to much activity within EFOMP. In early 2014 we published the revised Policy Statement 12 “Recommendations on Medical Physics Education and Training in Europe 2014” which incorporates the above guidance. A working group has recently been set up to develop the associated curricula, both for MPE (EQF level 8) and Qualified Medical Physicist (EQF level 7).

The EFOMP Board has a number of concerns over provisions in the new BSS relating to the MPE and RPE. A working group was set up under the EFOMP EU Matters Committee to look at these concerns and draft a report for comments by our national

member organisations. Meanwhile we continue with our series of EFOMP School for Medical Physics Experts. The second one, in July, is on “Advanced Kinetic Modeling and Parametric Methods Advanced SPECT and PET Applications in Cardiology, Neurology and Oncology” and the third, in January 2015 will be entitled “Digital mammography and quality control”. On the professional side, we are working on “Recommended Guidelines on the Role of the Medical Physicist within the Hospital Governance Board”. Together with IPEM we are developing what we hope will be accepted as a CEN standard on Medical Physics Services. A working group of the Scientific Committee has just produced a draft protocol on “Quality Control in Digital Mammography”. We have other working groups on Cone Beam CT, Acceptance Testing and Quality Control of Fluoroscopic and Interventional systems equipped with Dynamic Flat Panel Detectors, Safety in MRI and Guidelines in Digital Angiography.

We have started a discussion on how we develop our annual European Conference in medical Physics. The intention is to expand it into a larger congress that might be held bi-annually. Our next conference is in Athens from 11-13th September 2014.

We are engaged in a number of projects. The main one is EUTEMPE-RX, which aims to create a network of teaching centres that will prepare courses to bring the

medical physicist in Diagnostic and Interventional Radiology to the level of MPE, and to set up a multi campus Educational and Training platform. One issue facing EFOMP is its role in this project in setting up an accreditation and examination process. We are also partners in an EU project on Diagnostic Reference Levels for Paediatric Imaging and to develop a European Network for Education and Training in Radiation Protection. ◀





# 8th European Conference of Medical Physics (ECMP 2014), 11-13 September 2014 Athens, Greece, Europe

## Chair of the 8th ECMP Organizing Committee



Dear Colleagues,  
We are inviting you to participate to the 8th European Conference on Medical Physics, which will be held in Athens 11-13 of September 2014. The conference is organized by the Hellenic Association of Medical Physicists in collaboration with EFOMP. It is accredited as a Continuing Professional Development (CPD) event for Medical Physicists, with a maximum of 21 hours. According to the EFOMP recommendations, this is equivalent to 21 CPD credit-points. IOMP, the global organization for medical physicists, has endorsed this event. The topics selected for the conference include: Radiation therapy applications (methods and technologies), medical imaging applications (ionizing and non ionizing radiation methods and technologies), medical informatics (Pacs, modeling, information technology), radiation protection, monitoring and dose reduction,

legislation and Standards and finally education and training. A rather exciting scientific program is organized which will cover all the main areas of Medical Physics. More than 60 prestigious invited speakers from all over the world will present the state-of-the-art subjects in our field. An substantial number of international organizations such as IAEA, ICRP, European Commission, EFOMP, AAPM and MEFOMP, are participating with focused symposia on current research, education and professional issues. Additionally, satellite workshops have been organized (Hands-on training course on quality assurance and safety in MRI, BIOMEPE 2014, Non-ionizing radiation workshop) covering special subjects. For all the above, please visit the conference's web site at [www.efomp-2014.gr](http://www.efomp-2014.gr).

Furthermore, all major vendors are participating in the technical exhibition and a number of satellite symposia are organized where participants will have the opportunity to follow the current technological and commercial trends.

The abstracts of the conference will be published as a supplement to *Physica Medica*, *European Journal of Medical Physics (EJMP)*, e-only for Journal subscribers and registered participants. After the conference, submitted papers will be published as full papers in this journal after peer review process. EFOMP financial support is provided for medical physicists at an early stage of their career and who are members of

a National Member Organization of EFOMP to participate in the European Conference of Medical Physics (ECMP). The value of the award will be the registration fee to attend the conference. Travel and subsistence costs are the responsibility of the applicant and cannot be funded by EFOMP. Applications for the award are handled by the EFOMP Education & Training Committee ([www.efomp.org](http://www.efomp.org)). For further details please contact [education-trainingcommittee@efomp.org](mailto:education-trainingcommittee@efomp.org). As Athens is the birthplace of classical Greece, offering some of the best urban walking routes in Europe, you will have the opportunity not only to attend a high-quality scientific meeting, but also to enjoy a late summer tour around the city. Furthermore, the Argosaronic islands that are sprinkled over the Argosaronic Gulf and are steeped in ancient mythology, are an ideal destination for a post-conference short and quick escape for those wishing to enjoy natural beauty, historical treasures, unique architecture and romantic atmosphere. We hope to see you in Athens in 2014!



# Medical Physics International (MPI)

Contents, [www.MPIJournal.org](http://www.MPIJournal.org)



<b>EDITORIALS</b>	<b>112</b>
EDITORIAL	112
<i>Perry Sprawls</i>	
EDITORIAL	112
<i>Slavik Tabakov</i>	
<b>HISTORY AND HERITAGE</b>	<b>113</b>
A HISTORY OF THE INTERNATIONAL ORGANIZATION FOR MEDICAL PHYSICS – 50 YEARS ANNIVERSARY – PART I	113
<i>Azam Niroomand-Rad, Colin Orton, Peter Smith, and Slavik Tabakov</i>	
<b>IOMP PROFESSIONAL AND EDUCATIONAL ACTIVITIES</b>	<b>116</b>
THE HISTORY, DEVELOPMENT, AND REALISATION OF MEDICAL RADIATION PHYSICS EDUCATION IN SWEDEN	116
<i>Bo-Anders Jonsson</i>	
A STUDY WITH EUROPEAN PROFESSIONAL SOCIETIES ON MEDICAL RADIATION PROTECTION EDUCATION AND TRAINING	123
<i>J. Damlakis, G. Paulo, S. Christofides</i>	
<b>MEDICAL PHYSICS ORGANISATIONS</b>	<b>129</b>
MEDICAL PHYSICS IN CANADA	129
<i>Ervin B. Podgorsak</i>	
<b>EDUCATIONAL RESOURCES</b>	<b>134</b>
PHYSICS EDUCATION FOR THE OPTIMIZATION OF MRI CLINICAL PROCEDURES: VISUALIZING THE INVISIBLE AND COLLABORATIVE TEACHING	134
<i>P. Soravik</i>	
MEDICAL PHYSICS THESAURUS AND INTERNATIONAL DICTIONARY	139
<i>S. Tabakov, V. Tabakova, M. Stoeva, A. Cvctkov, F. Milano, S-E Strand, J-Y Giraud, C Lewis</i>	
<b>PRACTICAL AND APPLIED MEDICAL PHYSICS</b>	<b>145</b>
A SIMPLIFIED TOOL FOR CALCULATING SIZE-SPECIFIC DOSE ESTIMATES FOR COMPUTED TOMOGRAPHY	145
<i>G. David</i>	
<b>INNOVATIONS</b>	<b>147</b>
ITERATIVE MODEL RECONSTRUCTION: SIMULTANEOUSLY LOWERED COMPUTED TOMOGRAPHY RADIATION DOSE AND IMPROVED IMAGE QUALITY	147
<i>D. Mehta, R. Thompson, T. Morton, A. Dhanantwari, E. Shefer</i>	
<b>ANNOUNCEMENTS</b>	<b>156</b>
ICTP: A MEDICAL PHYSICS TRAINING OPPORTUNITY FOR YOUNG PHYSICISTS FROM DEVELOPING COUNTRIES	156
<i>L. Bertocchi, R. Padovani, R. Longo, M. De Denaro</i>	
<b>PhD ABSTRACTS</b>	<b>159</b>
STUDY OF DOSIMETRIC AND THERMAL PROPERTIES OF A NEWLY DEVELOPED THERMOBRACHYTHERAPY SEED FOR TREATMENT OF SOLID TUMORS	159
<i>Bhoj Gautam</i>	
EVALUATION OF DOSIMETRIC PARAMETERS OF GZP6 HDR BRACHYTHERAPY UNIT BY MONTE CARLO SIMULATION, TREATMENT PLANNING SYSTEM, RADIOCHROMIC FILM AND THERMOLUMINESCENCE DOSIMETRY	161
<i>M. Ghorbani</i>	
<b>ABSTRACTS of ICMP2013</b>	<b>163</b>

<b>EDITORIALS</b>	<b>6</b>
EDITORIAL	6
<i>Perry Sprawls</i>	
EDITORIAL	6
<i>Slavik Tabakov</i>	
<b>HISTORY AND HERITAGE</b>	<b>7</b>
A HISTORY OF THE INTERNATIONAL ORGANIZATION FOR MEDICAL PHYSICS – 50 YEARS ANNIVERSARY – PART II	7
<i>Azam Niroomand-Rad, Colin Orton, Peter Smith, and Slavik Tabakov</i>	
<b>IOMP PROFESSIONAL AND EDUCATIONAL ACTIVITIES</b>	<b>18</b>
PILOT IMPLEMENTATION OF EMERALD TRAINING MODULES IN BRAZIL	18
<i>P.R. Costa, S. Tabakov, E.M. Yoshimura, E. Okuno, D. Y. Nersisyan, R.A. Terini</i>	
EDUCATION OF MEDICAL PHYSICS AND BIOMEDICAL ENGINEERING AT GONO UNIVERSITY IN BANGLADESH	22
<i>Azhari H. A., Zakaria G. A., Hartmann G. H.</i>	
<b>MEDICAL PHYSICS ORGANISATIONS</b>	<b>25</b>
IOMP PROJECT SUPPORTING THE DEVELOPMENT OF MEDICAL PHYSICS IN AFRICA IN COLLABORATION WITH IAEA & WHO	25
<i>On behalf of the IOMP Working Group for MP development in Africa: S. Tabakov</i>	
THE ROLE OF HEALTH MANAGERS IN PROMOTING MEDICAL PHYSICISTS IN AFRICA	27
<i>Nakanudde, R., Ige, T., Ibn Seddik, A., El-Shahat, K.</i>	
<b>EDUCATIONAL RESOURCES</b>	<b>35</b>
VISUAL DEMONSTRATIONS OF MEDICAL PHYSICS CONCEPTS FOR DIAGNOSTIC RADIOLOGY RESIDENT EDUCATION	35
<i>I. Sechopoulos</i>	
OPTIMIZING MEDICAL IMAGE CONTRAST, DETAIL AND NOISE IN THE DIGITAL ERA	41
<i>P. Sprawls</i>	
<b>PRACTICAL AND APPLIED MEDICAL PHYSICS</b>	<b>49</b>
CLINICAL COMPARISON OF DENSITY CORRECTION METHODS ASSOCIATED WITH PENCIL BEAM CONVOLUTION ALGORITHM FOR CLINICAL SITUATIONS	49
<i>Abdulhamid Chaikh, Jean-Yves Giraud, Jacques Balosso</i>	
DESIGN AND IMPLEMENTATION OF A NEW DEVICE FOR THE INTEGRAL MEASUREMENT OF TOTAL SOURCE-ON TIME FOR A HIGH DOSE RATE (HDR) REMOTE AFTER LOADING TREATMENT UNIT	54
<i>E. I. Pursai, S. J. Ye, S. Tanny</i>	
<b>INNOVATIONS</b>	<b>57</b>
A REVIEW OF DIGITAL BREAST TOMOSYNTHESIS	57
<i>J. Reiser and I. Sechopoulos</i>	
<b>ANNOUNCEMENTS</b>	<b>67</b>
	67
<b>ABSTRACTS of RPM 2014</b>	<b>71</b>

# AFOMP Activity in the Last Six Months

## Howell Round, Secretary General AFOMP



Progress has been made in extending AFOMPs outreach to include more medical physicists in our region. In three countries: Bangladesh, Malaysia and Pakistan, there is more than one professional association that represents their medical physicists. This has caused complications in the past as only one association from each country is allowed to be a member of IOMP and AFOMP. However, the AFOMP rules allow the non-represented organizations to become affiliate members. Such associations cannot hold office in AFOMP and are not allowed to vote on AFOMP Council resolutions. So they essentially have an observer status. The Bangladesh Medical Physics Society, the Malaysian Association of Medical Physics and the Pakistan Organization for Medical Physics have all become affiliate members in the last few months. In each case, the pre-existing medical physics association in each of these countries voted in favour of the second organization being an affiliate.

To further extend our outreach, we have been in contact with medical physicists from Myanmar, Cambodia and Afghanistan. In these countries there are far too few medical physicists to form a

national medical physics association. We recognise that they are working with little support and it is important that we are in contact with them so that we can offer to help develop the profession in their respective countries. Currently, only companies and national organizations can be members of AFOMP, but in these countries there are far too few medical physicists to form a national medical physics association. A remit will be put to AFOMP's Council at its annual general meeting in Ho Chi Minh City in October to institute another membership category: individual membership. This will only be available to physicists in countries where there is no medical physics association. The members will have no voting rights but they will not pay a subscription. This will allow us to stay in contact with them

and keep them informed of developments in our region.

We are pleased to see our Newsletter is now being published again thanks to the dedicated work of Arun Chougule from India. The Newsletter can be accessed at AFOMP's web site ([www.afomp.org](http://www.afomp.org)) which may have been renewed and made more modern looking by the time you read this. Tae Suk Suh has been instrumental in making this happen. Please mark in your diary that October 23-25, 2014 are the dates when AFOMP and the South East Asian federation of Organizations for Medical Physics will jointly be holding their annual conference. This time it is in Ho Chi Minh City for the first time. The conference has always been a success with consistently larger numbers of delegates attending. ◀

**The 14<sup>th</sup> Asia-Oceania Congress of Medical Physics & The 12<sup>th</sup> South East Asia Congress of Medical Physics (AOCMP/SEACOMP 2014)**

23-25 October, 2014  
HOTEL NOVOTEL SAIGON CENTRE,  
HO CHI MINH CITY, VIETNAM  
<http://www.aocmp-seacomp2014.vn>

**"MEDICAL PHYSICS FOR ADVANCED MEDICINE"**  
Deadline for Abstract Submission: August 15, 2014

Organized by: Supported by:

We are calling for papers:  
Radiation Oncology, Diagnostic Imaging,  
Nuclear Medicine,  
Radiation Dosimetry and Protection,  
Radiobiology, Health Physics,  
Computing in Medical physics,  
General Medical Physics,  
Education-Training and Instruments.

Binhthanh Market      Cuchi Tunnel      Yungtau Beach

# FAMPO Second General Assembly in Accra, Ghana – a Short Report

Taofeeq A. Ige, Secretary General, FAMPO



The second general assembly of FAMPO on the sideline of the AFROG VII came up in Accra, Ghana on Friday 11th April, 2014 (commenced at 1.40 pm).

The meeting has participants from 14 countries - Algeria, Cameroon, Egypt, Ghana (host country), Kenya, Madagascar, Morocco, Nigeria, Sudan, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe - and was highly honoured to equally have the presence of the immediate Past President of the IOMP (Prof. Fridtjof Nuesslin) and Dr. Ahmed Meghzifene of the IAEA.

In the opening remarks by the President of the Federation – Ahmed Ibn Seddik – he thanked the IOMP and the IAEA for their continuous support. He mentioned some of the activities that FAMPO have done under his leadership which include among others – good representation with scholarly scientific presentation at the AFRIRPA in Nairobi (Kenya), IRPA in Glasgow (Scotland), ICMP in Brighton (UK) and the GI\_RSCHS in Geneva (Switzerland) at the kind invitation of the WHO. FAMPO endorsed the 3 (three) publications from the IAEA that were

specifically targeted at enhancing the Education and Training of the Medical Physicists in the Continent. UICC request for FAMPO to be one of her members which he wanted the assembly to discuss and that the Federation has been named as a Joint Organiser of the AFRIRPA04 coming up in Rabat (Morocco) in September 2014. He concluded by reiterating the fact that FAMPO is open to all Medical Physicists in Africa and thanked all the participants and personalities present for the second general assembly of the Federation.

The minutes of the last meeting and the first General assembly in Kampala (Uganda) in 2012 were read and adopted and the matters arising from the minutes were quickly discussed. Thereafter the reports of the 3 (three) committees on Education & Training, Professional Relations and Science were read and the need to replace the Chairman of E&T – Dr. Willem Groenewald – who had earlier in the year voluntarily resigned the post was mentioned. Dr. Ehab Attalla (Chair, Science Committee) mentioned the efforts to initiate a pan-African e-journal of the Federation and solicit cooperation and contributions of good scientific materials from the members. Dr. Mounir Besbes (PRC Chair) also promised to improve on the work and the visibility of his committee.

Some of the other activities that FAMPO participated since the last meeting were further highlighted – the IOMP World Congress in Beijing, the various task force meetings (TFM's) under the auspices of the IAEA that produced the 3 earlier mentioned publications (Prof. Debbie van der Merwe's hardwork on this together with the other regional representatives

were acknowledged) and the Workshop to review the status of implementation of the IAEA clinical training guides through the Agency's Inter-Regional Project on Strengthening Medical Physics in Radiation Medicine (INT/6/054). Ways to enhance the recognition of Medical Physics as a profession in the continent and the IOMP proposed workplan put together by Prof. Slavik Tabakov were also mentioned as well as the modalities for funds generation to run the affairs and activities of the Federation.

Article 11 (2.1 – 2.4) of the FAMPO's Constitution with respect to the tenure of the ExCo was also discussed and the suggestion was to presently suspend that constitutional provision for at least two more years by which time the Federation is anticipated to have become more viable with respect to the necessary structures and some minimal funding capabilities. The President and the Secretary-General informed the house that they will be stepping down at the next general assembly of the Federation.

Goodwill messages were delivered by Prof. Fridtjof Nuesslin of the IOMP and Dr. Ahmed Meghzifene of the IAEA. Dues from the NMO's (National Member Organisations) were collected to the tune of \$1,450 (One thousand four hundred and fifty dollars) which was later handed over to Prof. Nuesslin in line with some discussion at the ICMP meeting in Brighton with respect to IOMP assisting with temporary safe custody of FAMPO's account. Proceedings of this meeting and the other details are available on the Federation's website – [www.federation-fampo.org](http://www.federation-fampo.org). The meeting rose at 3.03 pm. ◀

# DONATION OF USED EQUIPMENT – PRC REPORT FOR Jan-Jun 2014

**Mohammed K. Zaidi, Program Manager, IOMP PRC**

Mr. Martin Mukosai, Clinical Radiographer Technologist, Mwandi Mission Hospital, Livingstone, Zambia requested for some technical publications to pursue for a master's degree in Sonography. Seeing the need, I purchased these five books on Ultrasound techniques. Their titles are: Emergency Ultrasound, Emergency Ultrasound Made Easy, Essentials Sonography Patient Care, Sonography, and Ultrasonography Examinations. They were shipped to Zambia and it took four months to reach there. Mr. Mukosai wrote: I am so grateful for the books that just a year from now you can see myself acquired with knowledge and skills in Echocardiography and Vascular Sonography practices. They are helpful so far and very informative, educative and many more. "Medical sonography as a branch of diagnostic medicine imaging, make use of non-ionizing ultrasound to produce images of the body. Sonography has become a valuable diagnostic tool as it is: widely available, non-invasive, risk free, easily accessed and less expensive than

other options such as MRI or CT scans. The sonography study materials received would be very helpful in the improvement of examination / imaging of most body tumors and cancerous related conditions. Female breast and pelvis are the mostly affected with benign and cancerous tumors. Hence sonography examinations will play a pivoted role in the differentiation of these two conditions. In addition, masses in males either prostate cancer or scrotal non-cancerous condition will be easily differentiated sonographically. AIDS patients present with a wide spectrum of clinical manifestations involving the body organs. The detection and evaluation of potential treatable conditions in AIDS, management and follow ups are mostly to be enhanced as result of improved practice skills and knowledge gained from the study materials. Ultimately, it is with sincere acknowledgments for the donation of a gift of such magnitude and a rare opportunity. Every use on the books will count as gain on improved health care

service provision. Thank you so much. Other requested items are: an Ultrasound machine, a laptop computer, gamma camera, well counter, and a dose calibrator for nuclear medicine. If someone can donate used books, journal or equipment – it will meet his present needs. The UE donated in this period were older than 10 years so none of the donations offered were accepted and we are looking forward that the donors should come with useable UE which should be less than 10 year old. The equipment donated to IOMP Used Equipment Donation Program is in good working condition but we don't guarantee its usefulness. The donations of used equipment to IOMP are sometime tax deductible. IOMP will not be responsible for any warehousing expenses or loss if the used equipment donated to IOMP couldn't be shipped. If you want to donate, or want specific used equipment donated to your organization, please contact the IOMP PRC UEDP Manager. For more information, please visit [www.iomp.org](http://www.iomp.org) or email [zaidimk@gmail.com](mailto:zaidimk@gmail.com). ◀

## Another Successful Event for the Radiation Protection Society

**Magdalena Stoeva, Associate Editor, MPW**



The International Conference on Radiation Protection in Medicine took place for a second time in the charming Riviera Resort, Bulgaria.

The motto of the conference was "Facing increasing challenges", and the RP professional society did face them.

The number of scientific papers & posters exceeded 250, similar was the number of participants - presenting educational institutions, hospitals, officials from national and international organizations from all over the world. Being one of the leading partners, IOMP took an active part in the conference, providing organizational support, scientific and practical advice, chairing many of the sessions.

The success of the conference proved the need for a specialized forum where RP professionals share their experience, discuss the professional and scientific challenges, exchange ideas and plan for the future. The RP professionals gathered and faced their challenges. Now it the time to disseminate this valuable information among our colleagues. ... And meet again in 4 years time to share experience and face our new challenges. ◀

# MEFOMP Activities during the last 6 months

## Ibrahim Duhaini, President of MEFOMP



During the last six months, MEFOMP countries have participated in many activities throughout its territories some of which are listed below:

### 1. Qatar

The 3rd Radiation Technologies School was held from 7-20 March 2014 in Doha, Qatar. The course is being hosted and co-organized by Hamad Medical Corporation (HMC) and Qatar University and the World Nuclear University. The WNU RT School is organized by the WNU Coordinating Centre in London and in association with leading institutes of nuclear learning. The RT

School receives technical support from the International Atomic Energy Agency (IAEA), and the World Council on Isotopes. Previous RT Schools have been run in cooperation with Australian Nuclear Science and Technology Organization (ANSTO) and with the Association of Imaging Producers Suppliers (AIPES). The first two RT Schools have been held in Seoul, Korea and this is the first time that the WNU is bringing out the school to other countries – this time, in Qatar. 60 candidates from more than 20 countries participated in the conference. 7 mentors and 6 key internationally recognized personnel in the field of radiation were invited speakers.

The RT School is a two-week program that aims to:

- Provide selected participants with broad understanding and new horizons in the areas of radioisotopes and radiation technologies.
- Familiarize participants with the main issues encountered by practitioners in the field.
- Provide opportunities for participants to develop a worldwide network of contacts of unique value to their current and long-term careers

### 2. Iraq

The below report was sent by Dr. Nabaaj Naji, IMPS President: The Iraqi Medical Physics Society (IMPS) worked in coordination with the Nuclear Medicine and Radiotherapy hospital in Baghdad to train the graduated students in medical physics master program.

The IMPS worked on changing the Master Program Curriculum to be matched with the AAPM standards. The final approval of Mustansiriyah University depends on the new curriculum for the next academic year. The IMPS expanded by joining new medical physicists from inside and outside Iraq.

Currently IMPS is working with the AAPM and IOPM to complete the requirement of conducting the ISEP, which is proposed to be held in Iraq/Erbil on March 26-30, 2015. The work in the last few months were focused on obtaining the Iraqi MOH approval to sponsor part of the ISEP as well the sponsorship of the IMC.

### 3. Bahrain

The below report was sent by Dr. Lama



Sakhnini, BSMPBE President:

The Bahrain Society of Medical Physics and Bio-Engineering (BSMPBE) were formally founded in 2008 with 21 members that included physicists, medical physicists, radiologists and bio-engineers. At present it counts with approximately 50 members, of whom some are full members and others are students. Students pay fees that are one half those of the full members.

The Society has a large diversity of activities, that include social meetings, technical and general workshops and exhibits. The Society has recently applied a bid to host International Conference on Medical Physics, ICMP 2016 on behalf of the International Organization for Medical Physics (IOMP). Additionally, we take care of the National contest of experiments designed by high-school students. Our Page at facebook is (Bahrain Society of Medical Physics and Bio-engineering), and we invite professionals and public to consult it. Questions can also be sent to [medicalphysics.bh@gmail.com](mailto:medicalphysics.bh@gmail.com).

The board members are:

Lama Sakhnini, PhD, President  
Khalid Alsheikh, MD, MSc, Vice President

Sadeq Al Alawi, PhD, Secretary  
Khalil Ibrahim, PhD, Treasurer  
Hahan Albufasa, PhD, Public

Relation Officer.

Muneera Khamis, MSc, Social Committee

Habib Ashoor, PhD, Scientific Committee

BSMPBE has a successful year in 2014. Several activities were carried out during the year. These include the following board meetings and members meeting:

Board Meetings:

a. March 25th, 2014: A board meeting with the councilor from the Ministry of Social Development to discuss the activities and financing of the society, at the Ministry of Social Development offices.

b. April 3rd, 2014: Board meeting at The Bahrain Science Center, to discuss future activities.

c. April 16th, 2014: Board Meeting was hosted by Dr. Lama Sakhnini, President of the society, to discuss the possibility to host the International Conference on Medical Physics, ICMP 2016, and the decision was in favour. General Activities:

a. General Meeting for Members, April 16th 2014, National NGO's Support Center, Tubli: A meeting was hosted by the Society board to welcome all new and old members. Dinner and refreshments were served to members.

b. Medical Physics Workshop, May

29th 2014, National NGO's Support Center, Tubli: The workshop provided exposure to a variety of current topics in the field of medical physics and related fields, and it is aimed to introduce Medical Physics to the public in an exciting and a fun way.

c. Come and Have Fun with Your Kid at The Physics Amusement Park, June 19th, 2014.

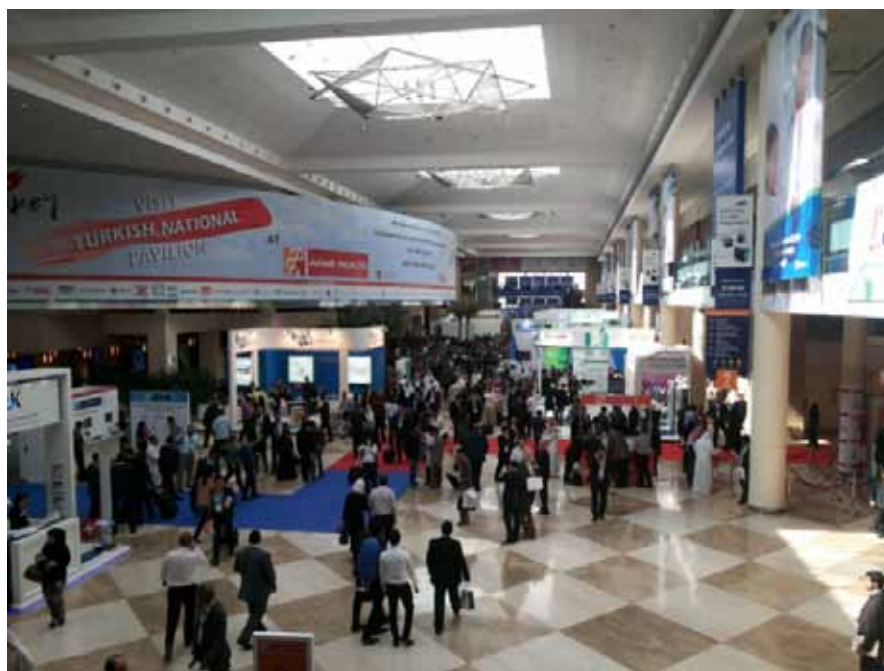
d. The society was able to carry out its activities successfully mainly because the members were very helpful. On behalf of the society I would like to thank our former president Dr. Aysha Bu Onoq for her Support and guidance. I would also like to welcome the new board members. I feel confident that our society will become even more active and benefit from the unlimited enthusiasm of its members.

#### 4. Lebanon

The Lebanese Association Medical Physics (LAMP) conducted its regular meeting on February 7, 2014 in Beirut. The meeting discusses new opportunities for establishing a Master Program in Medical Physics in one of the local universities. Also, LAMP welcomed new members onboard.

It is worth mentioning that a new Radiotherapy Department has been established and opened on April 2014 in the South of Lebanon. The first





Center ever opens in this Area which covers 30 % of the population there. The center is opened in Nabih Berry Governmental University Hospital in coordination with the Radiation Oncology Department at the American University Medical Center and the Radiation Expert Group professionals.

#### 5. United Arab Emirates

The below report is a summary from the Arab Health:

The Arab health was conducted this year on January 26-28, 2014.

The 39th edition of Arab Health welcomed a record-breaking amount of delegates, visitors, speakers, sponsors, and exhibitors.

Arab Health 2014 increased its size

ties to professionals from all health-care specialties.

The Congress featured several new conferences that received an incredibly warm welcome:

'Emerging Diseases of Public Health: Strategies and Interventions' was developed together with the Public Health and Safety Department of Dubai Health Authority (DHA), aiming to contribute to the improvement of public health in the UAE and the surrounding region. 'The Mock Civil Trial: Medical Malpractice in UAE' gave participants a unique insight into the difficulties that physicians and their employers can face when civil litigation is brought before them.

#### 6. Kuwait

The below report was sent by Dr. Hanan Al-Dousari:

The 5th Kuwait Medica Conference and Exhibition took place in Crown Plaza Hotel in Kuwait City from 18- 20 March 2014.

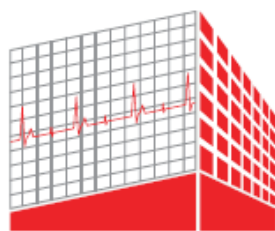
During that conference a Nuclear Medicine & PET-CT Workshop was organized by the Kuwait Nuclear Medicine Society and Radiation Expert Group.

The objectives of this workshop were to provide an overview of the necessary knowledge of PET/CT QC/QA procedures as well as the radiation safety and Dosimetry considerations in PET/CT. This workshop was attended by more than 70 participants from Nuclear medicine technologists, Medical physicists, PET and CT specialists, Nuclear Medicine Physician and all workers in Nuclear Medicine department.

The program which was conducted by Ibrahim Duhaini and Israa Ghader included the following topics:

1. Radiation Safety and Dosimetry considerations in PET/CT for worker and patient.
2. Quality Assurance required to ensure optimal performance of PET/CT scanners.
3. Principles of PET/CT technology.
4. Quality Control of PET/CT.
5. Facility Design and Protective Equipment ◀

2014



مؤتمر ومعرض صحة الكويت  
**The 5th Kuwait Medica  
 Conference and Exhibition**



# Workshop on the Physics of Advanced Radiotherapy Techniques: The Role of Medical Images

Santiago, Chile January 27 – 31, 2014

Auditorio Ninoslav Bralic. Facultad de Física.

Pontificia Universidad Católica de Chile

This event was organized as a replacement for the ISEP workshop that was planned to happen in Iraq (2013) but was cancelled at the request of the local organizers, due to the political situation in that country.

We are very happy to say that, in spite of the short time available to prepare this event (because it was a replacement), it was a great success with 31 attendees from different countries (Chile, Argentina, Peru, Germany, Cuba and Spain). Seven AAPM Faculty members, together with a local contribution from the Institute of Physics of The Pontificia Universidad Católica de Chile, Clínica Alemana and Clínica Santa María (a total of 10 local speakers), gave lectures, making a total of 51 participants (See program attached).

The workshop combined lectures with practical sessions on VMAT and IMRT treatment verifications. On the first day of the meeting, a young physicists poster session and cocktail reception (enlivened with Chilean traditional folk dance) took place. This instance was also used by participants to meet and exchange experiences and knowledge. A list of the poster presented is provided bellow:

1. "The impact of new technologies incorporated to the Radiotherapy Department of Hospital Oncológico Córdoba" Manuel Enrique Molina, biomolina@gmail.com, Graciela R. Velez, Sebastian Bianchini, Servicio de Radioterapia del Hospital Oncológico de Córdoba, Argentina.
2. "Hypoxia assessment of rat tumors via FMISO PET", Pamela Mena Romano, p.mena@dkfz.de1, C. Cheng (2), C.Glowa1, P. Peschke (3), A. Dimitrakopoulou E Strau

(2), C. Karger (1).

(1) Division of Medical Physics in Radiation Oncology, German Cancer Research Center, Heidelberg, Germany, (2) Clinical Cooperation Unit Nuclear medicine, German Cancer Research Center, Heidelberg, Germany, (3) Clinical Cooperation Unit Molecular Radio Oncology,

3. "Monte Carlo Simulation: X-ray tube for cone beam computed tomography", Eduardo Cisternas Jiménez, eacister@uc.cl, Sánchez E Nieto, Beatriz Doerner Edgardo, Instituto de Física, Pontificia Universidad Católica.

4. "Enforcing divergence free to velocity data from 4D flow MR image": Alejandro Matías Pino Verdugo, ampino@uc.cl (1) Joaquín Mura (2), Sergio Uribe (3). (1) Instituto de Física, Pontificia Universidad Católica de Chile, Santiago, Chile, (2)Escuela de Ingeniería Civil, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile, (3)Centro de imágenes biomédicas, Pontificia Universidad Católica

de Chile, Santiago, Chile.

5. "Methodology for assessing CTEMRIESPECT Registration capability of software applications for Radiotherapy treatment planning purposes": Sebastian Bianchini, sebastianbianchini@gmail.com 1, Rodolfo Alfonso 2, Marcos Coca 3, Jorge Castillo 3, Leonel Torres 3, Rafael Rodríguez 4, (1) Departamento de Física Biomédica, Servicio de Radioterapia, Hospital Oncológico, Córdoba, Argentina, (2) Instituto Superior de Tecnologías y Ciencias Aplicadas (INSTEC), La Habana, Cuba, (3) Centro de Investigaciones Clínicas (CIC) La Habana, Cuba, (4) Centro Internacional de Restauración Neurológica (CIREN), La Habana, Cuba.
6. "Analytical model for predicting photon peripheral dose" Rodrigo El Far Manríquez, Universidad Católica de Chile, Santiago, Chile, (2)Unidad de Radioterapia Clínica Alemana Universidad del Desarrollo, Santiago, Chile, (3) Departamento de Física Médica y Biofísica, Universidad de Sevilla, España. raelfar@uc.cl1, ▶



► Beatriz Sánchez E Nieto<sup>1</sup>, Gabriel Zelada 2 y Francisco Sánchez E Doblado 3 .  
(1)Instituto de Física, Pontificia

The ISEP speakers were asked to evaluate the posters. The decision was to grant the first place to “Hypoxia assessment of rat tumors via FMISO PET”, Pamela Mena Romano, p.mena@dkfz.de<sup>1</sup>, C. Cheng (2), C.Glowa<sup>1</sup>, P. Peschke (3), A. Dimitrakopoulou E Strau (2), C. Karger (1). Comments of the local organizers in evaluating the ISEP Workshop:

The local organizers pointed out that Medical Physics in Chile is a new emerging discipline. As there are no many people involved in the area it is not easy to organize events to which good international speakers can come to share their expertise. In general it is difficult (expensive) for people working in medical physics in Chile to attend international conferences and even the access to good journals is very restrictive. Therefore, initiatives like this are invaluable to bring a group of "main actors" to share with students their experience and their particular contribution to the field. The scientific quality of the meeting was really outstanding, and the setting on the Pontificia University Campus in Santiago was wonderful. Of note, the predominance of young medical physicists attending the event, mostly

Medical Physics Master students, Medical Technologists and Medical Physicists working in Radiation Therapy Departments, PhD students, and Radiation Protection Expert. The scientific quality of the meeting was really outstanding, and the setting on the PUC campus in Santiago was wonderful. Of note, the predominance of young medical physicists attending the event increased the educational value of the event. A number of attendees asked for copies of the presentations, so speakers provided PDF documents of their presentations, which were made available to the participants. The organizers did create a “dropbox” folder to be shared among students and other lecturers.

Medical Physics Society in Chile:  
At the end of the ISEP Workshop in Santiago, Chile, there was a meeting of the medical physicists working for the creation of their Medical Physics Society (SOFIMECH). This work has been going on since December 2008, by a group of dedicated medical physicists in the country. As Chair of the AAPM Latin American Affairs Subcommittee (LAASC) we have been aware of this initiative and very supportive of their work. It was very rewarding to see the realization of this effort happening at the end of this AAPM\_ ISEP workshop,

which was also sponsored by the IOMP. Congratulations to the ISEP local organizers for their participation in the SOFIMECH, as listed below:

Physicists participating in the Board of Directors of the Medical Physics Society of Chile:

Sociedad de Fisica Medica de Chile (SOFIMECH)

President: Ruben Yañez- Hospital Oncológico de Valdivia

Vice-president: Beatriz Sánchez- Physics Institute, Pontificia Universidad Católica de Chile.

Secretary: Cristián Parra. National Institute of Cancer, Chile,

Treasurer: Marcia García. Physics Department, Universidad de la Frontera  
Vocal: José Luis Rodríguez.

Radiotherapy Department, Clínica las Condes.

At the closing of this ISEP workshop, the local organizers manifested their confidence that the exchanges, which occurred between faculty and participants during this event, will allow all to enrich their knowledge and to create new links of collaboration.

And finally, a great night out, around a nice food and a visit to the local Astronomy Observatory was the perfect opportunity to relax after the intensive working days. ◀



## What is the CERN-HERMES network?

### Dr Evangelia Dimovasili, Technical Coordinator of CERN-HERMES.

The CERN- HERMES network was founded from a core of CERN teams and Hellenic Universities in June 2012. Amongst its aims is to create links of strong cooperation in the field of medical physics and health technologies. The network vision is to steer research work to innovative directions and bridge the achievements of science to the needs of society. In two years the network has been expanding in a very encouraging rate and comprises today 25 Universities and Research Institutions from 11 European countries. CERN-HERMES is multidisciplinary in terms of scientific research and areas like Novel Imaging Detectors, Materials, Radiation Protection and Dosimetry, Radiation Tests and hardness of electronics, Research on radioisotopes for various applications, Scintillating Detectors for HEP, Medical Imaging have found a fertile ground for application in the network.

The network also aims to act as a platform for transferring new technologies to Greece; an early success of CERN-HERMES was the first ever official submission of a proposal to the Greek authorities for the establishment of a proton beam therapy centre at the island of Crete. The proposal links a Centre of Excellence for Therapy and Research with medical tourism for which Crete can undoubtedly be an excellent destination. The proposal was submitted to the authorities by the Resources and Development Managing

Director of the network, Mr Alexandros Kokolakis- an elected member of the District Council of Crete- and was reviewed and approved by the District Council in Spring 2013. Renowned experts on particle therapy have expressed their support to this project, recognizing the importance of the centre which due to its strategic geographical position will open new horizons for research, attract world-class scientists and enable the country's scientific potential. At the same time, measurable payback to society will be achieved, with the transfer of innovation from CERN and other partner research laboratories to clinical practice, the creation of new jobs and development. It is also worth mentioning that after the submission of this proposal, two more regions of Greece expressed a great interest to host the proton therapy facility in their territory; the region of Thessaly (centre of Greece) and the region of East Macedonia – Thrace (North Greece).

Moving a step forward, in September 2013, the Resources and Development Managing Director of the network submitted an application to the Greek Ministry of Health for the approval of the proton therapy practice in the country, with the scientific support of worldwide experts in the field of particle beam therapy. Approval was granted earlier this year by the experts of the Special Committee of Ionising and Non Ionising Radiation of the Ministry. This is a major milestone

that was achieved and a success in the history of medical practice for the treatment of cancer in Greece, opening the way to establish a proton therapy centre in the country.

The CERN Director General Professor Rolf Heuer has recently established a new Office for CERN Medical Applications, whose Head is the former Director of Accelerators, Professor Steve Myers. The new office aims to bring all the diverse medical physics activities at CERN together under a single roof, ensuring that efforts are optimised and will promote networking with other laboratories engaged in the field of medical applications. In this line, CERN-HERMES aims to contribute and make a positive impact on the overall effort.

#### *Acknowledgement:*

*I wish to thank Professor Jean-Pierre Gérard from the Antoine Lacassagne centre in Nice (France), Professor Robert Miller from Mayo Clinic (Minnesota, USA) and Professor Roberto Orecchia from the Pavia hadrontherapy centre (Italy) for their scientific support to the proton therapy centre in Crete. I also thank all the CERN-HERMES partners and in particular Professor John Damilakis (University of Crete), Dr Sotirios Harissopoulos (NCSR Demokritos), Professor Paul Lecoq (CERN) and Dr Marco Silari (CERN) for their continuous support and collaboration. Last but not least I am thankful to Mr Alexis Kokolakis for our fruitful collaboration. ◀*





# 8th EFCMP

EFOOMP  
EUROPEAN FEDERATION OF  
ORGANISATIONS FOR MEDICAL PHYSICS

11-14 September 2014  
ATHENS, GREECE

PHYSICS IN RADIOTHERAPY • DIAGNOSTIC RADIOLOGY • NUCLEAR MEDICINE  
MEDICAL IMAGING • PHYSIOLOGICAL MEASUREMENTS • MOLECULAR IMAGING  
RADIATION PROTECTION • EDUCATION AND TRAINING IN MEDICAL PHYSICS

[www.efommp-2014.gr](http://www.efommp-2014.gr)



HOSTED BY  
THE HELLENIC ASSOCIATION  
OF MEDICAL PHYSICISTS  
(HAMMP)



International Union for Physical & Engineering Sciences in Medicine

# 2015 WORLD CONGRESS

On Medical Physics &  
Biomedical Engineering

TORONTO • ONTARIO • CANADA  
JUNE 7 - 12 • 2015

Hosted by the Canadian Organization of Medical Physicists (COMP)  
In partnership with the Canadian Medical and Biological  
Engineering Society (CMBES)



Hosted by

