International Organization for Medical Physics

eMPW

Volume 33 Number 3 December, 2017

LOOKING FORWARD TO MEETING YOU IN PRAGUE!

IUPESM WORLD CONGRESS 2018

Medical Physics World

POWERFUL SUBTLETY

Stop for a moment to think about your fight against cancer.
Look at it differently. Take a new approach. Start mixing things up. We did.

To develop the Halcyon™ system, we considered all the possibilities—
and the impossibilities—to design a patient-centered
radiotherapy treatment system that's focused on the essentials
your clinic needs to deliver a high quality of care.

We set out to rethink the way we approached radiotherapy,
so you can redefine the way you fight cancer.

We can't wait to see what you achieve.

Learn more at Varian.com/Halcyon

Safety Information: Radiation may cause side effects and may not be appropriate for all cancers.

510(k) pending. CE marked. Not available in all markets.

VARIAN
medical systems

Medical Physics World

Table of Contents

MPW/eMPW

ISSN 2313-4712

IOMP
Fairmount House
230 Tadcaster Road
YORK YO24 1ES, UK

Editorial Board

2017 – an active and successful year for IOMP

President's Address

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

Dear Colleagues,

We are completing a very active and very successful year for IOMP. The preparations for the special IDMP (7 Nov 2017), marking the 150th birthday of our professional patron - Maria Sklodowska Curie, were going over all the summer and indeed we had one of the best celebrations so far. Most of the IOMP ExCom were at the Asian Congress in Jaipur (AOCMP 2017), where we celebrated together with the colleagues from India and from many other Asian countries. The colleagues from AMPI, led by their President Prof. Arun Chougule, had organised an excellent Congress, encompassing the scientific achievements and the professional development on the continent. The new IDMP Awards were announced in Jaipur by the AHC Chair Dr Simone Renha. Many congratulations to all awardees: Diana Feld, William Round, Taofeeq Ige, Virginia Tsapaki, Huda M. Al-Naemi. In UK we submitted, together with the IPEM, our professional day to UNESCO. In Italy the AIFM celebrations were in Pistoia - the 2017 European Capital of Culture. There were celebrations in all countries and societies, but one of the most important results from these celebrations was the beginning of the preparations for forming a full IOMP Women Committee. Special acknowledgements for these celebrations have to go to the IDMP Coordinator Prof. John Damilakis, the Women Sub-Group Chair Dr Virginia Tsapaki and all colleagues who organised events in their countries – this is very important for the visibility of medical physics. Also in this period we initiated several of the volumes of the large IOMP project 'History of Medical Physics'. The first chapters of these volumes will be published as samples at the coming issue of the IOMP Journal Medical Physics International (www.mpijournal.org). We successfully continued the IOMP School (initiated last year in Bangkok with the support from Prof. Anchali Krisanachinda) and

IOMP NMOs

National Member Organisations

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

major Education and Training activities were the successful 2nd IOMP School in Jaipur, as well as the completion of the Accreditation Manual by ETC and Prof. J Damilakis. Activities related to Publishing were the formation of a new Book-series of CRC Press, led by Prof. Tae Suk Suh and Prof. Magdalena Stoeva. Also during this period we had two meetings of the IOMP Regional Coordination Board – in Denver, together with the colleagues from AAPM, and in Jaipur, as part of the AOCMP 2017. This Board was initiated only at WC2015 in Toronto, but quickly established itself as one of the most effective structures of IOMP. In the field of Radiation Protection we are expecting very soon the International Conference in Vienna, led by Prof. Madan Rehani. We are now looking forward to the organisation of the 3rd IOMP School during the World Congress in Prague (3-8 June 2018), co-organised by Prof. J Damilakis and Prof. M Stoeva. For this largest Congress of the profession we are planning a number of Scientific and Professional activities, headed by Dr KY Cheung, Prof. Geoff Ibbott, Dr Yakov Pipman and all ExCom colleagues.

Without doubt the most important activity completed during this period was the finalisation of the project and the agreement on the establishment of the legal status of IOMP – an activity discussed and attempted several times over more than 20 years. The overwhelming support of the IOMP Council, at the ballot completed on 6 Dec 2017, was so encouraging. The legal status of IOMP will allow to better represent IOMP at various institutions and events, to seek additional funding for the global development of the profession, to provide security, to take full part in projects, etc.

The process for arranging our legal status was not easy. We cannot list here all colleagues who contributed to this great step ahead for the IOMP, but would like to specially acknowledge those who took part, together with all IOMP ExCom, in the final stages of the process: Dr Virginia Tsapaki, handling the ballot; Mrs Sally Hawking and Prof. Stephen Keevil, who took part with the President in the Work Group on the subject; the staff of IPEM, who supported all stages of the activity; the Law specialists who advised us; the members of the IOMP Rules Committee and IOMP Regional Coordination Board, who discussed the details.

We are now starting the Registration process of the company with its Articles and will accordingly update the IOMP Statutes, as per our letter to the Council from 6 Nov 2017, aiming to complete it by the end of the year and have our legal status activated from 1 January 2018.

On behalf of the IOMP ExCom, I would like to thank all colleagues around the world for your support, and to assure you that we shall do our best to serve IOMP for the benefit of the global development of our profession.

I want to thank also all ExCom Committee members for your hard work over the year, and to wish to everyone in our noble profession a Happy New Year and all the very best!

IOMP ExCom

www.IOMP.org

IOMP OFFICERS

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

Vice President Dr. Madan Rehani
Harvard Medical School and
Massachusetts General Hospital, Boston
Ex-IAEA, Vienna
E: madan.rehani@gmail.com

Secretary General Dr. Virginia Tsapaki
Konstantopoulio General Hospital, Athens, Greece
T: +30 2132 057132,
E: virginia@otenet.gr, 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

Past 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

IOMP CHAIRS

Science Committee: Prof. Geoffrey S. Ibbott
UT M. D. Anderson Cancer Center
E: gibbott@mdanderson.org

Education&Training: Prof.John Damilakis
University of Crete, Iraklion, Crete, Greece
E: John.Damilakis@med.uoc.gr

Professional Relations: Dr. Yakov Pipman
Chair of International Education Activities Committee
at AAPM, NY, USA
E: ypipman@gmail.com

Publications Committee: Prof.Tae Suk Suh
Catholic Medical Center, Seoul, Korea
E: suhsanta@catholic.ac.kr

Awards and Honours: Dr. Simone Kudlulovic Renha
National Commission of Nuclear Energy, Brazil
E: simone@cnen.gov.br

MPW Board: Dr. Magdalena Stoeva
Medical University, Plovdiv, Bulgaria
E: ms_stoeva@yahoo.com

5th IRPA-IOMP-WHO Regional Workshop on Radiation Safety Culture in Healthcare

Madan M Rehani

Vice President, IOMP

Massachusetts General Hospital & Harvard Medical School, Boston, MA, USA

The joint Workshop was one among the 4 events that were held in the week of 6-10 Nov 2017. These were:

1. Joint workshop of International Organization for Medical Physics (IOMP)- International Radiation Protection Association (IRPA)- World Health Organization (WHO) and IAEA on 8-10 Nov.
2. Celebration of International Day of Medical Physics (IDMP) on 7th November
3. Celebration of International Day of Radiology (IDOR) on 8th November.
4. IAEA Regional Workshop on Dose Optimization-Analysis and Interpretation of Patient Dose Data on 6-10 Nov.

The events were held at the National Cancer Center, Putrajaya. The Director General of Health, Malaysia Datuk Dr Noor Hisham Abdullah came on 8th and the celebrations were to open all events even if some had started and were ongoing. IOMP had full visibility as is evident from links below and pictures.

https://putrajayawhoiaea.weebly.com/

The press statement of DG Health contains mention of IOMP https://kpkesihatan.com/2017/11/08/press-statement-dg-of-health-8th-november-2017-who-regional-workshop-for-asian-pacific-countries-on-radiation-safety-culture-in-healthcare-iaea-regional-workshop-on-dose-optimization

There were a total of 110 participants on 8-10 Nov even though the opening function on 8th had nearly 250 persons.

In addition, there were banners and direction signs from the entrance of the building to Auditorium and meeting room, all having IOMP name and logo including the conference bag.

IDMP celebration was done from University of Malaya in Kula Lumpur and was broadcasted live. The YouTube link for IDMP celebration is as below:

https://www.youtube.com/watch?v=K1bG8VCc_qk

Report of the IAEA International Conference on Radiation Protection in Medicine: Achieving Change in Practice 11-15 Dec. 2017, IAEA, Vienna

Madan M. Rehani, Chair Program Committee, Vice President IOMP

Dr Madan Rehani
(Photo credit: C. Villarreal Silva, IAEA)

The conference organized and hosted by the IAEA was co-sponsored by the World Health Organization (WHO) and Pan-American Health Organization (PAHO).

There were 534 participants from 97 countries. IOMP was one of the 16 cooperating organizations. This was a single-track conference implying that there were no parallel sessions. There were 8 scientific session each of about 2.5 hours with 30% to 40% for discussion and 4 roundtables of one hour each with 50% time for discussion. Thus discussion was an important part unlike most conferences where nearly most time goes in presentation and very little time is devoted to discussion. This becomes helpful in gathering views of participants from so many countries that is helpful for policy planning. In addition, there were 3 lunch sessions and 6 Espace sessions during break. There were 57 invited presentations and about 200 posters. There was no commercial component like exhibition and thus participants were focused on scientific deliberation. IAEA conferences do not have registration fee but participations are normally routed through official channel of the IAEA member-state or through the cooperating organization. About 25,000 people viewed live streaming on Facebook of one session on risk communication.

The first conference on this topic was organized by the IAEA in 2001 at Malaga, Spain and it resulted in International Action Plan on Radiological Protection of Patients. The second conference by the IAEA was held at Bonn in December 2012 and it resulted in Bonn call-for-action that was for 2012-2022 period. Thus, the focus of the third conference in 2017, just 5 years after Bonn, was to develop toolkit for wider application of the Bonn Call for Action rather than develop another action plan or call.

To the question if Bonn call for action working, the clear answer was Yes. It was based on performance indicators like: Publications in literature showing more than 100% increase with various relevant search terms; A series of regional and national campaigns in recent years; Active actions and tools by various organizations; Presentations in this conference showing success stories particularly from developing countries; Temporal change in patient and staff doses.

It was felt that the momentum in radiation protection in medicine is highest than seen at any other time in our life time.

Increasing number of procedures, complexity of procedures, new radiological procedures and the fact that medical imaging and therapy shows faster rate of change of technology than other areas of medical practice are common points for impetus.

While protocols are well established in several developed countries and are frequently updated, a large part of the world lacks these protocols. Further, there is inadequate material on benefit assessment for benefit/risk for patients.

Education and training is the key as always, but the conference felt that innovative ways are needed to extend outreach and make training effective.

The gaps in teaching of clinical specialists were well perceived. A significant role is foreseen for industry

The need to encourage research on long term effects of low-level radiation was reemphasized.

Integration of image quality and dose was identified as important action.

Indication based DRLs, effective steps in regulations and automation and handling of big data were identified as important tools and actions.

Identifying and celebrating International day on Radiation Protection of Patients was proposed.

Justification of patient exposure is occupying high momentum. After so many years, justification at Level 2 is becoming important. IOMP and medical physicist can play important role here.

New technologies in radiotherapy (VMAT vs. 3D) are not necessarily always better for all situations and can create unexpected side effects including those related to low dose bath and increased second cancer risk. Need was expressed for a global study on the out of the target doses (unwanted dose in radiotherapy).

The full conclusions shall be available on IAEA/RPOP website in coming months. This was just a short snapshot.

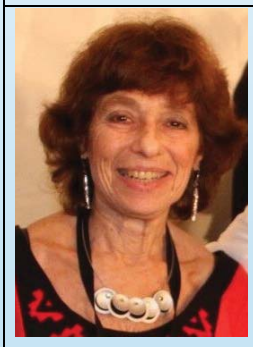
Report from Awards and Honours Committee

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

On this year, the A&H committee had the pleasure to announce for the awards to be given in 2017 and also the awards to be given in the occasion of the World Congress in Prague.

In November 2017, during the 17th Asia Oceania Congress of Medical Physics (AOCMP 2017) and 38th Annual Conference of Association of Medical Physicists of India (AMPICON 2017), the A&H committee had the pleasure to reward the winners of the IDMP award and the Fellow of IOMP (FIOMP) award.

In this special year, when we celebrate the 150th anniversary of Madame Marie Sklodowska-Curie's birth, the IDMP theme was "Medical Physics: Providing a Holistic Approach to Women Patients and Women Staff Safety in Radiation Medicine. In November 7th, the organizers of the congress dedicated a very important section dedicated specially to IDMP. In this opportunity, we had the honour to give the IDMP to medical physicists for their excellent work in medical physics, their efforts for improves the patient care and for promoting medical physics in the world. The IDMP awardees 2017 are:

IDMP 2017				
ALFIM	AFOMP	EFOMP	FAMPO	MEFOMP
				
Diana Feld	William Howell Round	Virginia Tsapaki	Taofeeq A. Ige	Huda M. Al-Naemi

In this same ceremony, we were glad to present the new the new fellowship award. This award was create by IOMP to recognise significant activities for the international development of medical physics, to persons who have made outstanding contributions to IOMP and its regional organisations over a significant period of time. This year the medical physicists who have the honour to receive the IOMP certificate and the FIOMP special pin were:

ALFIM	AFOMP	SEAFOMP	FAMPO	MEFOMP
				
Simone Kodlulovich Renha	Muthana Al-Ghazi	Agnes Peralta	Ahmed Ibn Seddik	Ibrahim Duhani

Now, in this opportunity, in the name of the A&H committee I would like to congratulate all medical physicists that was honored with these awards and especially, with great gratitude, I would particularly like to thank the IOMP for giving me this special honor of being a fellow of IOMP.

In preparation for the World Congress on Medical Physics and Biomedical Engineering to be held next year in Prague, the A&H committee has already sent the announcements for the following awards: IUPESM, Harold Johns Medal, Madame Marie Sklodowska-Curie Award and IUPAP award. All these awards will be given during this congress. The committee already have name of winner of IUPAP award. It was a very hard decision considering the excellent medical physics nominations. We are glad to inform that the winner is Dr. Abdul Nashirudeen Mumuni from Ghana. Dr. MUMUNI is a Lecturer of Medical Physics and Biostatistics in the Department of Biomedical Laboratory Sciences, School of Allied Health Sciences (SAHS) of the Tamale campus of the University for Development Studies (UDS). He is also the Academic Quality Assurance Coordinator for the SAHS. Dr. Mumuni holds a BSc (First Class Honors) Degree in Applied Physics with Environmental Science from the UDS, an MSc (with Commendation) in Medical Physics Computing from the University of Aberdeen, UK under the CSFP/ACU Scholarship Award, and PhD in Clinical Physics with specialization in Neuroimaging and Psychological Medicine from the University of Glasgow, UK under joint Scholarship Awards from the Scottish Imaging Network: A Platform for Scientific Excellence (SINAPSE, UK), the University of Glasgow and the Sackler Institute for Psychological Research. Dr. Mumuni also holds certificates in the areas of Medical Imaging, Medical Statistics and Clinical Practice, awarded by the University of Glasgow and SINAPSE.
The A&H committee is in continuous work to consider the implementation of new awards in order to recognize all efforts made by medical physicists in the world and the committee will be very grateful to receive suggestions and new ideas.

Congratulations for all medical physicist, you all make a different in the health care!

IDMP 2017: The whole world learnt something about Medical Physics

John Damilakis, PhD, Chair IOMP Education and Training Committee

IOMP celebrated the 5th International Day of Medical Physics (IDMP) by organizing three international events in Jaipur, Kuala Lumpur and Vienna in cooperation with the Asia-Oceania Congress of Medical Physics, the University of Malaya, the World Health Organization (WHO), the International Atomic Energy Agency (IAEA) and the University of Malaya. All three events were broadcasted live. In Jaipur, the inauguration program started with the 'lighting of IDMP lamp' procedure and the release of IDMP poster. IDMP program included a rally and sessions on 'Medical Physics education', 'Female medical physicist: global and regional perspective' and 'Radiation protection of women patients'. A special 'IOMP-IDMP program' session was streamed live on the IDMP webpage. More inforrmation about these IDMP activities can be found at http://aocmp-ampicon2017.org/?page_id=4172

A global webcast on 'Marie Curie's life and achievements' organized by the University of Malaya in cooperation with IOMP and the WHO was successfully organized in Kuala Lumpur. The webcast was streamed live on YouTube. Program included 3 presentations on 'IDMP: What, why, how, expectations and outreach achieved', 'Building on Marie Curie's legacy for strengthening radiation safety culture in healthcare' and 'Madam Marie Curie - A great scientist's contribution to human kind'. The webcast can be accessed on https://www.youtube.com/watch?v=K1bG8VCc_qk.

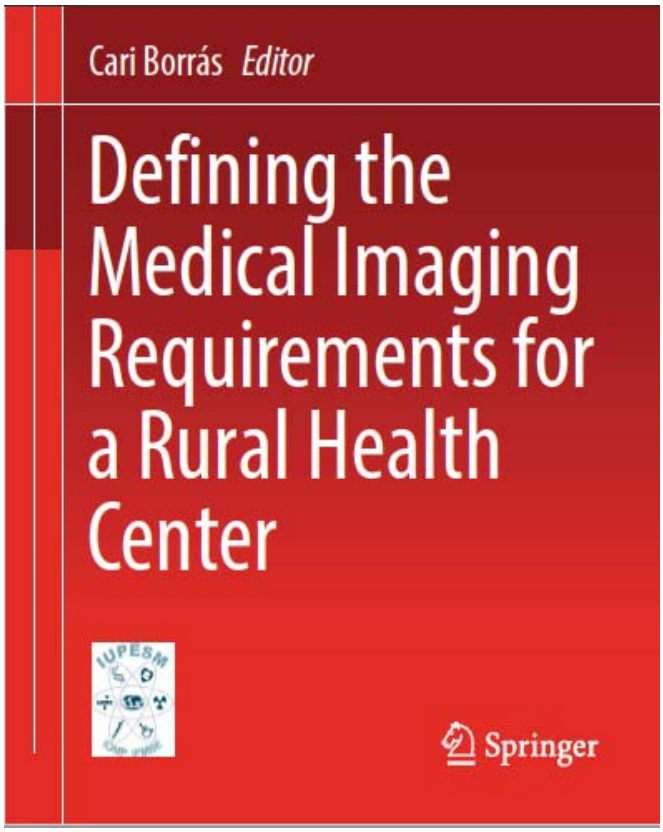
The IAEA in cooperation with the IOMP hosted a panel discussion at its headquarters in Vienna entitled 'Medical Physics in Cancer Treatment: Supporting Women's Health'. During this event, experts from different countries and from different disciplines highlighted the contributions of medical physics to support women's health. The slides and the programme of this panel discussion are available for download on https://humanhealth.iaea.org/HHW/MedicalPhysics/TheMedicalPhysicist/IDMP/2017/index.html

The momentum of IDMP continues to increase. IDMP 2017 was celebrated in many countries all over the world: Austria, Bangladesh, Belgium, Canada, Germany, Ghana, Greece, India, Iran, Italy, Malaysia, Moldavia, Portugal, Poland, Romania, Spain etc. I would like to heartedly thank colleagues who have sent material from the IDMP events they have organized. You can find more information about IDMP activities at http://www.iomp.org/idmp/.

IDMP celebration in Jaipur: Introductory speech by Dr Arun Chougule

Defining the Medical Imaging Requirements for a Rural Health Center

Magdalena Stoeva, Chair IOMP MPWB



The recently published book Defining the Medical Imaging Requirements for a Rural Health Center edited by Cari Borrás is focused on establishing the criteria and providing a practical approach for the medical imaging services that should be made available to rural health centers. The team that contributed to this book is formed by well known professionals in the field, among them William Hendee, Slavik Tabakov and Kwan Hoong Ng.

The book is directed to an inter-disciplinary audience, including the medical and technical staff, as well as rural hospital managers.

The main objective in setting up a rural health center is to increase the availability of healthcare on various regional levels and to significantly reduce the number of patients forced to travel to distant medical facilities to obtain health services. To manage patients properly, rural health centers should be part of regional and more complete systems of medical health care installations in the country on the basis of a referral and counter-referral program, and thus, they should have the infrastructure needed to transport patients to urban hospitals when they need more complex health care. The coordination of all the activities is only possible if rural health centers are led by strong and dedicated managers. The book also represents a valuable resource for those physicians, medical physicists and service engineers who provide virtual and physical consultations.

The book has over 150 pages, separated in 9 Chapters and a section dedicated to the recommendations made at a topical workshop.

Medical and Public Health Needs of a Rural Health Center

- Characteristics of a Rural Health Center
- Medical Imaging Needs in a Rural Health Center from a Clinical Point of View

Medical Imaging Modalities

- Medical Imaging Equipment Characteristics at the Health Center Level: Overview
- Technical Specifications of Medical Imaging Equipment

Planning a Medical Imaging Service

- Equipment and Physical Infrastructure
- Basic Training and Continuing Education of Technical Staff in Rural Health Centers
- Tele-Imaging and Networking

Operational Considerations

- Quality Control, Radiation Safety and Maintenance Programs
- Patient Referral to Secondary and Tertiary Health Care Levels

Recommendations Made by the Participants of the Workshop "Defining the Medical Imaging Requirements of a Health Station", Porto Alegre, Brazil April 2011

The content and structure of the book are excellent which turns it into a valuable resource for medical physicists and engineers, physicians, and management, providing information that will optimize their work and make it more efficient both in terms of technological and organizational aspects.

References:

http://www.springer.com/gp/book/9789811016110

"17th Asia Oceania Congress of Medical Physics (AOCMP) and 38th Annual Conference of Association of Medical Physicists of India (AMPICON) 2017"
4th -7th November, 2017, Jaipur, Rajasthan, India

More than 850 delegates from 30 countries attended the "17th Asia Oceania Congress of Medical Physics (AOCMP) and 38th Annual Conference of Association of Medical Physicists of India (AMPICON) 2017". The congress was hosted and organized by the Department of Radiological Physics, SMS Medical College & Hospital, Jaipur, "Pink City" during 4th to 7th November 2017. The main organizing professional bodies of the conference are Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) and Association of Medical Physicists of India (AMPI). This scientific event was Co-sponsored by the International Organization of Medical Physics (IOMP), American Association of Physicists in Medicine (AAPM) and endorsed by Middle East Federation of Organizations of Medical Physics (MEFOMP). This was the first time that an AFOMP annual scientific meeting held in India. The theme of the conference was "Advances in Medical Physics: Shaping the future of modern healthcare". The main aim of the conference was to promote the interdisciplinary research at global level. This resulted in participation of delegates from all the continents in the world and the total number of visitors for conference website (aocmp-ampicon2017.org) was more than 2,30,000.

This scientific event played a vital role in disseminating knowledge and discussing new avenues in Medical Physics. The conference was focused on the new emerging trends in Medical Physics, Radiotherapy, Nuclear Medicine, Diagnostic Radiology, Biophysics, Biomedical engineering, Radiobiology, Radiation safety and regulations, Medical physics training and education. In context of the theme of the conference, the following key scientific sessions were planned by the scientific committee of the conference:

- Proton & Heavy ion Therapy
- Modern Medical Imaging
- Affordable therapy technologies
- Advanced Medical Research
- Monte Carlo & Special Algorithms
- Latest CT Technologies
- Electron Beam Therapy & Special Procedures
- High Tech Radiotherapy and challenges
- Radiation incidents and accidents in medicine
- Nuclear Medicine & Radiobiology
- Radiological and Nuclear Emergencies
- Brachytherapy
- Modern RT Techniques & Planning
- New Developments in Photon Brachytherapy
- Dosimetery and Quality Assurance

Welcome of delegates of AOCMP AMPICON 2017

Dignitaries on the dais

•Materials and equipment for Research in Medical Physics
•Radiobiophotonics& Normal Tissue Protection- A Firewall
•Small Field dosimetry
•Medical Physics Research & Biomedical Engineering
•Radiobiology
•Diagnostic Dose Reference Levels (DRLs)
•e-Learning resources in Medical Physics
•Medical Physics Training and Education
•Female Medical Physicist: Global and Regional perspective
•Radiation Protection and Imaging of Women Patients

This International conference provided a perfect forum to fulfil the objective, foster knowledge up gradation and encouraged exchange of ideas. There was a comprehensive scientific programme planned in 42 sessions including 1 Oration, 1 keynote presentation, 37 invited talks by the eminent speakers, 90 oral papers, 257 posters, 2 special panel discussions, 30 mini-symposiums talks, 12 IOMP School talks, 4 CMPI teaching talks, 13 IDMP talks, 3 Trade talks and 1 Lunch symposium. The scientific proceedings of the congress have been published in the Journal of Medical Physics (JMP) November 2017 as a dedicated special issue (available at: www.jmp.org.in)

The program started with an inaugural function which was headed by honored chief guest Dr Raja Babu Panwar, Hon'ble Vice Chancellor, Rajasthan University of Health Sciences (RUHS) presided by Dr U S Agarwal, Principal & Controller, SMS Medical College, Jaipur, India. Our guest of honor was Prof Slavik Tabakov, President IOMP and special guests for the inaugural function were Dr D S Meena, Medical Superintendent, SMS Medical College, Jaipur and Prof Tae Suk Suh, President AFOMP. This international conference was inaugurated by Dr. Raja Babu Panwar with lighting the lamp. The function started with Goddess Saraswati Vandana.

This was followed by welcome address by Prof Arun Chougule, PHOD, Department of Radiological Physics, SMS Medical College & Hospital and Organizing Chairman of the event and introductory address to the participants by Dr D S Meena. A brief overview about the Association of Medical Physicists of India (AMPI) activities was given by Dr. V. Subramani, Secretary AMPI. This was followed by the release of abstract CD and Souvenir of the conference. Prof Arun Chougule, President AMPI briefed about the important milestones in his presidential remark. The AFOMP newsletter, abstract book of conference and Medical Physics Gazette were released during the inaugural function. The welcome and introductory addresses were delivered by President AFOMP and President IOMP. Thereafter, the trade exhibition was also inaugurated by Dr Raja Babu Panwar. More than 30 trade participants put their stalls to diplay/demonstrate their equipments/products. The inaugural session ended with a tea break.

During the scientific sessions followed in four parallel session/four halls, the speakers spoke on diverse topics in Medical Physics ranging from SBRT/ SRS, IGRT, VMAT, 4 D Ultrasound, Molecular Imaging and radiobiology. Several specific sessions have been designed to address specific issues relevant to the Indian and Asia-Pacific region and collaborative efforts with other regions (MEFOMP) and global organizations (IOMP). A session dedicated to particle therapy for cancer treatment featured participation by Japan and Europe leaders in targeted particle therapy, including Alejandro Mazal (France), Atsushi Kitagawa (Japan), Shigekazu Fukuda (Japan), Yoshinori Sakurai (Japan). A keynote presentation on 'preparedness for radiological and nuclear emergencies' delivered by Manu Thandra (India). AMPI's Dr Ramaiah Naidu Memorial Oration-2017 was delivered by PGG Kurup (India). The speakers were very happy that the audience interacted after every presentation.

In the evening of Day 1 (Nov 4), the felicitation

Welcome address by Organizing Chairman

Media coverage at Inauguration

Invited talk by Prof Alejandro Mazal

programme was arranged to honour former AMPI presidents and secretaries and present AFOMP, IOMP and AAPM office bearers who attended the conference. The felicitation was done by Dr. Raja Babu Panwar, Hon'ble Vice Chancellor, RUHS in coordination with Arun Chougule, President AMPI. The felicitation honours were bestoved on Dr. U Madhvanath (Mumbai, India), Prof. P S Negi (Punjab, India), Dr. Kanta Chokra (Mumbai, India), Dr. A S Pradhan (Mumbai, India), Prof. S K Koul (Kashmir, India), Dr. Ravi Kumar Kher (Mumbai, India), Dr. D D Deshpande (Mumbai, India), Dr. Challapali Srinivas (Mangalore, India), Dr. S D Sharma (Mumbai, India) Dr. M Ravikumar (Bengaluru, India), Prof.Tae Suk Suh (Seoul, Korea), Dr. Howell Round (Hamilton, New Zealand), Prof. Slavik Tabakov (London, UK), Dr.Virginia Tsapaki (Athens, Greece),Dr. John Damilakis (Crete, Greece),),Dr. Melisa Martin (CA, USA). This was followed by the Rajasthani folk dances, art forms and music by the folk artists. They performed various folk dance forms to depict enriched culture of Rajasthan. The main dance art forms performed were Chari dance, Kalbelia, Bhawai dance, Ghoomar, Mayur, Chirmi, Banjara and Fire dance with unique combination of Shanai and Tabla rhythms. The delegates charmed with these folk dance and musical performances.

The organizers have arranged a cultural evening dedicated to the delegates to perform and showcase their traditional art forms on Day 2 (Nov 5) evening during the banquet dinner at a very beautiful and elegant hotel Haveli. This was proven an ideal step for achieving the goal of international integration and to nurture the harmony of various independent cultures when the performances performed by the participants from Korea, South Africa and India. The performances were applauded by the audience.

Rajasthan is one of the most tribally diverse, artistically decorative and architecturally magnificent regions in India. Jaipur is the capital of Rajasthan and reminder of a rich and romantic past that speaks of heroism, honor and chivalry. Jaipur is a beautiful city surrounded by many magnificent historical and natural attractions, including two of India's most famous UNESCO World Heritage Sites, the Taj Mahal and Agra Fort. There were several City tours also arranged for the delegates to visit Amber, Jaigrah, Narhargarh fort, Jal Mahal, City Palace, Hawa Mahal, Jantar Mantar, Albert hall. A full day Agra, Taj Mahel, Fatehpur Sikri Tour was arranged for the delegates after the conference on 8th November. In this manner, this conference put their effort to provide great scientific feast to delegates as well as social, cultural and tourism bonanza.

To raise awareness of Medical Physics profession, the International Organization for Medical Physics (IOMP) celebrates annually the International Day of Medical Physics (IDMP) on November 7. The day was chosen in recognition of the pioneering research work on radioactivity of Marie Sklodowska -Curie who, on that day in 1867, was born in Poland. On 7th November 2017, 150th birth anniversary of Marie Sklodowska Curie is being celebrated as 5th International Day of Medical Physics (IDMP). This year 150th birth anniversary of Madam Marie Curie celebrated at Jaipur, India along with conference on 7th November. This year's celebration is dedicated to women with the theme "Medical Physics: Providing a Holistic Approach to Women Patients and Women Staff Safety in Radiation Medicine" and provided the opportunity to understand and tackle the concerns and hazards of the use of ionizing radiation in healthcare from women's perspective. As part of the IDMP celebrations, this year also we arranged a public awareness rally. A series of events and lectures were delivered to spread awareness about Women patient and Women Staff Safety in Radiation Medicine. Conference participants were also invited to attend a rally on 7th Nov. This rally was proven a great step to reach out to common public raising awareness about the role of Medical Physics in Healthcare as well as the role

Felicitation ceremony

Rajasthani Folk dance Kalbelia during cultural evening

AFOMP Cultural evening

of Medical Physicists in Hospitals especially Women Physicists. The IDMP rally was flag hosted by Prof Slavik Tabakov, President IOMP with leaving balloons in the air. Over 400 delegates from various countries participated in this IDMP rally. The participants carried banners, posters and placards which illustrated the applications of Physics in different aspects of modern healthcare and also showcased the highlights of the unspoken contributions of women Medical Physicists. The rally went to a historical monument of Jaipur Albert hall. The whole programme covered by local/national media in regional (Rajasthani), Hindi and English languages in electronic, printed media (Dainik Bhaskar, Rajasthan Patrika, Jaipur Times, Times of India) and other various forms of social media. The key highlights of IDMP rally was telecasted on television by regional electronic media (ETV news, Zee news). The IDMP rally was live webcasted internationally by the IOMP. The most important part of this conference 'IDMP celebration with Rally' was ended with a grand success. This IDMP celebration was webcasted live from Jaipur along with the live webcasts from the IAEA and the WHO.

The closing ceremonies featured with various awards and grants to awardees including AFOMP, awards, AMPI awards, ICTP partial grants and early bird registration awards.

•The AFOMP Best Paper Awards for three top best paper presentations in the conference: Dohyeon Kim (Korea), Josmi Joseph (India), Naonori Hu (Japan). The award consists of Certificate of award and cash prize.

•The AFOMP Best Poster Award for the three top best poster presentations: Yong Jin Kim (Korea), Zakiya Al Rahibi (Australia), P. Venkatranam (India). The award consists of Certificate of award and cash prize.

•AMPI Best Paper Award given to Naveen Kumawat (Delhi, India). The award consists of Certificate of award and cash prize.

•AMPI Best Poster Award given to Deepak Shrotriya (Jhansi, India). The award consists of Certificate of award and award money.

•AMPI Meritorious Medical Physicist Award given to Teerth Raj Verma (Lucknow, India). This award carry a cash prize of Rs.10000/- and a citation.

•AMPI Dr M S Agarwal Young Investigator Award given to S. A. Yoganathan (Lucknow, India). The award consists of Certificate of award and award money.

•The ICTP Partial Travel Grant awarded to five participants from OEA countries of Asia and award consist of Euro 200 each. These awards were sponsored by the ICTP. The ICTP Partial Travel grants were given to Md Hafiz Zin (Malaysia), Kanchan P Adhikari (Nepal), Md Nahid Hossain (Bangladesh), Surendra B Chand (Nepal), Jayapramila Jayamani (Malaysia).

•Early bird registration lucky draw winner's awards given by the organisers. First 200 Early bird registrations were selected for the lucky draw and 3 registrations were randomly selected among the lot. The winners are: Rani Maria Antony (Manipal, India), Rifa K T (Calicut, India), Shrutisikha Goswami (Guwahati, India).

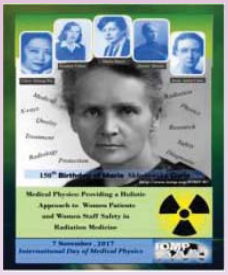
In the end, Prof. Arun Chougule, Chairman Organizing Committee thanked all the participants for attending the conference. The valedictory function came to a conclusion with feedbacks from the participants. All the participants gave their thanks to the organizing team by standing ovation for successfully organizing the conference with a great success.

We gratefully acknowledges the active participation, cooperation and support of the organizations including AFOMP, AMPI, IOMP, AAPM, ICTP and MEFOMP and all individuals involved in this conference.

IDMP Rally Flag march

Winners of AFOMP awards

ICTP Partial Travel Grant Awardees



International Day of Medical Physics 7th November 2017 AOCMP-AMPICON 2017

This year the International Organization for Medical Physics (IOMP) has celebrated International Day of Medical Physics (IDMP) in Jaipur "Pink City" of India on 7 th November, 2017, the fourth day of 17th Asia Oceania Congress of Medical Physics (AOCMP) and 38th Annual Conference of Association of Medical
Physicists of India (AMPICON) 2017. Every year IDMP day is celebrated as testimony of very important date in the history of Medical Physics, as on 7th November 1867, great scientist Maria
Sktodowska-Curie was born in Poland. She had discovered the phenomena of Radioactivity, which has opened gates of Physics to Medicine and with this, field of Medical Physics has enhanced in healthcare. Marie Curie was the only scientist to win Nobel Prizes in multiple scientific disciplines (Physics & Chemistry)
in the history of Nobel prizes. She is a winner of the Nobel Prize in Physics in 1903. This year's IDMP celebrations is special as we are celebrating 150th birth anniversary of Marie Curie. So, this year IOMP has appropriately chosen the theme of IDMP day as "Medical Physics: Providing a holistic approach to women patients and women staff safety in radiation medicine" to recognize and appreciate the contribution of women in Medical Physics and provided the opportunity to understand and tackle the concerns and hazards of the use of ionizing radiation in healthcare from women's perspective.

This year's IDMP day celebration in Jaipur started in pink morning with inaugural ceremony by lightening of lamp and remembering almighty, it is followed by garlanding the photograph of great Scientist Marie Curie.

After garlanding, the day started with floral welcome of our eminent guest for the day Prof. Slavik Tabakov and Prof. John Damilakis, Dr. Virginia Tsapaki. After all inaugural addresses IDMP poster was released to spread awareness among general public.

This year as part of the IDMP celebrations, a series of events and lectures planned to spread awareness about Women patient and Women staff safety in Radiation Medicine. This IDMP celebration webcasted live from Jaipur along with the live webcasts from the IAEA and the WHO.

As part of celebration a public awareness rally was organised basically by female students and conference participants were also invited to attend a rally. The rally was flagged off by Prof. Slavik
Tabakov and Prof. Arun Chougule followed by balloon rising This rally was proven a great step to reach out to common public raising awareness about the role of Medical Physics in Healthcare as well as the contribution of Medical Physicists in Medicine especially Women Physicists. Over 400 delegates from various countries participated in this IDMP rally. The participants carried banners, posters and placards which illustrated the Physics applications in different aspects of modern healthcare and also showcased the highlights of the unspoken contributions of women Medical Physicists. The rally went to the Albert hall, historical monument of Jaipur. The whole programme covered by local/national electronic & print media and other various forms of social media. The scientific session covering the medical education in MEFOMP, AFOMP and other regions was very well attended. The live streaming of 02 hours session about the radiation safety of women radiation worker and the women patient was the key of this programme and is very well received across the globe.

In the end, Prof. Arun Chougule, Chairman Organizing Committee thanked all the participants for attending the conference. The valedictory function came to a conclusion with feedbacks from the participants. All the participants gave their thanks to the organizing team by standing ovation for successfully organizing the symposium with a great success.

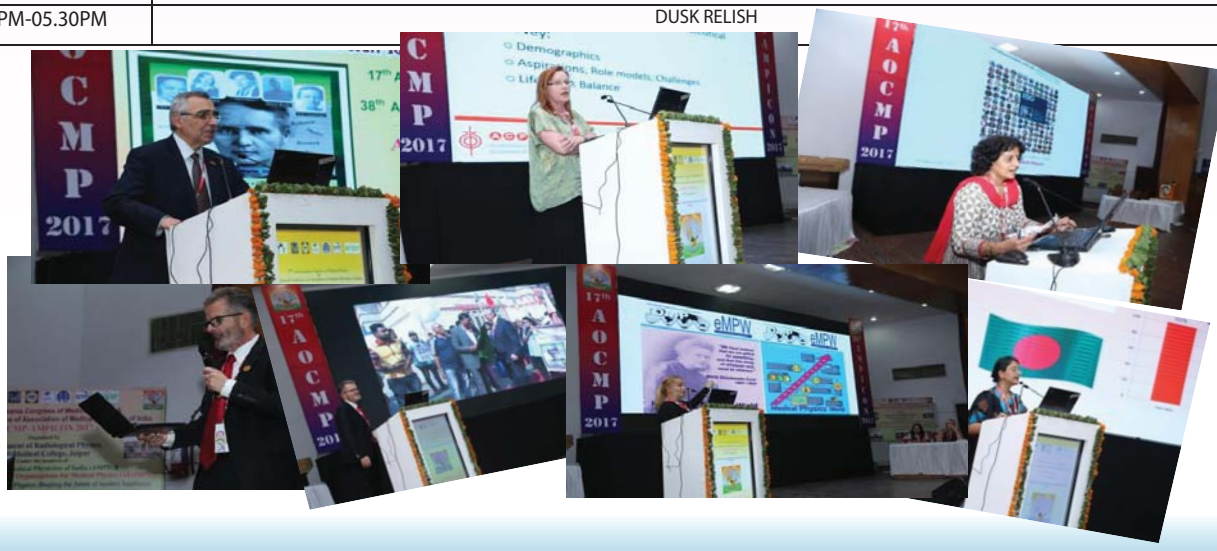
IDMP 2017

JAIPUR INDIA

IDMP Day November 7th, 2017

Scientific Schedule

Time	Programme	
	Hall A (Main Hall)	
09.00AM-09.30AM	IDMP INAUGURATION	
9.30AM-10.40AM	SESSION1:MEDICAL PHYSICS EDUCATION Chairpersons : Dr J V elmurugan, Dr K Muthuvelu	
9.30AM-10.00AM	History of Medical Physics – a new IOMP project	Dr. Slavik Tabakov, UK
10.00AM-10.20AM	Medical Physics Education & Profession perspective in AFOMP Region	Dr. Tae Suk Suh, S. Korea
10.20AM-10.40AM	Medical Physics perspective :INDIAN SCENARIO	Dr. S D Sharma, India
10.40AM-11.15AM	FLAGGING OFF OF IDMP RALLY AND HIGH TEA	
11.15AM-01.30PM	SESSION2:FEMALE MEDICAL PHYSICIST: GLOBAL& REGIONAL PERSPECTIVE Ch airpersons: Dr S Sathiyan, Mrs Deboleena Mukherjee	
11.15AM-11.30AM	Pioneer Women Medical Physicists from MEFOMP Countries	Dr. Huda Al Naemi, Qatar
11.30AM-11.45AM	Medical Physicists Certification Process and Examination in the Middle East	Dr. Ibrahim Duhaini, Lebanon
11.45AM-11.55AM	MPW	Dr. Magdalena Stoeva, Bulgaria
12.00PM-1.30PM	SESSION 3 : IOMP- IDMP PROGRAMME [LIVE TELECAST]	
12.00PM-12.05PM	Introductory talk on IDMP	Dr. Slavik Tabakov, UK & Dr. John Damilakis, Greece
12.05PM-12.20PM	Medical Physics contributions to women 's health and Radiation Safety	Dr. H. Anupama Azhari, Bagladesh
12.20PM-12.35PM	IOMP Women survey data	Dr. Virginia Tsapaki, Greece
12.35PM-12.50PM	MP Education, Profession and as a Career for women in Bangladesh: Problems and Perspective	Ms. Kazi Towmim Afrin , Bangladesh
12.50PM-1.05PM	Women Medical Physicists. Current status in India	Dr. Shobha Jayaprakash, India
01.05PM-01.20PM	Women and men in the Australasian college of physica l scientists and engineers in medicine : Workforce survey	Dr. Eva Bezak, Australia
01.20PM-1.30PM	DISCUSSION	
01.30PM-02.30PM	Lunch	
02.30PM-04.00PM	SESSION 4: RADIATION PROTECTION AND IMAGING OF WOMEN PATIENTS Chairpersons: Dr Sushama P, Dr KM Ganesh	
2.30PM-3.00PM	Radiation safety aspects pertaining to female patients and staff	Dr. Nidhi Patni, India
3.00PM-3.30PM	Dose management of pregnant patients in Radiology	Dr. John Damilakis, Greece
3.30PM-4.00PM	Segmentation of Breast Masses using active contour model ling	Dr. William Rae, South Africa
04.00PM-05.00PM	VALEDICTORY FUNCTION AND AWARD DISTRIBUTION	
05.00PM-05.30PM	DUSK RELISH	



Unification of Quality Control for all CBCT modalities

Hugo de las Heras Gala, Alberto Torresin, Alexandru Dasu, Osvaldo Rampado, Harry Delis, Irene Hernández Girón, Chrysoula Theodorakou, Jonas Andersson, John Holroyd, Mats Nilsson, Sue Edyvean, Vesna Gershan, Lama Hadid-Beurrier, Christopher Hoog, Gregory Delpon, Ismael Sancho Kolster, Primož Peterlin, Julia Garayoa Roca, Paola Caprile, Costas Zervides

Working group of EFOMP, ESTRO and IAEA for CBCT

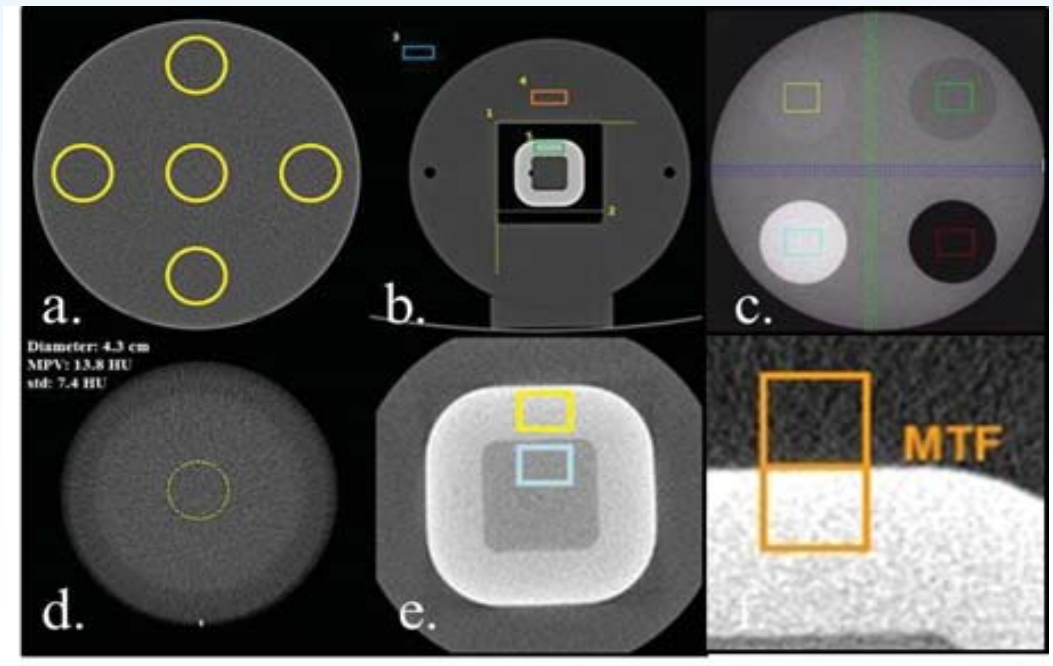
International cooperation for the sake of real world-wide safety

Cone-Beam Computed Tomography (CBCT) is used in dental and maxillofacial practices, in some interventional radiology procedures and in radiotherapy. A protocol to objectively perform acceptance and constancy tests of these modern scanners, describing the necessary measurements of radiation output and image quality parameters, has been developed by international consensus. Representatives of the European Federation of Organizations of Medical Physics (EFOMP), the European Society for Radiation Oncology (ESTRO) and the International Atomic Energy Agency (IAEA), in agreement with the American Association of Physicists in Medicine (AAPM) and the European Radiation Dosimetry Group (EURADOS) joined their efforts to produce the guideline "Quality control in CBCT".

Although commercial alternatives are mentioned, the protocol includes instructions to perform the image quality measurements using free downloadable software. In addition, two different kinds of meters are considered for radiation measurements. Therefore, each reader can apply the recommendations without the need of buying new software or new meters.

The guideline is available for free download from the new EFOMP website:
https://www.efomp.org/index.php?r=fc&id=protocols.

We want to warmly thank all members of the group, but also their supervisors and the management of the scientific associations who have altruistically supported this voluntary effort. We ask you all to share this information, which is a real example of international cooperation for the sake of world-wide safety.



AMTZ: INDIA'S FIRST MEDICAL TECHNOLOGY ZONE

The creation of Andhra Pradesh MedTech Zone (AMTZ) is based on the fact that medical devices manufacturing requires certain high investment facilities which are too capital intensive for individual manufactures to invest upon. With a market size of close to $4 billion, 78% of the medical devices in India are imported from other countries. A park with in-house high investment scientific facilities would help manufacturers reduce the cost of manufacturing up to 40% and also to simplify the end-to-end operations. While the park would have all such facilities in-house to reduce manufacturing process costs, it would have modern state of art over 200 independent manufacturing units, each over a built-in ready to use area in 10,890 sq.ft. (1,210 sq.yd.) / 21,780 sq.ft. (2,420 sq.yd.) / 43,560 sq.ft. (4,840 sq.yd.) at a very cost effective long-term lease for 99 years. Located in an area which is well connected with Railways, Roadways, Waterways and Airways with near presence of Industrial Corridors, Port and Harbour to reduce logistical costs, AMTZ in Visakhapatnam is India's first medical device manufacturing zone spread over 1.3 million square yards. AMTZ also provides the manufacturers with various Scientific Facilities and various Commercial Facilities on a Pay-per-Use basis at a highly-subsidized rate. AMTZ Offerings in a Nutshell:

- Pre-built ready to use manufacturing units in sizes of 10,890 sq.ft. (1,210 sq.yd.) / 21,780 sq.ft. (2,420 sq.yd.) / 43,560 sq.ft. (4,840 sq.yd.) or multiples thereof;
- Capital Intensive Scientific Facilities (EMI/EMC Testing, 3D Design & Printing, Biomaterials Testing, Gamma Irradiation, X-ray & CT Scan tube manufacturing, etc.);
- Commercial Facilities (Central Warehouse, Exhibition Halls, Convention Centre, etc.);
- Financial Support/Advisory and Technology Transfer, Man-Power Hiring Support, etc. (through strategic partners);
- Export Facilitation & Preferential Market Access;
- Easy access to Certifying bodies within the Zone.

A Manufacturing unit of plot area 10,890 sq.ft. (1,210 sq.yd.) can be booked at USD 100 and subsequent sizes in multiples thereof on AMTZ website and the one-time cost (for 99 years) of the same is USD 18 per sq.ft. Incubation Centers and Office Space is also available at USD 62 per sq.ft.

Website: www.amtz.in
Email: info@amtz.in

AMTZ
सिद्धिर्भवति कर्मजा

Celebration of 5th International Day of Medical Physics (IDMP)-2017: Activities of BMPS

Karmaker N, Zaman S, Kausar A

Bangladesh Medical Physics Society (BMPS)

Dept. of Medical Physics and Biomedical Engineering,

Gono Bishwabidyalay (University), Savar, Dhaka, Bangladesh.

Introduction

Bangladesh Medical Physics Society (BMPS) is a professional organization that is performing their activities to develop the field of medical physics in Bangladesh. BMPS is working to meet the aims to raise public awareness in medical physic education, professional and career development, to make a bridge between national and international organizations, inspire the women in this field and so on. This society is continuously improving by their activities which is promoted by a young group of members. As a part of regular activities, BMPS celebrates the International Day of Medical Physics every year with different activities. Every year BMPS publishes an e-newsletter on the day. This year 5th issue of enewsletter has been published. The IDMP celebration started at 15:00 by a rally where medical physicists, academics, students and executive members participated followed by the seminar, that was organized at the department of Medical Physics and Biomedical Engineering (MPBME), Gono University, Savar, Dhaka where speakers talked about the importance of medical physics day and theme of IDMP. This program was organized by BMPS in cooperation with dept. of MPBME.

Activities:

IDMP poster in Bengali Language

BMPS published the IDMP poster in Bengali language like the other country and organizations. That helped our nation people to understand more about the IDMP and the theme of this year. BMPS also publishes and circulates this poster to the different public and private organizations throughout the country. (Fig 01).

Voice of BMPS-2017

The aim of publishing the "Voice of BMPS" (Fig 02) is to highlight the activities of BMPS members, such as academic, hospitals, scientific and professional development both nationally and internationally. BMPS has been publishing this e-newsletter since 2013.

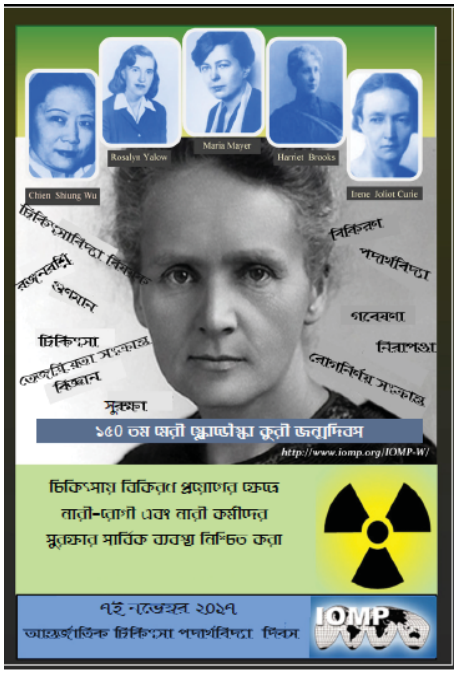


Fig 01: IDMP poster in Bengali language.

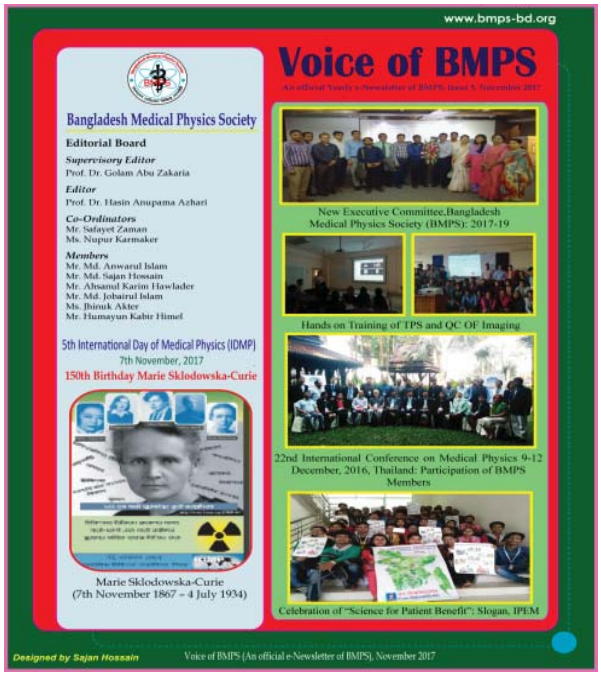


Fig. 02: Voice of BMPS

Fig.03: Poster competition

Fig. 04: Writing Contest

Fig 05: IDMP-2017 Rally

Poster Compitation on " Biography of Marie Curie"

BMPS has arranged a poster competition on "Biography of Marie Curie". It was held on 10th February 2017 at the Department of Medical Physics & Biomedical Engineering (MPBME), Gono Bishwabidyalay (University), Savar, Dhaka, Bangladesh. About 11 posters were displayed in the gallery and judges played an important role to evaluate the poster presentations. Judges submitted their evolution report for each poster. According to the evaluation, three posters were selected for first, second and third prizes (Fig 03).

Scientific Writing Contest

The aim of the scientific writing contest on "Importance of Medical Physicist in Cancer Treatment" (Fig 04) is to create public awareness and popularize the medical physics subject to all level of students with science background in Bangladesh. A good number of young students of medical physics and biomedical engineering submitted their paper. This program was arranged by paper submission according to scientific guideline, then the papers were evaluated in different criteria by the judges and finally 1st and 2nd winners were selected based on the evaluation report.

IDMP Rally and Seminar

Celebration of "5th International Day of Medical Physics", 7 November 2017 (Theme: Medical Physics: Providing a Holistic Approach to Women Patients and Women Staff Safety in Radiation Medicine) at Dept. of Medical Physics and Biomedical Engineering, Gono University arranged a colorful rally and seminar on "Contribution of Marie Curie in Medical Physics". BMPS members (Former President, Present Vice President, Secretary, Joint Secretary, Treasurer and Executive Members participated in this program. Mr. Md Abu Kausar, Secretary BMPS, presided the program and talked about the importance of the IDMP and radiation safety of women radiation workers. Dr. Kumaresh Chandra Paul, Past President, discussed about progress of BMPS new generation medical physicist. Mr. Safayet Zaman, Vice President, Ms. Nupur Karmaker, Treasurer, and Md. Mostafizur Rahman, Executive Member also talked about the different aspect of medical physicis and safety of women in radiation area.

Acknowledgement

We are grateful to all faculties, students and staffs of the Dept. of MPBME and all the members of BMPS.

Fig.06: IDMP Seminar

2nd International Conference on Advances in Radiation Oncology (ICARO-2)

T Berris, KY Cheung and G Ibbott

ICARO-2 took place at the IAEA headquarters in Vienna on 20-23 June 2017. It was the second conference of the series, following the very successful ICARO-1 that took place in Vienna in 2009. ICARO-2 aimed to provide a venue for exchanging knowledge and ideas regarding existing and emerging topics relevant to radiotherapy, radiobiology, and medical physics. The topics spanned many fields including those of technology, radiotherapy techniques, safety and quality assurance, health economics in radiotherapy, personalized medicine and of course, education and training of professionals.

The conference targeted mainly radiation oncologists, radiobiologists, medical physicists and radiologic technologists and it was a great opportunity for networking among professionals from all around the world. The broader objective of ICARO-2 was to help in the direction of addressing the challenge of cancer management in IAEA member states. More specifically the conference had the following objectives (as stated by the IAEA [1]):

- To review the current role and future potential of technological, medical physics and molecular/biological innovations for clinical use in radiation oncology
- To explore the applications of improved imaging tools in treatment planning
- To review the current status of evidence based recommendations for the treatment of common cancers
- To review the latest developments in medical dosimetry and dose auditing procedures for new radiotherapy techniques
- To review the current status of comprehensive audits in radiotherapy
- To review resource sparing approaches in clinical radiotherapy practice
- To exchange information on the current advances and implementation challenges in the field among leading experts
- To define future challenges and directions in the clinical use of radiotherapy

The conference featured plenty of plenary, parallel and poster sessions so as to provide a lot of opportunities for discussion on a multitude of important issues pertinent to the recent advances in clinical radiotherapy and current research topics.

ICARO-2 participation was increased by almost 70% as compared with ICARO-1 in 2009 (please see Fig.1). The number of participating countries was also significantly increased in the latest conference (34.3% increase). Fig. 2 provides an overview of representation of the different regions of the world

The IOMP participated in the scientific proceedings of ICARO-2 through the contributions of Drs Kin Yin Cheung and Geoffrey Ibbott. Dr Ibbott talked about developments in quality assurance methods for modern radiotherapy techniques/technologies [2]. He stressed the importance of independent verification of treatment techniques before their application in the clinic. Having also participated in ICARO-1, Dr Ibbott provided an overview of what changed since 2009 from the medical physics perspective [3].

Being the past president of IOMP, Dr Cheung provided an overview of IOMP's mission and activities. More specifically he talked about IOMP's key role in education and training of medical physicists and in supporting the implementation of new technologies in radiotherapy [4]. IOMP accreditation activities were also presented, focusing on the role of the International Accreditation Board and on the activities undertaken by IAEA and IOMP towards

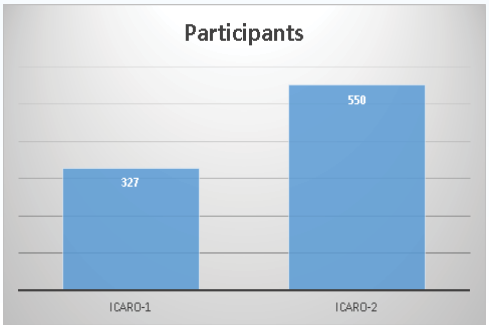
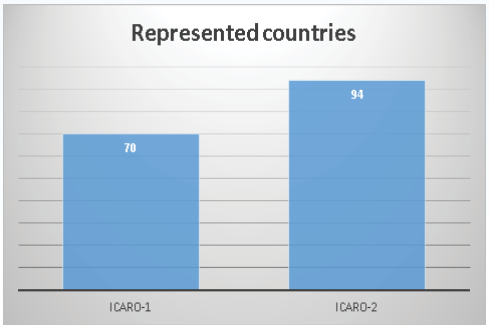


Fig.1.

(a) Number of participants in the ICARO conferences.

(b) Number of countries represented in the ICARO conferences.



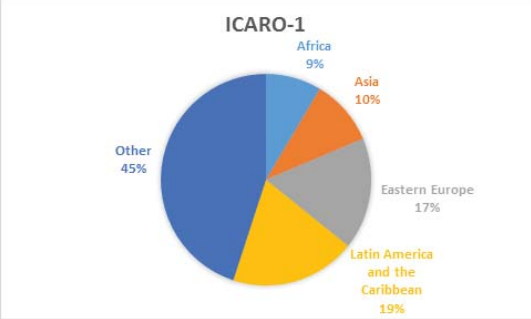


Fig.2. Representation of the different regions of the world in

(a) ICARO-1

(b) ICARO-2

formulating a comprehensive set of requirements for clinically qualified medical physicists [5]. Dr Cheung also presented a poster on "Methodology for acquisition of appropriate technology for radiation therapy in developing countries" [6].

The IAEA has made all material relevant to ICARO-2 available online. Scientific presentations, Book of synopses, e-posters as well as photos from the conference may be found at: https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/index.html.

Dr G. Ibbott (Photo credit: O. Belyakov, IAEA)

Dr KY Cheung (Photo credit: O. Belyakov, IAEA)

References

1. International Conference on Advances in Radiation Oncology (ICARO2), IAEA meetings 2017. http://www-pub.iaea.org/iaeameetings/50815/International-Conference-on-Advances-in-Radiation-Oncology-ICARO2. Accessed on 1 August 2017.

2. G. Ibbott. QA Developments - examples for Modern Technologies. 2nd International Conference on Advances in Radiation Oncology (ICARO-2). https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/Presentations/Session15B_03_Ibbott.pdf. Accessed on 1 August 2017.

3. G. Ibbott. From ICARO1 to ICARO2: The Medical Physics Perspective. 2nd International Conference on Advances in Radiation Oncology (ICARO-2). https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/Presentations/02_Ibbott.pdf. Accessed on 1 August 2017.

4. KY Cheung. International Organization for Medical Physics. 2nd International Conference on Advances in Radiation Oncology (ICARO-2). https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/Presentations/Session14B_06_Cheung.pdf. Accessed on 1 August 2017.

5. KY Cheung, Accreditation of Education and Professional Standards of Medical Physicists. 2nd International Conference on Advances in Radiation Oncology (ICARO-2). https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/Presentations/04_Cheung.pdf. Accessed on 1 August 2017.

6. KY Cheung, Methodology for Acquisition of Appropriate Technology for Radiation Therapy in Developing Countries, International Conference on Advances in Radiation Oncology (ICARO-2). https://humanhealth.iaea.org/HHW/RadiationOncology/ICARO2/E-Posters/index.html

Participants of ICARO-2 in IAEA headquarters in Vienna

ACOMP Workshop on Monte Carlo Simulation of LINAC Head Modelling and Dose Calculation

Freddy Haryanto(1), Andrew Fielding(2), Kwan Hoong Ng(3)

(1) Institut Teknologi Bandung, Bandung, Indonesia

(2) Queensland University of Technology, Brisbane, Australia

(3) University of Malaya, Kuala Lumpur, Malaysia

ACOMP Workshop on Monte Carlo Simulation of LINAC Head Modelling and Dose Calculation was hosted by the Medical Physics Laboratory, Department of Physics, Faculty of Mathematics and Natural Sciences, the Institut Teknologi Bandung (ITB in association with the ACOMP (ASEAN College of Medical Physics).

This workshop aims to provide the fundamental understanding in Monte Simulation of LINAC head modelling and dose calculation based on EGSnrc code. The participants learn to build the linac head using BEAMnrc user-code. They also calculate the dose not only in phantom but also in patients based on CT scan image data. The installation and running of Monte Carlo simulation on cluster computer introduced in this workshop.

This workshop was held on 10 – 13 July 2017 at the Physics Department, the Institut Teknologi Bandung, Indonesia.

The learning outcomes of this workshop are:

- Acquiring the basic knowledge of Monte Simulation in particle transport for medical application, especially in Radiotherapy
- Designing the LINAC head and phantom
- Commissioning the LINAC head model
- Calculating dose in phantom and in patients based on CT scan image data.
- Building capability to install and run the EGSnrc-code on cluster computer
- Simulating VMAT and IMRT planning in EGSnrc code

This is the first time that a workshop on Monte Carlo was held in Bandung. The local organizers of this workshop led by Dr. Freddy Haryanto. The workshop went on smoothly at the Institut Teknologi Bandung. About 21 participants from 4 countries attended the workshop (1 student and 3 medical physicists from Singapore, 1 medical physicist from India, 5 students from Malaysia and the others are Indonesian students from the University of Indonesia and the Institut Teknologi Bandung). Two lecturers delivered 12 lectures for 4 days (Dr.rer.nat. Freddy Haryanto from Indonesia and Dr. Andrew Fielding from Australia) with the schedule as follows. On the whole, the workshop was a great success and participants benefited greatly from the educational and networking opportunities offered.

The organizers have uploaded the workshop materials such as Monte Carlo EGSnrc code, group photos on following Google drive: https://drive.google.com/open?id=1Gb1bgURTT8xY3SHmvgA0drXF67H_eKOs

MEFOMP Report

Ibrahim Duhaini, Past President of MEFOMP

Upon our last MEFOMP ExCom Board Meeting that took place on 12 of December 2017 during the International Conference of Radiation Protection in Medicine at the IAEA in Vienna Austria, the following resolutions had been settled:

1. MoU between AFOMP & MEFOMP

During the 17th Asia-Oceania Congress of Medical Physics "AOCMP - 2017" that took place in Jaipur India from 4-8 of November 2017, a joint scientific session has been organized between MEFOMP and AFOMP where members from both organization spoke about interrelated topics that benefits both parties. After that, a meeting has been organized by representative of both organizations to finalize the Memorandum of Understanding that was discussed and agreed upon in last meeting in Thailand. The actual signing took place lately at the IAEA conference.

2. MoU between EFOMP & MEFOMP

Below are the photos related to the signing of the Memorandum of understanding between the European Federation of Organizations for Medical Physics (EFOMP) and the Middle East Federation of Organizations of Medical Physics (MEFOMP) Final Meeting before signing the MoU.

A. Background

It is recognized that Medical Physics as a profession has become a global enterprise, and that on some issues the worldwide medical physics community should collaborate. Increasing scientific interactions and strategic relationships between the European Federation of Organizations for Medical Physics (EFOMP) and the Middle East Federation of Organizations of Medical Physics (MEFOMP) is in the interest of both groups, as well as the worldwide medical physics community. This memorandum of understanding (MoU) seeks to establish these relationships, and to identify issues where collaboration between the EFOMP and MEFOMP would be most synergistic.

B. Purpose and Scope of this MoU

1. To strengthen collaboration in areas of common interest
2. To expand partnership between the two Federations

C. Areas of Collaboration

The areas of collaboration between the EFOMP and the MEFOMP could include: Education and Training, Scientific Collaborations, Professional matters and other related issues.

Left to Right: Arun Chougule, VP of AFOMP, Tae Suk, President of AFOMP, Abdallah Al- Haj, President of MEFOMP , and Ibrahim Duhaini, Past President of MEFOMP

Left to Right: Huda Al Naomi, VP of MEFOMP, Abdallah Al- Haj, President of MEFOMP, John Damilakis, President of EFOMP, and Ibrahim Duhaini, Past President of MEFOMP

3. MEFOMP Celebration of IDMP 2017

MEFOMP celebrated the 5th International Day of Medical Physics on 14 November 2017, in conjunction with the activities of the 9th International Conference on Isotopes (9ici) held in the Marriott Marquis City Center Doha Hotel from 12th to 16th November 2017. The theme for the day this year is - "Medical Physics: Providing a Holistic Approach to Women Patients and Women Staff Safety in Radiation Medicine".

The event was attended by many participants and the audience included medical physicists, radiographers, nuclear medicine specialists, radiation protection officers, educational institutions, engineers, healthcare practitioners, MOI and SCH audience and different Healthcare facilities in Doha and around the world. This event has been accredited for a maximum of 9.5 CPD hours.

The event honored some outstanding medical physicists with HMC's "Medical Physicist of the Year Award" in recognition of their contribution to the science of radiation. This year the award went to Mr. Nabil Iqeilan, Medical Physicist, Occupational Health and Safety Department. This award was followed by one more special award International Organization of Medical Physics (IOMP) award for International Day of Medical Physics (IDMP 2017) which was well received by Dr. Huda Al Naemi Executive Director of Occupation Health and Safety Department HMC and current vice president of MEFOMP. The event was graced by seasoned speakers such as Dr. Virginia Tsapaki, Secretary General of IOMP and Dr. Hanan Aldousari, Chair of Awards and Honors Committee – MEFOMP, who were also awarded for their valuable contributions in the field of Medical Physics.

4. MEFOMP Awardees for 2017

This year two awards have been granted to two MEFOMP Members.

a. IDMP 2017 Awarded to Dr. Huda Al-Naemi from Qatar
Currently working as the Executive Director of Occupational Health and Safety department at Hamad Medical Corporation.
Also, she is the Vice President of MEFOMP

b. IOMP Fellow Awarded to Mr. Ibrahim Duhaini from Lebanon
Currently working as the chief medical physicist & RSO at the Radiation Oncology Department in Rafik Hariri University Hospital and MP Instructor at the Lebanese University.
Also, he is the Past President of MEFOM.

5. 3 rd MEFOMP Annual Conference for 2019

MEFOMP is setting plans to organize this International Conference in cooperation with AFOMP and other organizations to be held in one of MEFOMP member countries in 2019. Details to be announced accordingly.

Mourning for the passing of Prof. Kiyonari Inamura

I would like to inform you that Prof. Kiyonari Inamura passed away in the evening, November 23th, 2017. I am deeply sorry to hear that Prof. Kiyonari Inamura passed away.

Prof. Kiyonari Inamura was Delegate and Chair of international affairs committee of JSMP and the 3rd president of AFOMP and he made great effort to establish AFOMP.

Prof. Kiyonari Inamura was one of founders to initiate AFOMP and made a great contribution to the development of medical physics, especially in developing countries.

As Slavik mentioned, AFOMP can prepare an article for Kiyoto to remember this great colleague and inform AFOMP members of his great role through AFOMP website and newsletter.

Thank you for your condolences here. In honor of Prof. Kiyonari Inamura, I gave a lot of effort for the development of the JSMP. I will pray for your soul when I receive your sad news.

Former President of JSMP

Masao Matsumoto*, Ph. D

* Division of Health Science, Graduate School of Medicine, Osaka University

Obituary

Professor Kiyonari Inamura, PhD, FIOMP

Oct 07 1939 - Nov 23 2017

It is with great sadness to report on the passing of our beloved friend and colleague, Professor Kinyonari Inamura - a senior leader always with a broad smile.

Kiyo (as he was fondly called) was one of the pioneers in the formation of the Asia-Oceania Federation of Organizations for Medical Physics {AFOMP) and served as the 3rd president. He is well known for promoting international medical physics collaboration and encouraging young medical physicists. He was awarded a Fellow of the IOMP in 2016.

His main contribution is in R & D of computer-assisted radiology and PACS are documented in numerous publications. His career spanned some 55 years in both areas of medical physics research in Osaka University and medical engineering in NEC Corporation. Below are some highlights of his illustrious career.

He obtained a PhD from Osaka University in 1968

From 1963 to 1968, he was in Osaka University researching and developing the optimum design of electron gun of the medical linear accelerator. In 1966 he invented an electron beam analyzer.

Later he moved to NEC Corporation continuing to develop the technology of medical linear accelerator including 6 MeV with electron beam therapy, 4 MeV and 8 MeV machines; these machines were installed in more than 146 hospitals in Japan and other countries.

From 1978-1981, he designed and implemented digital conformation radiotherapy successfully in Komagome Hospital, this being the first digital conformation radiotherapy machine in the world.

During 1969-1992, he developed physics and algorithm of dose distribution calculation for a new treatment planning system that was installed in many Japanese hospitals.

During 1984-2003, he developed PACS for large Japanese university hospitals. The first one was successfully operated at Hokkaido University Hospital in1997, followed by Osaka University Hospital and other large hospitals. Subsequently, medium-sized PACS and small-sized PACS were developed and installed in many hospitals in Japan.

In 1988, Kiyo moved back to Osaka University from NEC Corporation and worked until 1998. He was deeply involved in the development and operation of smooth exchange of medical images using DICOM as well as computer application in radiation therapy such as treatment planning, treatment verification, automatic control of treatment machine, treatment recording, database and more significantly, computerized dosimetry. He also designed and developed an integrated computer system for the entire radiotherapy department.

He started the treatment recording and tumour registry with cassette tape, and started data collection from several radiotherapy institutes. In 1993 he developed a multi-institutional radiation oncology database ROGAD (Radiation Oncology Greater Area Database) employing floppy disks. After 11 years of ROGAD operation, 372,370 cases were analysed from 324 hospitals with significant clinical benefits.

The last phase of Professor Inamura's effort was the education and research stimulation of medical physics, medical engineering and medical informatics. His results were reported and published in many international conferences such as AAPM, IOMP, ICBME, MEDINFO, and CARS.

In 2004-05, he was appointed the Dean of the Faculty of Business Management, Kansai University of International Studies.

The international medical physics community will surely miss Kiyo. May his soul rest in peace.

Prof. Tae Suk Suh, PhD
President, AFOMP

Prof. Kwan Hoong Ng, PhD, DABMP
President-Emeritus SEAFOMP

December 10, 2017

ecmp 2nd 2018

ECMP 2018 welcomes Germany

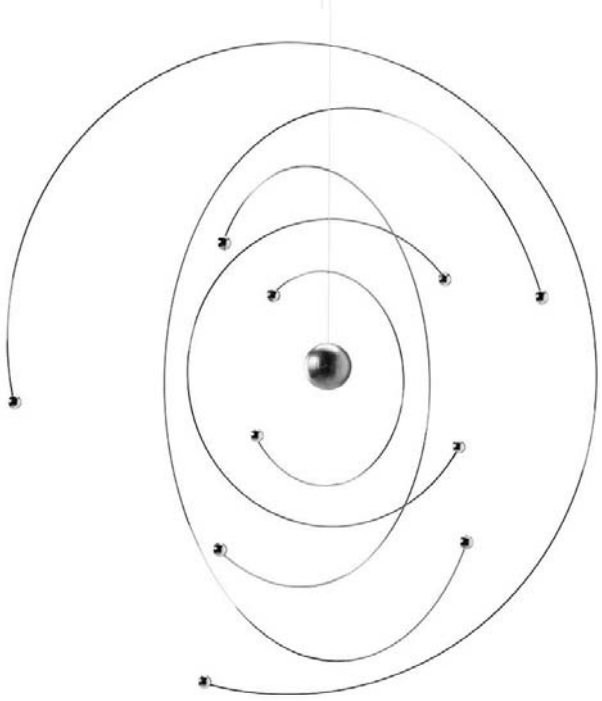
23 - 25 August 2018 · Copenhagen · Denmark

European Congress of Medical Physics 2018

Bridging knowledge across specialties

Main topics

Radiotherapy
Nuclear Medicine
Diagnostic Radiology
Non-ionizing Medical Radiation
Radiation Protection



www.ecmp2018.org

Organized by EFOMP

Hosted by DSMF, Svensk Förening för Radiofysik / Swedish Society for Radiation Physics, Svenska Sjukhusfysiker Förbundet

ECMP welcomes DGMP

CALENDAR OF EVENTS - Ibrahim Duhaini, Calendar Editor

- Moffitt Cancer Center Radiation Oncology Conference -- Florida
When: Jan 25 – 27, 2018
Where: Tampa, FL, USA
website:
https://moffittradoncconference2018.eventbrite.com/

- Int. Conf. on Molecular Imaging and Theranostics in Prostate Cancer
When: Feb 1 – 3, 2018
Where: Valencia, Spain
website: http://focusmeeting.eanm.org/

- 9th Annual Canadian Winter School: Automation and Evolution of Personalized Patient Care
When: Feb. 11 – 15, 2018
Where: Alberta, Canada
website: https://www.comp-ocpm.ca/2018-winter-school/

- MediSens Conference 2018
When: Feb 26 – 27, 2018
Where: The Royal Marsden Hospital, 203 Fulham Rd, Chelsea, London SW3 6JJ, UK
website:http://medisens-conference.com

- European Congress of Radiology - Vienna
When: Feb 28 – Mar 4, 2018
Where: Vienna, Austria
website: https://www.myesr.org

- 3rd International Conference on Medical Physics in Radiation Oncology and Imaging (ICMPROI)-2018
When: Mar 10 – 12, 2018
Where: Bangladesh Institute of Administration and Management, Dhaka, Bangladesh
website: http://www.bmpsbd-icmproi.org/

- Fourth Conference on Precision Image-guided Small Animal Radiotherapy
When: Mar 12 – 14, 2018
Where: Lisbon, Portugal
website: http://small-animal-rt-conference.com/
Email Address: symposium@smartscientific.nl

- The World Congress on Medical Physics and Biomedical Engineering IUPESM - Prague
When: Jun 3 – 8, 2018
Where: Prague, Czech Republic
website: www.iupesm2018.org

- ISMRM Annual Meeting - Paris
When: Jun 16 – 21, 2018
Where: Paris, France
website: https://www.ismrm.org

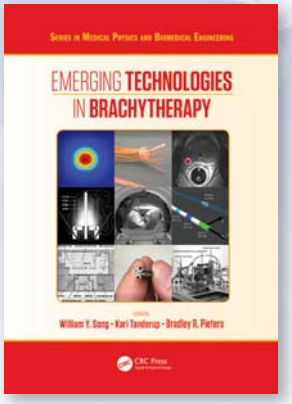
- 60th Annual Meeting & Exhibition For AAPM
When: Jul 29 – Aug 3, 2018
Where: Nashville, TN

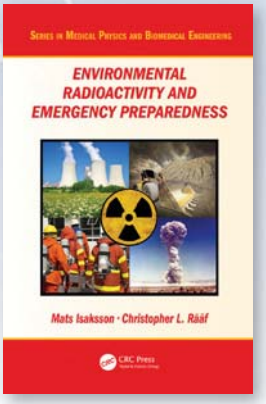
- 2nd European Congress for Medical Physics - Denmark
When: Aug 23 – 25, 2018
Where: Copenhagen, Denmark
website: http://ecmp2018.org/

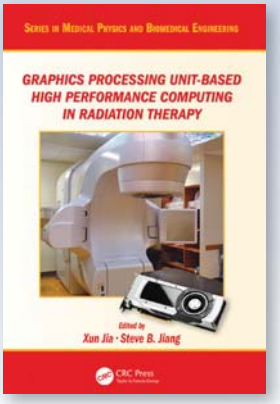
SAVE 25%

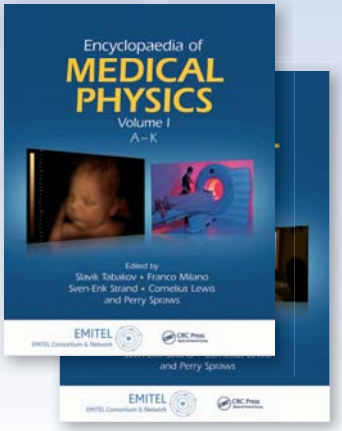
EXCLUSIVE DISCOUNTS FOR MEMBERS OF THE IOMP

on new books in the *Series in Medical Physics and Biomedical Engineering*, the official book series of the IOMP









Emerging Technologies in Brachytherapy

Brachytherapy is continuously advancing. Years of accumulated experience have led to clinical evidence of its benefit in numerous clinical sites such as gynecological, prostate, breast, rectum, ocular, and many other cancers. Brachytherapy continues to expand in its scope of practice and complexity, driven by strong academic and commercial research, by advances in competing modalities, and due to the diversity in the political and economic landscape. It is a true challenge for practicing professionals and students to readily grasp the overarching trends of the field, especially of those technologies and innovative practices that are not yet established but are certainly on the rise.

March 2017 • 978-1-4987-3652-7

Environmental Radioactivity and Emergency Preparedness

Radioactive sources such as nuclear power installations can pose a great threat to both humans and our environment. How do we measure, model and regulate such threats? *Environmental Radioactivity and Emergency Preparedness* addresses these topical questions and aims to plug the gap in the lack of comprehensive literature in this field.

The book explores how to deal with the threats posed by different radiological sources, including those that are lost or hidden, and the issues posed by the use of such sources. It presents measurement methods and approaches to model and quantify the extent of threat, and also presents strategies for emergency preparedness, such as strategies for first-responders and radiological triage in case an accident should happen.

December 2016 • 978-1-4822-4464-9

Graphics Processing Unit-Based High Performance Computing in Radiation Therapy

"*Graphics Processing Unit-Based High Performance Computing in Radiation Therapy* provides comprehensive and timely information on state-of-the-art GPU techniques and is certainly a must-have book for medical physicists, engineers, and students engaged in research and development involving high performance computing." *– Lei Xing, Jacob Haimson Professor of Medical Physics, Stanford University*

October 2015 • 978-1-4822-4478-6

Encyclopaedia of Medical Physics

"The breadth of topics is considerable and the consortium has made significant progress towards satisfying their goal of a global resource. The editors and translators have certainly put much effort into collecting and disseminating information and the global community can be grateful." *– Joseph Driewer, PhD, University of Nebraska Medical Center, Omaha, USA*

December 2012 • 978-1-4398-4652-0

SAVE **25%**

When you order online and enter Promo Code **LMQ84**.

FREE standard shipping when you order online.

To view our full range of books and order online visit: **www.crcpress.com**
email: orders@crcpress.com • 1-800-634-7064 • 1-859-727-5000 • +44 (0)1235 400524

CRC Press
Taylor & Francis Group

World Congress on Medical Physics & Biomedical Engineering

June 3–8, 2018
Prague, Czech Republic
www.iupesm2018.org

IUPESM PRAGUE 2018

TOPICS

1 Diagnostic Imaging
2 Image Processing
3 Information Technology in Healthcare
4 Modelling and Simulation
5 BME and MP Education, Training and Professional Development
6 Patient Safety
7 Accreditation and Certification
8 Health Technology Assessment
9 Biosignals Processing
10 Biomechanics, Rehabilitation and Prosthetics
11 Minimum Invasive Surgery, Robotics, Image Guided Therapies, Endoscopy
12 Diagnostic and Therapeutic Instrumentation
13 Micro- and Nanosystems, Active Implants, Biosensors
14 Neuroengineering, Neural Systems
15 Biomaterials, Cellular and Tissue Engineering, Artificial Organs
16 Assistive Technologies
17 Biological Effects of Electromagnetic Fields
18 Clinical Engineering
19 Radiation Oncology Physics and Systems
20 Dosimetry and Radiation Protection
21 Advanced Technologies in Cancer Research and Treatment
22 Biological Effects of Ionizing Radiation
23 Nuclear Medicine and Molecular Imaging

ORGANISERS

Czech Society for Biomedical Engineering and Medical Informatics
Member of Czech Medical Association JEP
Prague, Czech Republic

Czech Association of Medical Physicists
Prague, Czech Republic

CONTACTS

Congress Organising Committee
E-mail: coc@iupesm2018.org

Supporting Agency
GUARANT International spol. s r.o., Na Pankráci 17, 140 21 Prague, Czech Republic
Tel: +420 284 001 444, fax: +420 284 001 448, e-mail: agency@iupesm2018.org