Asia-Oceania Federation of Organization for Medical Physics

AFOMP Newsletter

JANUARY 2020 VOL.-12 NO. 1 EDITOR: DR V. SUBRAMANI

HIGHLIGHTS IN THIS ISSUE

Editorial

Dear Readers,

Warm Greetings from Editorial Board!

I would like to take this opportunity to wish you all a very happy and prosperous New Year 2020.

The Ex-Com of AFOMP has become so vibrant and engaged with various activities on professional development through scientific and educational events. This issue of AFOMP Newsletter January 2020 presents with lots of important information about the federation activities including messages from AFOMP President, Vice-President and General Secretary, invited articles and provide information on upcoming scientific activities in the field of Medical Physics.

Medical physics have been transforming scientific advances in the research laboratories in improving the quality of life for patients. Indeed, Medical Physics and technology based major innovations such as CT, MRI, Ultrasound, PET imaging systems, linear accelerators (LINAC) and particle accelerators have collectively improved the medical outcomes for millions of people in radiation medicine.

In general, the field of medicine is advancing towards 4P's of Medicine such as (i) prediction of an individual's diseases development (ii) preventing diseases before it occurs (iii) personalized treatment (iv) participation of patients, communities and health-care providers. This concept of 4P's of medicine is so pertinent to the field of radiation medicine in the management of cancer.

In the year 2020 and beyond, we will be witnessing that the medical physics research will play a major role not only in the technology development but also to investigate the development of tumor based on biological information. The integration and convergence of science of imaging and therapy by hybrid technologies such as PET-CT, PET-MRI, MRI-Linac, PET-Linac and MR-guided proton therapy systems will be useful in combating cancer through translational research towards personalized treatment. As Medical Physicists are health professionals and in order to stay relevant in the clinical environment, the focus on translational research which is an inherent of medical physics research, with cross-disciplinary approach is important for the valued services.

Therefore, one needs to update their professional information through communication, exchange of knowledge, participation and collaboration in the educational and research program to strengthen the Medical Physics profession and it is a call for the contribution.

"Imagination is more important than knowledge" - Albert Einstein

With Warm Regards
(Dr.V.Subramani)

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Prof. Tae-Suk Suh &
Prof. Hasin Anupama Azhari
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PRESIDENT'S MESSAGE

Dear Friends, Colleagues and students

"Wishing you a very warm festival season and a successful, prosperous New Year 2020"

With this warm start of New Year, I am very happy to inform you that with all your support, AFOMP is working efficiently towards its aim and objectives. I also want to congratulate you as AFOMP is about to complete 20 years of successful journey in coming year in July 2020. I wish, the coming year will bring lots of success and glory to AFOMP and Medical physics community all over the world and I am sure with your full support and our hard work we will achieve this.

AOCMP is always one of the most important and official scientific meeting of AFOMP. This year despite of last minute back out of the previous organizers and unavoidable circumstances AOCMP 2019 was shifted and preplanned however; lately it was successfully organized and hosted at Perth, Australia during 28-30 October2019 in conjunction with EPSM. AOCMP 2020 will be organized at Phuket, Thailand from 8th to 10th October 2020. I call upon all the national medical physics organizations (NMO's) to create awareness about this meeting and encourage medical physics professionals to actively participate. We are trying our level best with local organizers to provide you a mega scientific feast with reasonable prices to encourage young professionals and students to participate actively in the event.

AFOMP newsletter is always worked as a great platform to provide voice to various discussions on professional issues, new advancement in fields and showcasing innovative and distinguished work. So I request all medical physics community to come forward and make this voice louder and effective by active participation through your articles and suggestions.

This year International Organization of Medical Physics (IOMP) has launched "International Medical Physics Week - IMPW". The purpose is to motivate organization to organize activities in a defined week that result in the promotion of the subject of medical physics globally. So, once again I call upon all the NMO's to actively and widely celebrate IMPW 2020 from 11th to 15th May 2020. This will definitely provide a positive impact on recognition journey of our profession globally.

Lastly, I wish you a very happy, successful and prosperous year ahead.

Prof. Arun Chougule
President AFOMP

ABOUT INTERNATIONAL MEDICAL PHYSICS WEEK 2020

Contribution of Medical Physics in healthcare is multi-dimensional & it has improved the healthcare tremendously. The recent advancements in Medical Physics may it be in Radiodiagnosis, Radiotherapy(RT), Nuclear Medicine (NM) and various fields specially using radiation has made monumental sprints. To bring over it and recognize the contribution of Medical Physics to healthcare, International Organization for Medical Physics (IOMP) has started to celebrate 7th November, the birthday of Madam Marie Curie as International Day of Medical Physics (IDMP) since 2013.

However, it was thought that a week devoted to the contributions of medical physicists to healthcare to be celebrated as International Medical Physics Week (IMPW). For the first time, it will be celebrated from 11th -15th May 2020, where various academic and teaching institutes will showcase the contributions of medical physicists to healthcare globally.

In this line, Department of Radiological Physics, SMS Medical College and Hospitals, Jaipur, India is celebrating this mega event in Jaipur. We have planned various activities such as a rally/marathon on 11th May, 2020 morning followed by a seminar and scientific session. From 12th to 15th May 2020, various seminars/ teaching sessions will be organized in the various post graduate science colleges, engineering colleges, medical universities, nursing colleges, etc. depicting the medical physicist's role in various medical and radiation fields like different diagnostic departments, nuclear medicine, radiotherapy, radiation safety, research etc.

IMPW will be concluded with a public awareness seminar for professionals, general public and media, where postcards, banners, posters will be displayed to reach out to the common public raising awareness about the role of Medical Physics in Healthcare as well as the role of Medical Physicists in Hospitals.

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VICE-PRESIDENT'S MESSAGE

Dear Colleagues,
It has been a busy year 2019, with a number of activities happening on every front.

In April 2019, ICBHI-2019 conference on Future Trends in Biomedical and Health Informatics & Cybersecurity in Medical Devices was held in April 2019 in Taipei. During this meeting, medical engineering and physics workshop was initiated by the International Union for Physical and Engineering Sciences in Medicine (IUPESM). The workshop focused on experience sharing, networking, and collaborating in BMEs and MPs, and artificial intelligence in medical imaging: opportunities and challenges. It was an excellent example of collaboration between physicists and engineers. Future combined workshops are envisaged.

2019 was also the year of the International Conference on Medical Physics, held in September in Santiago, Chile. In addition to scientific program, I would like to highlight the meetings that IOMP had with a number of organizations (including PAHO, IAEA, IRPA, ISR, AAPM, IPEM) and regional member representatives to discuss the status of current collaborations as well as future projects, for example aiming to assist medical physicists worldwide to improve access medical physics education. In this aspect, IOMP jointly with IAEA will prepare a 1-page letter for Basic Safety Standard (BSS) definition of the Medical Physicist as a health professional. In view of the congress being held in South America, IOMP had more opportunities to discuss issues facing medical physicists in that region, including the need for higher education courses in medical physics in Latin America. IOMP will aim to provide assistance in regard to this issue.

Late October 2019, joint EPSM-AOCMP conference was held in Perth, Australia, visited by more than 400 attendees from the region. And while you can read about the meeting elsewhere in this newsletter, I would like to highlight that AFOMP awarded 6 travel awards for early career medical physicists to attend the meeting, hoping to provide a unique opportunity to young physicists in our region.

During AOCMP2019, various AFOMP meetings, including a Council meeting, were held, discussing future directions for AFOMP, fund raising activities, newsletter contributions and others. We will be also developing new awards for members of the AFOMP countries to acknowledge their contributions to the profession, for example life-time achievement award, best paper published in AFOMP journals and others. So watch this space.

In November 2019, the 5th International Symposium on the System of Radiological Protection, was held in Adelaide, South Australia (https://icrp2019.com/), where I was representing IOMP. The meeting was attended by more than 400 delegates from 37 countries discussing current research, data and challenges in the area of radiation protection not only in health but also in mining, energy and space travel and research. The meeting hosted a number of high-profile speakers in the area of radiation protection in medicine, including Profs Madan Rehani, John Damilakis and Cynthia McCullough, who despite their busy schedules also delivered lectures to health professionals and students in South Australia.

One of the joyous occasions, were the celebrations of the International Medical Physics Day

around the world. All day we were receiving messages, photos, web links, newsletters and other information proudly showing activities on all continents. These were promptly uploaded on the IOMP website for everyone to see and share the celebrations together. It was truly a festive day, being connected with medical physics colleagues and being proud of how far our profession has progressed over the years. The theme for next year is: Medical Physicist as a Health Professional – so put your thinking hats on now to see how we can advance and make our profession visible even more.

Lastly, past AFOMP, IOMP and IUPESM president, Prof Barry Allen, DSc AO, passed away on 20/11/2019 succumbing to cancer, i.e. to a disease that he was trying to develop novel therapeutic approaches for in his radiation research, being a front runner in the area of targeted alpha therapy. I have been fortunate enough to know and work with Barry (even publishing a book together) for many years and he has been my mentor as well as my supporter. Barry will be fondly remembered as a bold pioneer in radiation and medical radiation research, contributing immensely to medical physics as well as patients world-wide.

And suddenly we find ourselves at the doorstep of 2020. It seems not so long ago that we were expecting excitedly Year 2000 and then we were preparing 2020 visions and future plans. And here it is. So we have to grab every opportunity to make most of our time a responsibility we have towards our communities, patients and professional colleagues.

Wishing you a Prosperous and Productive New Year 2020.

Prof. Eva Bezak
Vice-President, AFOMP &
Chair Awards & Honors Committe

GENERAL SECRETARY'S MESSAGE

Dear Colleagues

With a profound sense of gratitude, I would like to extend warm greetings to the esteemed member of AFOMP for their confidence bestowed on me to take up the responsibilities as Secretary General of AFOMP for the period of 2018-2021, I am pleased to inform that AFOMP publish Vol.12 No.1 January 2020 issue of its newsletter.

I would like to express my warmest thank to all the persons who contributed writing the wonderful and inspiring articles, and the local board members for their everlasting support throughout the creation of this edition with tireless efforts exerted by our predecessors to take AFOMP to the height of the vibrant organization and regional leader in the development of medical physics in the Asia-oceania region.

AFOMP newsletter is brought out half yearly in January and June of every year. Medical physics science and research related articles, reports, educational material, scientific activities, workshop & conference related information are published in AFOMP newsletter. AFOMP newsletter is widely circulated not only in AFOMP region but across the globe. This is one of the best ways of sharing knowledge, thoughts and ideas within the medical physics community. I appreciated the full dedication and support of the newsletter editorial board and the members.

Asia-Oceania has a diverse cultural, social, educational, and economical background. The shortage of clinically qualified medical physicists is a worldwide problem that is well recognized and is most acute in many countries of Asia. The reason for this is there arefewer education and training programs for medical physicists in Asia. The most difficult part of medicalphysics is in the area of clinical training. Therefore, there are fewer qualified medical physicists. The lackof recognition of medical physics standards of practice is a common issue in many Asian countries. Most of the Asian countries do not have accreditation or certification systems for medical physicists. The role and status of medical physicists in the AFOMP region has gradually improved as can be seen by its increasing recognition in societies.

However, neither the governments nor the public has yet recognized the importance of medical physics and the necessity for accreditation. I believe that a well-prepared strategy and a strong action plan are crucial for the AFOMP to move forward. A strong relationship between othersub-regional organizations in the Asia-Oceania region and international bodies such as the IOMP, IAEA, WHO can share the problems and solve them together. We hope together we can lead emerging challenges in quality and safety of radiotherapy.

Wish all of you Merry Christmas and Happy New Year 2020. May 2020 be a stepping-stone to a sustainable and inclusive new world and prove to be a joyful, prosperous, and productive year for you all.

Prof. Dr. Hasin Anupama Azhari
General Secretary
Asia–Oceania Federation of Organization for Medical Physics (AFOMP).
CEO South Asia Centre for Medical Physics and Cancer Research (SCMPCR)
Head, Dept. of Medical Physics and Biomedical Engineering, Gono University

Invited Article

AS WE USHER IN 2020: ARE WE STILL RELEVANT?

Kwan Hoong Ng, PhD, DABMP
Treasurer, AFOMP & Past President of AFOMP
Department of Biomedical Imaging, University of Malaya,
Kuala Lumpur, Malaysia

"Movement in new direction helps find new cheese." **- Spencer Johnson, Who Moved My Cheese? 1998 Putnam Adult**

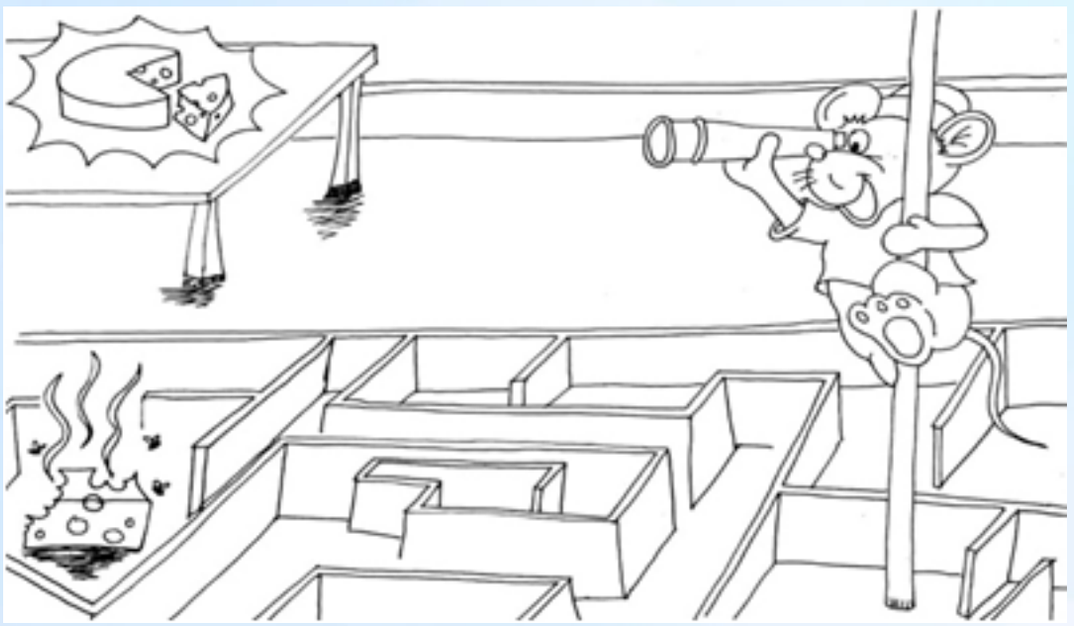

Illustration credit: Dr. Melanie Yeoh

Thirteen years ago I delivered the Second John Cameron Memorial Lecture at SEACOMP'07 in Manila, Nov 21, 2007. As we are ushering in 2020, it is most appropriate that we reflect on this theme "Medical physics in 2020: Will we still be relevant?"

From the time when Wilhelm Roentgen, Henri Becquerel, Maria Curie and other physicists made the discoveries that led to the development of radiology, radiotherapy and nuclear medicine, medical physicists have been playing a pivotal role in the development of new technologies that have revolutionized the way medicine is practised today. In many ways, medical physicists have been transforming scientific advances in the research laboratories to improving the quality of life for patients. History has proven that innovations such as computed tomography, magnetic resonance imaging, positron emission tomography and linear accelerators, along with other chemotherapeutic agents have improved the health outcomes for millions of people.

In order for radiation-delivery techniques to improve in targeting accuracy, optimal dose distribution and clinical outcome, the convergence of imaging and therapy is the key to success. Synergistic effects can only be achieved if these two specialties work closer together to chart a

new direction. This can be achieved by means of cross-disciplinary joint research initiatives, integrated meetings and collaboration in education and training.

However, the current emphasis is on enhancing the specific skill development and competency, such as quality control, of a medical physicist at the expense of their future roles and opportunities. This emphasis is largely driven by economical and political pressures for optimizing limited resources in health care. This has resulted in serious concern on the ability of the next generation of medical physicists to respond to new technologies and emerging clinical practices.

The clinical landscape is rapidly changing with the clearly defined boundaries between different specialties increasingly blurred, and there is no exception between diagnosis, therapy and management. Furthermore, we have witnessed the rapid clinical deployment of the hybrid imaging modality such as PET-MRI and more recently the combined imaging-therapy modality such as MR-LINAC. The use of novel radiopharmaceuticals to treat tumours using minimally invasive interventional techniques, high-intensity focused ultrasound, electromagnetic wave ablation and photodynamic therapy are also challenging the old paradigm. Are we ready to demonstrate our leadership roles in this shifting scenario?

To my mind, a contemporary 'relevant' medical physicist should aim to cultivate and nurture the following qualities:

- Have a high level of ability and interest in physical sciences and computing.
- Have an interest in advances in medicine and related fields in order to develop new methods of patient care, diagnosis and treatment.
- Be precise, able to concentrate for long periods, and have a high level of attention to detail.
- Have high ethical standards and the ability to take responsibility for making decisions.
- Have an inquiring mind and good problem-solving skills to lead a research and development team, especially working with our clinical colleagues.
- Have excellent oral and written communication skills.

We are in the midst of the molecular revolution that is driving precision medicine to greater success. Are we prepared to explore newer technologies such as nanotechnology, drug discovery, pre-clinical imaging, optical imaging, molecular diagnostics, biomedical informatics and artificial intelligence? Are we adapting our post-graduate medical physics curriculum to reflect changing trend and the future needs? We should remember the late Professor John Cameron who advocated imagination and creativity - these important attributes will give us the courage to change and make us still relevant in 2020 and beyond.

In conclusion, will we still be relevant in 2020? Yes, if we are imaginative and creative to change in order to face the challenges on how best to contribute our expertise and ideals to improve the quality of life. We are now living in an era with the greatest opportunities to contribute to the wellbeing of humans around the world.

The future is here: "To achieve more, we should imagine and change."

The readers are encouraged to read the article published in Australasian Physical & Engineering Sciences in Medicine 2008; 31(2):85-9. I also invite readers to write to this newsletter giving your views.

CONFERENCE REPORT:
19th AOCMP and EPSM 2019 in Perth, Australia on 28th- 30th October 2019

Reporter: **Tegan Rourke, Convener**

The 19th Asia-Oceania Congress of Medical Physics (AOCMP) and 2019 Engineers and Physical Scientists in Medicine (EPSM) were successfully held at the Pan Pacific Hotel in Perth, Australia from 28th ¬30th October 2019.

The Australasian College of Physical Scientists & Engineers in Medicine (ACPSEM), and Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) were the hosting organizations of the combined conference. ACPSEM has a mission to advance services and professional standards in medical physics and biomedical engineering for the benefit and protection of the community. ACPSEM offers training programs, provides accreditation for university courses, hospital departments and clinics to ensure consistent and appropriate professional standards, certifies medical physicists, provides specialist advice and information to government and other key stakeholders, and provides networking and information sharing opportunities, linking like-minded professionals from Australia, New Zealand and internationally, including facilitating events and courses for the benefit of scientific professionals. AFOMP aims to promote the co-operation and communication between medical physics organizations, advancements in status and standard of practice, to organize and/or sponsor international conferences and courses, and to collaborate or affiliate with other scientific organizations.

AOCMP and EPSM are the premier annual events for medical physics and biomedical engineers in the region. The objective of the combined conference was to gather professionals for the sharing of knowledge, expertise, scientific discussions, cultural exchange and medical technologies updates, especially focusing on medical physics, chemistry and engineering in medicine. The theme was “Elements and Interactions” in recognition of 2019 being the International Year of the Periodic Table. Advancements in science, engineering and technology in medicine happen when many people work together. Individuals bring their skills to their multidisciplinary teams, and those teams interact with others to create opportunities for advancement and innovation.

More than 400 delegates from over 20 countries around the world attended the combined conference, including 16 keynote and invited speakers who delivered 22 highlighted presentations (Table 1), and 21 vendor sponsors and exhibitors (Table 2). 85 posters and 295 orals were presented over 42 sessions, along with 9 workshops, 12 professional meetings, and 4 social events. Participants who attended the conference are entitled to claim for 15 CPD points (accredited by the ACPSEM) for the 3 days.

EPSM & AOCMP 2019 had 4 concurrent streams with sessions on a wide range of topics, including:

Bioengineering, Biomarkers, Brachytherapy, Commercializing Ideas, Computer Tomography, Education & Professional Standards, Asia-Pacific Region Radiotherapy, Electron Beam Radiotherapy, Hadron Therapy, Image Guidance & Motion Management, Magnetic Resonance Imaging, New Technologies & Techniques in Radiotherapy, Nuclear Medicine, Pre-clinical Imaging, Radiation Oncology, Radiation Safety & Protection, Radiobiology, Radiology, Radiopharmaceutical Science, Radiotherapy Dosimetry, Radiotherapy Imaging, Radiotherapy Quality Assurance, Radiotherapy Treatment Planning, Stereotactic Radiosurgery and Software & Machine Learning.

Workshops included Radiation Protection of Medical Personnel by ARPANSA, Film Dosimetry, Mammography, Quality Assurance of Radiology Digital Detectors, and Peter Mac Physical Sciences: History, Purpose and Present, Medical Physics Future Research Forum, and ACPSEM Training Education and Assessment Programs (TEAP) for Radiotherapy, Diagnostic Imaging and Radiopharmaceutical Science.

The conference's chosen charity was the Better Healthcare Technology Foundation which, in combination with the ACPSEM's Asia-Pacific Special Interest Group (APSIG), has sponsored visits of volunteer medical physicists to Papua New Guinea, Vietnam, Philippines, Myanmar, Cambodia, Laos and Mongolia. These assignments have varied in duration from 8-10 weeks, through to 12 months. The aim is training and supporting local physicists and allied health professionals to deliver radiotherapy services in those countries.

The Welcome Reception was held on Sunday evening, before EPSM & AOCMP 2019 officially started on Monday 28th October. At the Opening Ceremony, the Convener, Ms Tegan Rourke, welcomed the delegates and acknowledged the traditional Aboriginal custodians of the land on which we were meeting. Aunty Marie Taylor, a Nyoongar Elder, gave a Welcome to Country ceremony. The Western Australian Chief Scientist, Prof Peter Klinken also welcomed delegates to the conference, and noted that this was the first time AOCMP had combined with EPSM. AOCMP was last in Australia in 2003, and EPSM was last in Perth in 2013.

The President of AFOMP, Prof Arun Chougule, welcomed the delegates and gave a background on the Prof Kiyonari Inamura Memorial AFOMP Oration, and the 2019 Oration speaker, Prof Kwan Hoong Ng, acknowledging his vast contribution to medical physics. Prof Kwan Hoong Ng's lecture was “Evolution of Breast Imaging: From Diagnosis to Prediction”. The Secretary of AFOMP, Prof Hasin Anupama Azhari, introduced the next keynote speaker, Prof Jeannie Hsiu Ding Wong, who gave her first lecture on “In Vivo Dosimetry in Diagnostic Imaging”.

Both Opening Plenary speakers focused on diagnostic imaging, but also included radiotherapy implications and innovations. The following days' Plenary session talks were Dr Elisabeth Steiner's presentation “Motion management for radiation therapy: an overview”, Prof Issam El Naqa's presentation “Medical Physics & Radiotherapy in the Era of Artificial Intelligence: New opportunities & Impending challenges”, Prof Thomas Bortfield's presentation “Democratizing Proton Therapy” and Ms Deborah Carrick's presentation “Rubidium-82 Cardiac PET”. Unfortunately, one of our keynote speakers, Prof Beth Schueler, broke her leg a few days before EPSM & AOCMP 2019, so was unable to attend. She showed extraordinary dedication, because she sent her slides to be presented by others, after working on them while recovering from surgery. The Convener is also very grateful to the Diagnostic Imaging invited speakers, who extended their talks and accommodated last minute schedule changes, to cover Prof Beth Schueler's absence.

There was a varied social program at EPSM & AOCMP 2019. In addition to Sunday's Welcome Reception, there were Monday morning groups embarking on a walk around Heirisson Island or a jog along the Swan River and up Jacob's Ladder to a viewing platform in King's Park Botanical Gardens. Monday evening was the APSIG Trivia Night, at Rigby's Bar in the city, and the Gala Dinner was held Tuesday night at Fraser's Restaurant in King's Park. Money was raised at the social events, including at the Trivia Night and during the Gala Dinner auction of items, including the top Photography in Medical Physics entries, Lego-style model linacs, and science-themed T-shirts.
During the Closing Ceremony, the President of AFOMP, Prof Arun Chougule, and the Secretary of AFOMP, Prof Hasin Anupama Azhari, presented the AFOMP Travel Awards. Prof Arun Chougule and the Convener, Ms Tegan Rourke, presented the prizes for best oral and poster presentations (Table 3 has the full list of awards and prizes). We congratulate all the winners on their excellent work!

The organizing committee of EPSM & AOCMP 2019 would like to pass on our best wishes to the organizing committees of the upcoming medical physics conferences. The 20th AOCMP combined with the 18th South East Asian Congress on Medical Physics (SEACOMP) is on 8th-10th October 2020, in Phuket, Thailand, and the theme is “Medical Physics - Achievements, Challenges and Horizons”. The 21st AOCMP will be held on 10th -12th December 2021 at Cox's Bazar, Bangladesh. EPSM 2020 will be 2- 4th November 2020 in Brisbane Australia and the theme is “Looking back, looking forward”. We look forward to these exciting events.

The organizing committee would like thank The Conference Company, the scientific committee for reviewing abstracts, the session chairs, and all the supporting organizations, industrial partners, universities, invited speakers, international and local delegates for making the combined conference a great success.


EPSM &
AOCMP
28–30 October 2019
Pan Pacific Perth
Perth • Australia
Opening
Tegan Rourke


EPSM &
AOCMP
28–30 October 2019
Pan Pacific Perth
Perth • Australia
Prof Kiyonari Inamura Memorial
AFOMP Oration
Kwan Hoong


el Grant Award
ers

Table 1: Keynote and Invited Speakers

Speaker	Presentation(s)
Prof Arabinda Kumar Rath	Keynote: Oncology in the Era of Artificial Intelligence (AI) and Machine Learning (ML)
Prof Arun Chougule	Keynote: Status of medical physics and activities to boost the professional development in the AFOMP region
	Keynote: IOMP accreditation for standardizing medical physics education programs
Speaker	**Presentation(s)**
Prof Beth Schueler (unable to attend due to sudden illness, but sent slides to be presented on her behalf)	Keynote: Clinical Training of Medical Physicists in the United States
	Keynote: Effective Use of Radiation Protective Equipment in Interventional Fluoroscopic Procedures
Prof Christof Seidl	Keynote: Targeted therapy with alpha-emitters (TAT)
Ms Deborah Carrick	Plenary: Rubidium-82 Cardiac PET
Dr Elisabeth Steiner	Plenary: Motion management for radiation therapy: an overview
	Keynote: Implementation of breath hold techniques in radiation therapy
Prof Issam El Naqa	Plenary: Medical Physics & Radiotherapy in the Era of Artificial Intelligence: New opportunities & Impending challenges
	Keynote: Top-down versus Bottom-up Radiobiological models: Which one to choose?
	Keynote: Radiomics and Radiogenomics: How to Validate and Handle Uncertainties?
Prof Jeannie Wong	Plenary: In vivo dosimetry in diagnostic imaging
	Keynote: Postgraduate Medical Physics Education in Malaysia
Dr Jennifer Guille	Invited: To the Beat of a Different Drum – Radiopharmaceutical Scientist Training and Assessment
Prof Kwan Hoong Ng	Prof Kiyonari Inamura Memorial AFOMP Oration: Evolution of Breast Imaging: From Diagnosis to Prediction
Dr Lucy Cartwright	Invited: Can quality control results predict clinical outcome?
Dr Intan Oldakowska & Dr Matt Oldakowski	Invited: Biodesign Principles
Dr Tanya Kairn	Invited: Bulk retrospective analysis of radiotherapy treatment data: Looking back from the front of the pack
Prof Thomas Bortfeld	Plenary: Democratizing Proton Therapy
	Keynote: The Yin and Yang of Medical Physics
Dr Zoe Brady	Invited: Challenges for CT Scan Epidemiology Studies: A lot of people, but a lot of missing data

Table 2: Sponsors and Vendor Exhibitors

Sponsors	
Varian	Platinum Sponsor & Breakfast Session Sponsor
Elekta Pty Ltd	Educational Partner & Breakfast Session Sponsor
AlphaXRT	Gold Sponsor
Gamma Gurus	Gala Dinner Sponsor
Siemens Healthineers	Session Sponsor
5D Clinics	Welcome Reception Sponsor
Icon Cancer Centre	App Sponsor
NL-Tec	Lanyard Sponsor

Exhibitors	
3Done	Imaging Solutions Pty Ltd
AEP Pacific Ltd	InMed Pty Ltd
ACPSEM	NL-Tec Pty Ltd
ARPANSA	Oxford Scientific
Brainlab Australia Pty. Ltd.	Philips Healthcare Australia
DTect Innovation Pty. Limited	Siemens Healthineers
Gamma Gurus	Quantum Health Group
GenesisCare	Vision RT

Table 3: Awards

Award	**Recipient**
Best Oral Presentation Therapy (USD100 and Certificate) Sponsored by Gamma Gurus	Iliana Peters - Application of 16-bit scans for Delineation of High Density Objects and Implementation in Treatment Planning
	Mikoto Tamura - Development of a new photochromic diarylethene film for clinical dosimetry
	Adam Yeo - Is it sensible to modulate “angular intensity” of HDR brachytherapy for cervical cancer?
Best Poster Presentation Therapy (USD100 and Certificate) Sponsored by alphaXRT	Junichi Koketsu – 3-D-printable lung phantom for verification of proton Bragg peak deterioration
	Christopher Noble - Artefact correction with EPIgray: an EPID based in-vivo dosimetry solution
	Masato Tsuneda - Development of the scintillator imaging system for measurement of 3D dose distribution
Best Oral Presentation Imaging (USD100 and Certificate) Sponsored by Philips	Adam Jones - Development of a performance testing protocol for CT AEC using a novel phantom
	Catherine Jones - Pilot study of 18F-FDG PET quantitative analysis in head and neck cancer patients
	Bryan Pi Ern Tee - Auger and conversion electron spectroscopy of the medical isotope Iodine-125

Award	Recipient	
Best Poster Presentation Imaging (USD100 and Certificate)	Nicholas Cook - Affordable MRI Distortion Phantom: Development, validation, and analysis	
	Tanya Kairn - Appearance and minimisation of respiratory motion artefacts in thoracic MRI images of prone patients	
	Rikki Nezich - Quantitative imaging of prompt gamma-ray emitting radionuclides on a preclinical positron emission tomography (PET) scanner	
Best Oral Presentation Radiobiology, Radiation Protection, Chemistry, Engineering and Others (USD100 and Certificate)	Elette Engles - Unravelling Microbeam Radiation Therapy: The first long-term pre-clinical study at the Australian Synchrotron	
	Joseph Ioppolo - Introduction of [18F]F-PSMA-1007 for Prostate Cancer Imaging at Sir Charles Gairdner Hospital – Radiochemist's Perspective	
	Shermiyah Rienecker - Examining the Electrical and Photophysical Properties of Copper-Melanin	
Best Poster Presentation Radiobiology, Radiation Protection, Chemistry, Engineering and Others (USD100 and Certificate)	Nicholas Cook - Design, construction and use of 3D printed mandibulectomy jigs for accurate fibula free flap repair	
	Neda Gholizadeh - Potential role of advanced magnetic resonance spectroscopy using GOIA-sLASER for detection and localization of central gland prostate cancer in routine clinical exams	
	Lee Taylor – Cerium oxide nanoparticles: A study of Ce^3+ ion influence on radioprotection	
AFOMP Travel Awards (USD 500 and Certificate)	John Paul Bustillo	Phillipines
	Suresh Poudel	Nepal
	Wong Yin How	Malaysia
	Mara Wang	China
	Shraddha Srivastava	India
	Patwary Md Kawchar Ahmed	Bangladesh

REPORT OF AFOMP TRAVEL GRAND AWARDEE 2019,

Awardee -1: Mr Suresh Paudel, Nepal

This report is about the experience of participating and presenting on ESPM & ACOMP-2019 conference that was held on 28-30 October, 2019 at Perth, Australia, as a travel award recipient of AFOMP. I would like to thank the organizers and EPSM Convener Prof. Tegan Rouke, particularly AFOMP and its president Prof. Dr. Arun Chougule, vice president and award and honors committee chairperson Prof. Dr. Eva Bezak, general secretary Prof. Dr. Hasin Anupama Azhari, science committee chairperson Prof. Dr. Tomas Korn, chairpersons of different committee and officers and past presidents of AFOMP and national members for providing me the travel grant and creating opportunity for me to attend in such an wonderful event to present my work. I am equally thankful to Nepal Cancer Hospital and Research Center (NCHRC), Harisiddhi, Lalitpur, Nepal where I worked since 2016. Also I am thankful to Dr. Gisupnikha Prasiko, senior consultant and Head of Radiation Oncology, NCHRC, my colleagues at NCHRC, office bearers and members of Nepalese association of medical physicists for their kind support. I acknowledge co-authors of my presentations and physicist colleagues in Nepal, who provided necessary inputs for my presentation.

The topic of my presentation was “Growth of radiotherapy services in relation to medical physics activities in Nepal”. My motivation for selecting this topic for presentation was to showcase the situation of medical physics and radiotherapy services to the scientific community around the globe in such a prestigious forum. I am sure that the conference provided me an ample opportunity for me to fulfill my purpose. It also helped me to build a good network with medical physicists and related professionals from around the globe which will ultimately help me to narrow the knowledge gap that generally exist between the developed country and developing countries. I have now an opportunity to share my skills, knowledge and skills to the people in the field of radiation oncology. I would like to thank Dr Sean Geoghegan, Healthcare technology and chairperson of my presentation session.

In three days, I could listen to different presentation from eminent physicists and hence could learn new skills and ideas and hence update my knowledge. I participated in ARPANSA, DIMP TEAP, Film Dosimetry and radiology workshops. All these workshops remained very fruitful in learning new things. I also had an opportunity to visit different stalls by vendors and others, from where I got information in new advances in radiotherapy technology and contemporary development in radiotherapy services. I could collect few important documents from PTW, which I needed for my research work. In addition, as a member of AFOMP science committee, we had committee meeting to discuss the progress and future action with the committee members. Furthermore, I also had an opportunity to participate in AFOMP meeting. Besides I took an opportunity to enjoy the beauty of Perth including Elezabeth Coy and Frementle Jail and experience the life there before and after the event.

To sum up, I would like share my joy of presenting in such a prestigious event my work while receiving travel award from ACOMP. I am also happy to have a chance to interact and listen from eminent scholars during the conference. Once again I would like to thank the organizers, particularly ACOMP for supporting me to attend the event.

REPORT OF AFOMP TRAVEL GRAND AWARDEE 2019,

Awardee -2: Yillaing Wang, China

My name is Yiling Wang. I have been working as a medical physicist at Sichuan Cancer Hospital & Institute, Chengdu, China.

I was very delighted to be rewarded with the travel grant to attend the 2019 AOCMP from 28.10.2019 to 30.10.2019 in Perth, Australia. It was really a very treasurable opportunity to introduce the current state of Chinese medical physics to the experts and peers around the world, and learn the state-of-art research and techniques.

During the congress, I have reported my work about pretreatment dose QA. The purpose of the study is to provide a computationally and economically efficient approach for improving the robustness, consistency, sensitivity, and clinical significance of QA results. Based on the projections of beams and ROI over the iso-centric plane, a new gamma analysis scheme has been proposed requiring no additional investment. The first issue, that to avoid the subjective bias computational threshold for gamma analysis, was addressed by redefining the corresponding computational region with radiation beam field. Since the fluence of IMRT are determined by the beam, the clinically concerned region of dose distribution should also be highly corelated with it. Therefore, it is reasonable to analyze %GP for that portion of dose distribution. The second issue, that to improve the clinical interpretability of the gamma analysis, was addressed by modifying the local computational region of %GP with projections of PTV and OARs over the iso-centric plane and conducting PTV and OAR concerned gamma analyses, respectively. The expression of %GP was also revised to distinguish the hot spots of OARs and cold spots of PTV. Thereby, the clinical significance of QA results could be accessible with the proposed scheme.

Besides, I have been especially concerned on the works of software and machine learning. The prediction model for radiation pneumonitis was perspective, where the dose distribution was selected as the input and the deep convolutional 3D (C3D) network was utilized for modeling. I was also interested in the lymph node status prediction model of early-stage cervical cancer, where the radiomics features extracted from the ultrasound images were utilized. The feasibility of radiomic features from ultrasound images for the prediction of LNM in ECC was validated. The pathological differentiation model of primary lung cancer predicted from contrast enhanced CT images inspected for brain metastases was also paid attention to, where the principal component analysis (PCA) and Mann-Whitney U test were applied to select relative radiomics features. Random Forest (RF) algorithm and support vector machine (SVM) were applied to construct classification model to differentiate primary lung cancer with adenocarcinoma and squamous cell carcinoma. From the study, I learned CECT radiomics extracted from brain metastases are promising in differentiate primary lung cancer pathology for patients with unknown primary disease to achieve optimal therapeutic management.

After I come back to Chengdu, I have summarized my academic activities, the new techniques and information I learned from AOCMP as an online report, which was accessible for all the staff working at our hospital. Besides, I am preparing for an oral presentation to introduce and promote AOCMP at the monthly report of our hospital. I hope more people can take part in AOCMP, and learn the works of medical physicist.

REPORT OF AFOMP TRAVEL GRAND AWARDEE 2019,

Awardee -3: Johan Paul O. Bustillo, MS Philippines

Narrative Report: Engineering & Physical Sciences in Medicine Conference and Asia-Oceania Congress of Medical Physics 2019

John Paul O. Bustillo,
MS Philippines

I did not expect that I will be able to attend the Engineering & Physical Sciences in Medicine Conference and Asia-Oceania Congress of Medical Physics 2019. It was too expensive for me and my current financial capability serves as a limitation. But with the travel assistance awarded to me by the AFOMP, I was able to participate and personally share my research to the community.

Attending various scientific sessions gave me an insight on the current studies done in the profession. With the pool of parallel sessions in the congress, it was quite difficult to choose a session to attend. Thus, I choose to attend some interesting topics related to my interest such as radiotherapy, radiation dosimetry, and instrumentation. During the sessions, I was able to talk to researchers and get their contact for possible future collaboration. In addition, I gained some understanding on the studies done in other specializations.

Aside from the scientific sessions, another highlight of the congress are the socialization events. This served as an avenue to communicate with other practicing medical physicist around the world. During the opening ceremony of the congress, I saw some familiar faces from the South East Asian region such as Professor Ng, and their students. I had a small chat with them about our plan for the upcoming South East Asian Congress on Medical Physics that will be held in Thailand. On the other hand, I was able to establish new connections from Japan, Malaysia, and India. We've shared our experiences on our practice as a medical physicists in our own respective countries.

I was assigned to give my oral presentation on the second day of the congress. I gave my 10-minute talk about the preliminary study on the use of 3D printed dosimeter holder for radiotherapy quality assurance. I have received 4 questions from the audience asking about the cost and my future plans for this project. There are some medical physicists who are interested in my research and we exchanged contacts for future partnership.

Overall, the whole congress experience is a dream come true for me as a young medical physicist. I was able to share my research to the whole medical physics community and I gained knowledge to the current research trends in the field. As a member of the board of trustees of our local professional medical physics society, the experience that I gained in attending this scientific conference gave me an idea on the possible medical physics events that we could organize here in our country.

REPORT OF IDMP2019

Celebration of 7th International Day of Medical Physics (IDMP) 2019 in Bangladesh

Zinat Rehana, Md Akhtaruzzaman and Hasin Anupama Azhari

International day of Medical Physics is an initiative of the International Organization of Medical Physics (IOMP). This day is celebrating every year for improving the medical physics status worldwide. In this year, the theme of IDMP 2019 is ''IT'S A MEDICAL PHYSICS WORLD'', which reflects the fact that there are a considerable number of medical physicists working across the globe and they are united through the national and regional organizations under the auspices of International Organization for Medical Physics (IOMP).

The Bangladesh Medical Physics Society (BMPS) is a non-profit, non-trade organization primarily engaged in professional, educational and research activities throughout Bangladesh in the field of medical physics including biomedical engineering, especially the application of physics in medical sciences. It represents the interests of Medical Physicists outward and creates education and training possibilities for the scientific rising generation.

As part of the celebration of IDMP, BMPS published its 7th electronic newsletter **"Voice of BMPS"** in this year also. It contains some interesting articles, information about past medical physics activities. It also consists of future medical physics events to be held in home and abroad, which can be beneficial for the professionals as well as students, who want explore their scientific outlook in the international arena.

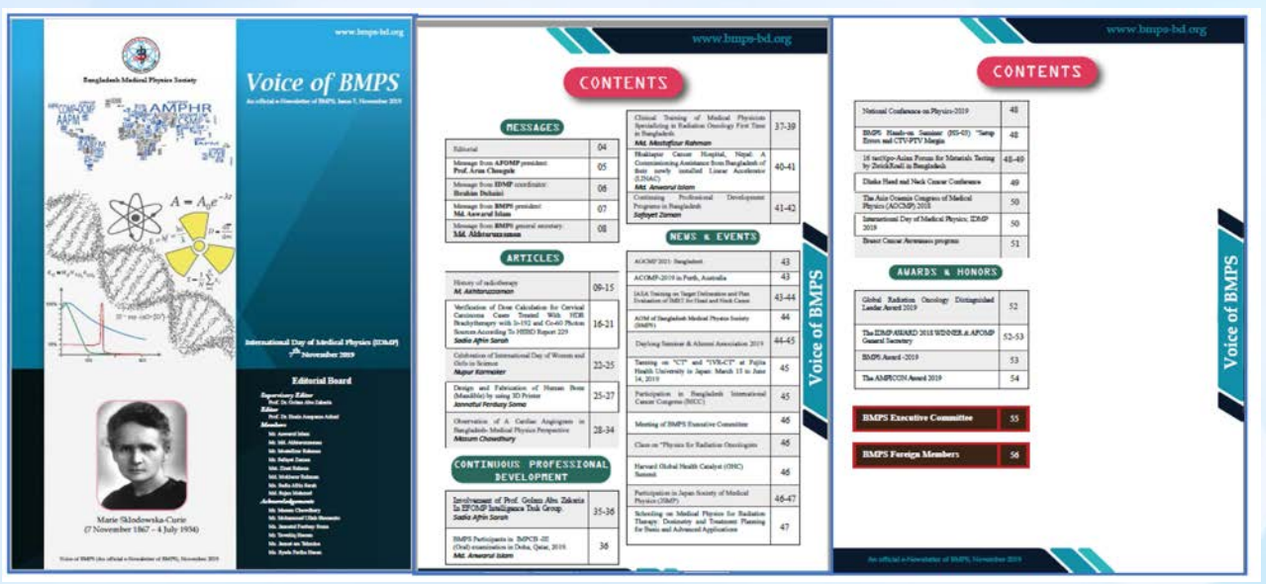

Figure : Voice of BMPS- An Officially e-Newsletter, November 2019.

In this year, BMPS members in most of the hospitals/institutes have tried to organize an even on IDMP. The main aim is to raise the importance of medical physicists (MPs) in the hospital administrative process as still MPs are in developing phase for their own identity.

IDMP celebrated in this year in the following hospitals by a rally, scientific sessions etc:

- Combined Military Hospital
- Gono Bishwabidyalay
- Khwaja Ali Medical College and Hospital
- Rajshahi Medical College and Hospital
- Square Hospital Limited
- Gono University

Figure: Combined Military Hospital: Lt. Khairul Islam MP organize the program with medical physicists, Oncologists, Technologists and others.

Figure: Gono University: Md. Mokhlesur Rahman, Md. Sujan Mahamud and Mst. Zinat Rehana organize IDMP program with faculties, students and others

BMPS also took the initiatives for celebrating IDMP each and every cancer hospital. Therefore, for the first time in Bangladesh, several hospitals and institutes such as Combine Military Hospital, Gono Bishwabidyalay, Khwaja Yunus Ali Medical College and Hospital, Rajshahi Medical College and Hospital, Square Hospital Limited, Gono University and more celebrated the IDMP 2019 by a rally, scientific discussions etc..

Figure : Square Hospital: Md. Anwarul Islam President of BMPS organize the program with the team of cancer treatment and administrative personnel.

Figure : Rajshahi Medical College and Hospital: Medical Physicist Md. Shahidul Miah (BMPS-member) organize the program with Oncologists, Technician and others

This is obvious that without proper education and training none can be a good medical physicist. Besides clinical practice of a medical physicist, taking active participation of education and training could make the medical physics world better. BMPS is incessantly trying to address the aforementioned issues.

Figure : Khwaja Yunus Ali Medical College and Hospital: Md. Mahfuzur Rahman and Md. Nazim Uddin organize the program with the team of cancer treatment and Administrative

Figure : BMPS Executive Committee, 2019-2021

This day has been chosen for the annual celebration since it is an important date for medical physicists. On this day, 150 years ago (1867), Maria Sklodowska-Curie, known for her pioneering research on radioactivity, was born in Poland. For this reason, to raise awareness about the role medical physicist's play for benefit of patients, we celebrate the 7th IDMP on November 7, 2019.

CONFERENCE REPORT OF AMPICON2019:

AMPICON 2019 Celebrates the Birthday of Nobel Laureate Madam Curie (7th -9th November 2019):

Netaji Subhas Chandra Bose Cancer Hospital, 3018, Nayabad, Kolkata 700094, had organized 40th National Conference of Association of Medical Physicist of India (AMPICON 2019) from 7th -9th November 2019 at Swabhoomi, The heritage ,Kolkata, West Bengal, India, with support of Eastern Chapter (EC) of AMPI. Keeping in mind the technology advances in recent times, the committee thought "Medical Physics in Patient Care" would be apt as the conference theme. Masterminds, from both the nation and across, will join hands together in spreading information and enlightening the inquisitive minds about the modern developments in the related field.

This day, 7th November, coincides with the two greatest days in the field of Physics; the birthday of the pioneer in radioactivity, Madam Curie, the only person to win the Nobel Prize in both Physics and Chemistry and International Day of Medical Physics. To celebrate both these events, APMICON decided to keep 7th November as the Inaugural Day of the conference. The Honorable Governor of West Bengal, Shri Jagdeep Dhankhar and the Chairman of Atomic Energy Regulatory Board, Shri G. Nageswara Rao, Chairman, AERB would grace the Inaugural event with their kind presence. Also, Mr. Shashi Kant Baliyan, Managing Director of Clearmedi Healthcare, Inaugurated trade exhibition on the very same day.

"AMPI and Association of Radiation Oncologists of India-West Bengal Chapter (AROI-WBC) had jointly organized scientific sessions on 7th November 2019 which was of common interest to both medical physicists and radiation oncologists".

Each and every delegate, benefited from the well-structured scientific programs. The elaborated sessions have been drafted keeping in mind the involvement of the diverse professionals.

"Advancement of the newer upgraded products provides us with newer technologies and user friendly environment. So, this time also we had arranged special and large trade exhibition for our delegates".

It is an honor for Kolkata for being the Host city twice in a span of 6 years. "The Cultural Capital of India", is a delightful venue and provides the traveler some mouthwatering delicacies and vibrant culture.

The Committee promises to make this conference the most valued and talked about event in the history of AMPICON.

Pre-conference workshop was also conducted on the eve of AMPICON 2019 on 6th November 2019 at Netaji Subhas Chandra Bose Cancer Hospital, Nayabad, Kolkata. Prof. Suranjan Das, the Vice chancellor of Jadavpur University, Kolkata had inaugurated the workshop.

The silent features of AMPICON 2019 with paperless environment with go green principle was:

1. Pre-conference workshop titled "Radiation safety and QA in Diagnostic Radiology" conducted on 6th November 2019- There were 75 participants participated.
2. Separate IDMP session was conducted on 7th November 2019
3. A dynamic application for mobile phone was developed (anroid and IOS), which contained all the information of Pre-conference workshop, about AMPICON 2019, scientific program, Faculties bio-data, Chairperson, abstract of oral and poster presentation, contact details of all delegates, committee, Quiz/Question-answer session, my schedule for delegates, about sponsors, map of conference venue with guide, notifications alert, tourism and finally feedback.

4. Webcast for all the days in a main hall.
5. Conducted daily quiz on session wise and distributed prize on valedictory session.
6. Twenty one trade partners were participated in the conference and separate Quiz was also conducted for them.
7. Post-conference symposium is also plan to conduct on “Quality Assurance of Dosimetric equipment in Radiotherapy”.

Thank you.

Alok Kumar,
Organizing Secretary,
AMPICON 2019

REPORT OF AAPM - ISEP 2019 - AMPI WORKSHOP

International Scientific Exchange Program (ISEP) 2019, was held during December 16th - 19th, 2019 at Maulana Azad Medical College Auditorium New Delhi. This scientific program was organized in collaboration with American Association of Physicists in Medicine (AAPM), International Organization for Medical Physics (IOMP) endorsed by Asia Oceania Federation for organization for Medical physics (AFOMP) was organized under the aegis of Association of Medical Physicists of India (AMPI). Considering a vital role of medical imaging in improving public health care through different imaging modalities and goal of image guidance during radiotherapy is to ensure proper targeting and delivery of radiation dose, this teaching program in diagnostic imaging Physics was titled as "International Symposium on Advances in Medical Imaging Physics & Image Guidance in Radiotherapy". This teaching program on diagnostic Imaging Physics cum symposia was dedicated to Medical physics education. Five distinguished faculties from USA namely Dr Tony Seibert and Dr John Boone both from University of California Davis Sacramento, CA, Dr Osama Mawlawi from MD Anderson Cancer Institute Houston , Dr Indra J Das Ex New York University and Dr Kalpana Kanal from University of Washington, Seattle were the key speakers for this program.

Dr T.S.Kehwar from Thomas Jefferson University , USA was invited by the host co director to speak Radio-biology at this program.Local speakers were Dr Arun Chougule Professor SMS Medical College Jaipur Dr S.D. Sharma from Bhabha Atomic Research Centre (BARC) Dr Ghanshyam Sahni from Atomic Energy Regulatory Board (AERB), Dr Shobha Jayaprakash from BYL Nair hospital Mumbai and Dr Ajai Kumar Srivastava . The said program was organized jointly by the Department of Radio-diagnosis of the University College of Medical Sciences (University of Delhi) & GTB Hospital Delhi & Department of Radiotherapy, MAMC & Lok Nayak Hospital New Delhi.

About 200 participants (including 179 registered participants) and 12 vendor sponsors attended this teaching program. Practicing Medical Physicists, graduate students, Radiology students, post-doctoral researchers, and residents from all over India attended this teaching course.



The said program was inaugurated by Prof Sushil Kumar (Dean,MAMC) as chief Guest and Prof.A.K.Jain (Principal UCMS) ,Prof.Kishor Singh (Medical Director Lok Nayak hospital) Dr S.D. Sharma (President AMPI) Prof Arun Chougule (President AFOMP) spoke at this function. The meeting program consisted of one Keynote Address of Dr Indra J Das. Entire teaching program was well planned and it consisted of total 25 lecturers of 50 minutes each and eleven abstracts selected by the scientific committee were presented in the meeting in the form of poster presentation in the span of four days. First day of this program consisted of six lecturers of 50 minutes each. John Boone (on Basic Principle of computed Tomography and engineering details) ,Tony Seibert (on CT DR and PACS fundamentals ,Dr Kalpana Kanal (on digital fluoroscopy , Dr S.D, Sharma (on IGRT patient Dosimetry) Dr Ajay Srivastava (Duel Energy CT) and Dr Arun Chougule (Medical Physics Education from academics to recognition) spoke at this program. Dr Indra J Das spoke on three topics (Role of Imaging in RT on 2nd day , Imaging in Proton Therapy (on 3rd day and MR Linac on 4th day) Dr John Boone spoke on four topics (Principle of computed Tomography and engineering details 1st day , Breast CT 2nd day, Dosimetry in radiography ,fluoroscopy and CT 3rd day and CT a new approach of QA on 4th day)Dr Tony Seibert spoke on four topics (CT DR and PACS fundamentals , Digital Image: Display Perception and Quality, MRI Physics: Fundamentals and MRI Physics Advanced Techniques and Artifacts on 1st .2nd day ,3rd day and 4th day respectively) Dr. Osama Mawlawi spoke on three topics (Fundamentals of PET & PET-CT, Fundamentals of SPECT & SPECT –CT and Advances in PET, SPECT and QA /QC in PET and SPECT on 2nd day 3rd day & 4th Day) Dr Kalpana Kanal spoke on three topics (Basics of Fluoroscopy, Digital Image: Display Perception and Quality and Radiation Dose Management in Diagnostic Radiology on 1st day ,2nd day and 3rd day respectively.

Apart of these lectures Dr Kehwar spoke on two topics (Basic Radiobiology and dose fractionation in Radiotherapy and Radiobiology of Stereotactic Body Radiotherapy / Radio-Surgery on 2nd and 3rd day) Dr Shobha J Prakash spoke on mammography QA/QC and Dr G Sahni spoke on Regulatory Aspects in Radiotherapy and Radiology in India.

Dr Rajesh Harsh was invited to speak on indigenous LINAC and MRI by SAMEER under make in India program.

Feedback from the participants were taken and it is satisfying that participants gave their feedback on teaching program as excellent.

Ajai Kumar Srivastava Ph.D.
Physicist Dept of Radiology UCMS & GTB Hospital
Program Host Co-Director ,AAPM ISEP 2019 Delhi
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ESTABLISHMENT OF SRI LANKA MEDICAL PHYSICIST SOCIETY (SLMPS)

The Inaugural Meeting of Sri Lanka Medical Physicist Society (SLMPS) was held at the FGS Auditorium, College House, University of Colombo on 27th of July 2019 from 2.30 pm to 5.00 pm with the participation of the professionals and academics in the field of medical physics. About 30 participants attended the event. It is formed as a scientific and professional organization with the primary goal of ensuring and regulating accuracy, safety and quality in the use of radiation in medical procedures.

Before commencing the official ceremony, Dr. Janaka Wansapura, senior lecturer of Department of Physics, University of Colombo and Dr. J. Jeyasugiththan, senior lecturer, Department of Nuclear Science, University of Colombo presented the constitution to the participants and then it was open for discussion. Subsequently the constitution was approved with some alterations.

The opening ceremony was chaired by the Senior Professor Chandrika N. Wijeyaratne, the vice chancellor of University of Colombo. Dr. P.W.C. Panapitiya, deputy director of Health services, Ministry of Health and Senior Professor R.K.D. Mahanama, the dean of Faculty of Science, University of Colombo served as the guests of honor.

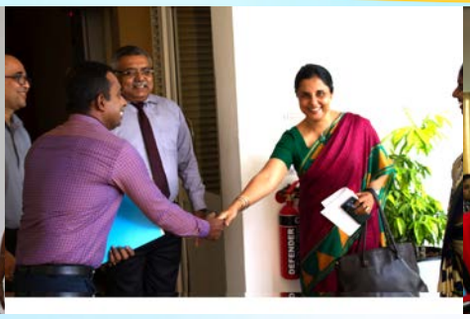
Along with the distinguished invitees, the traditional oil lamp was lit by the chairperson. Afterwards the nominations for the posts of General Secretary and President were called by the chairperson and Dr. Janaka Wansapura and Dr. J.Jeyasugiththan were selected respectively.

Mr. Athula Kumara, the chief medical physicist and the radiation safety officer of National Cancer Hospital delivered the welcome speech. Thereafter, newly elected president took over the proceedings of the meeting and as his first duty, nominations for the post of president (elect) and committee members were called and Mr. Athula Kumara was elected as president (elect) of the society.

In his Inaugural speech, president gave a brief overview of the Sri Lanka Medical Physicist Society (SLMPS), mentioning the main objectives and the expected outputs of SLMPS. Further, he emphasized the importance of both academic and professional involvement in the field medical physics for the betterment and enhancement of the health care sector. Moreover he proudly announced that SLMPS is planning to establish links with several international bodies and kindly requested the members to get the maximum benefits out of this platform.

Afterwards, Dr. A.P.W.C. Panapitiya senior professor R.K.D. Mahanama and Senior Professor Chandrika N. Wijeyaratne, addressed the gathering in that order. In his speech Dr. Panapitiya emphasized that 'knowledge sharing' is the key to expand the medical field and to facilitate the medical aspects in Sri Lanka. Further, on behalf of the ministry, he promised to provide the support needed to develop SLMPS and to achieve its prime goal. Dr. Mahanama highlighted the importance of establishing SLMPS and extended his heartiest wishes for the elected members and assured the support from the faculty of science. The interest shown by the SLMPS in developing international collaboration was highly appreciated by Senior Professor Chandrika N. Wijeyaratne.

Vote of thanks was delivered by the General security, Dr Wansapura. He expressed his gratitude to the chief guest, distinguish guests and all the members who attended to witness the opening ceremony of SLMPS. He specially mentioned the support given by Dr.M.Lamabadusuriya, head of Nuclear Science department of faculty of science, University of Colombo for facilitating SLMPS. Afterwards the inaugural meeting of Sri Lanka Medical Physicist Society (SLMPS) was adjourned.













Medical physicists fulfil an essential role in modern medicine, most commonly in the fields of diagnosis of medical conditions and in the treatment of cancer. Medical physicists working in the field of radiation oncology are generally called “qualified medical physicists in radiotherapy” or “radiation oncology medical physicists” dependent upon the country in which they work. They are part of an interdisciplinary team in the radiation oncology department dedicated to providing safe and effective treatment of cancer.

The International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources states that “for therapeutic uses of radiation (including teletherapy and brachytherapy), the calibration, dosimetry and quality assurance be conducted by or under the supervision of a qualified expert in radiotherapy physics”. It has been well documented that accidents can occur in the practice of radiation oncology when proper QA is not performed. Appropriate QA can only be implemented and practiced by adequately trained staff.

The IAEA states “It is emphasized that the holder of a university degree in medical physics without the required hospital training cannot be considered clinically qualified.” The shortage of clinically qualified medical physicists is a worldwide problem that is well recognized and is most acute in South Asia region.

The founder of SCMPCR Prof. Golam Abu Zakaria has a long history of involvement in medical physics education and training in Bangladesh, South Asia and Africa region since 1990 and recently has established a training centre named “South Asia Centre for Medical Physics and Cancer Research” to be used in providing CPD and clinical training for the next generation of medical physicists and other health care professionals involved in cancer care.

South Asia Centre for Medical Physics and Cancer Research (SCMPCR) is a centre of excellence for developing skilled manpower in this sector specially radiology and imaging other than Radiotherapy and Nuclear Medicine. Besides this, SCMPCR also provide training of doctors, nurses and technicians in cooperation with different hospitals in Bangladesh and South Asia.

In the meantime, SCMPCR has already arranged five hands-on training programs as part of its Continuous professional Development (CPD) programs since 2018 for the radiation oncologists and medical physicists to provide skilled manpower in the field of cancer care for the patient benefit. The participants were from South Asia region including Bangladesh whereas the trainers are from developed countries like Germany, USA, Korea and Thailand etc. Awareness and health education programs were also organized as well.

The 5th Hands-On Workshop (HW-05) was organized by SCMPCR, Dhaka Bangladesh. The co-organizers were, American Association of Physicists in Medicine (AAPM), University Medical Centre Mannheim, Heidelberg University, Gono Bishwabidyalay (GB), National Institute of Cancer Research and Hospital (NICRH).

Program details of HW-05

Topic: Dosimetry of Small Fields in External Beam Therapy: Reference and Relative Dose Determination
Venue: SCMPCR Training Room and NICRH, Dhaka, Bangladesh;
Date: 02-04 October 2019

- Prof. Dr Jan Seuntjens, American Association of Physicists in Medicine (AAPM), James McGill Professor & Director of Medical Physics Cedars Cancer Centre, McGill University, Canada
- Prof. Dr Golam Abu Zakaria, German Society for Medical Physics (DGMP). Gummersbach Hospital /Klinikum Oberberg Teaching Hospital of the University of Cologne & Professor, Clinical Engineering Anhalt University of Applied Sciences, Germany.
- Mr. K. Kanakavel, Assistant Manager – Physics & amp; Application Support, PTW India
- Mr. Karan Bhateja, Sr. Service Engineer, PTW India

The training program was accredited by:

- European Board for Accreditation in Medical Physics (EBAMP) as CPD event for Medical Physicists at EQF Level 7 and awarded 37 CPD credit points (32 CPD credit points for those who do not sit for or do not pass the examination). The Accreditation Code for the event is: APP00102.
- International Organization for Medical Physics (IOMP) with a total of 35CPD points in Category 1. (First IOMP accredited program).

The Workshop started on 2nd October, 2019 at 8.30 am through the registration of all participants in the Lobby and then Inaugural program at the SCMPCR training centre (Fig:1). The Sessions were organized on different topics of small field dosimetry.

Registration of the participants

Inaugural program, SCMPCR

At a Glance: HW-05

Day-1	Inaugural Program	Scientific Session	Scientific Session
Day-2	Practical Session	Practical Session	Group Discussion
Day-3	Scientific Session	Examination &Certificate Giving	Closing ceremony
Trainer- 04	Trainee- 23	SA Region Trainee 11	BD Trainee- 12

Day-1: First topic of the first day was presented on Short review of basic dosimetry concepts and conventional reference dosimetry and Physics and Challenges of Small Field Photon Beam by Prof. Jan Seuntjens. Prof. Dr. G. Abu Zakaria presented his excellent lecture on Small field Detectors and Comparison of the German DIN-6809 and the IAEA/AAPM TRS-483 for small fields protocol. PTW

experts Mr. Karan Bhateja and Mr. K. Kanakavel also presented their lecture on “Practical Tips – Relative Measurements in Small Field Dosimetry”. At the end of the scientific lectures, all the trainers received memorandums from the SCMPCR members in recognition and appreciation for their contributions to SCMPCR. The 1st day program was closed with a group photo session in the newly furnished SCMPCR training room.

Lecture by Prof. Jan Seuntjens

Lecture by Prof. G A Zakaria

Crest Giving Ceremony

Group Photo

Day- 2: Second day was assigned for practical session at National Institute of Cancer Research and Hospital (NICRH). The program was started with an inaugural session. Prof. Dr. Moarraf Hossain, Director, NICRH in his speech emphasized the importance of this type of training at this current situation in Bangladesh. He also thanked Prof. Zakari for his continuous efforts for the development of medical Physics in Bangladesh since 1990. After the inaugural session the trainees were divided into two groups Group-A and Group B for participating in the practical session.

Group A was assigned for Practical: Reference dosimetry in water phantom (Setup, beam quality index measurements in standard reference and msr fields) under the supervision of Prof. Jan Seuntjens and Mr. Karan Bhateja and Group B was under the supervision of Prof. G. A. Zakaria and Mr. K. Kanakavel. Next practical session was on Absorbed dose determination at Zmax in standard reference field and msr field. At the end of the practical session there was a group discussion session between two groups of participants.

Day-3: Prof. Jan Seuntjens presented his lectures on two topics titles “Small fields in treatment planning systems” and “Uncertainties in small field dosimetry”. At the end of the scientific lectures, an examination was held and certificate had been distributed to the participants according to the EBAMP and IOMP accreditation rules. After that Prof. Hasin Anupama Azhari, presided over the closing ceremony where each participant expressed their opinion regarding the outcome of the workshop.

Lecture by Prof. Jan Seuntjens

Examination

Certificate Distribution

Closing Ceremony

IOMP CPD Accreditation Report

International Organization for Medical Physics

01 August 2019

To:
Prof Dr Hasin Anupama Azhari
South Asia Centre for Medical Physics and Cancer Research (SCMPCR)
C-17, Anandopur, Thana Stand, Savar
Dhaka-1340, Bangladesh

Dear Prof Dr Hasin Anupama Azhari,

Re: CPD Accreditation of "Dosimetry of Small Fields in External Beam Therapy: Reference and Relative Dose Determination"

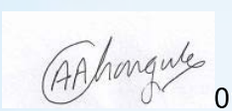
Thank you for your application to have the above mentioned workshop IOMP CPD accredited, the first workshop to be CPD accredited by the IOMP.

We have carefully assessed your application and have decided to accredit the workshop with a total of **35 [Thirty five]** CPD points in Category 1.
The concept of CPD is related to knowledge, skill and competence acquired during lifelong learning. The outcome of CPD should lead to an improvement in professional practice. We are confident that your workshop will equip all participants to do this.

May I remind you that following the workshop, according to the guidelines, you are requested to send a report to the IOMP Accreditation Board summarizing the main points of the activity, as well as its strengths and limitations. The names of all participants to receive credits and the number of credits for each participant must also be included in the report.

Thank you very much for paying CPD accreditation amount to US $ 350=00 to IOMP.

Yours sincerely,



01/08/2019

Prof Arun Chougule
Chair IOMP Accreditation Board

Welcome Message

The main theme in JRC 2020 is「一寸の光陰」and “The power of Imaging”. I imagined something interesting from the two themes.「一寸の光陰」means that “every moment is precious or do not waste your time”, but I came up with light (光) and shadow (陰) at every moment(一寸)).

「一寸の光陰」reminds me x-ray images, which represent a fundamental phenomenon of x-rays and medical applications found by Prof. Dr. Wilhelm Conrad R□ntgen. Therefore, we are planning symposiums and educational lectures, which will make you think back to the principles of fundamental technologies and clinical applications.

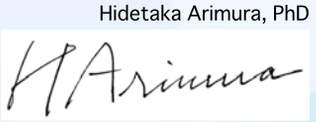
“The power of Imaging” inspires me to come up with the powers of information that is extracted from medical imaging, that is, the powers of the state-of-the-art technologies such as artificial intelligence (AI), quantitative imaging biomarkers (QIBs), radiomics (RO), etc. Thus, we are preparing special symposiums and lectures associated with AI, QIB, and RO, which take you *back to the future*.

Further, by focusing on the diversity of researchers, i.e., outstanding, female, and young researchers including international students and researchers, we are heading to the 119th JSMP with the diverse of research fields.

Please come to JRC 2020 in Yokohama, Japan, and the 119th JSMP (April 9, Thu - 12, Sun, 2020), and feel *the power of medical physics*.

We, the executive committee and program committee, are pleased to welcome all of you, so that you can feel *the power of JRC2020* in Yokohama, Japan!

President of the 119th Scientific Meeting of the Japan Society of Medical Physics
Hidetaka Arimura, PhD



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JSMP119 is endorsed by IOMP

JSMP119 is endorsed by AFOMP.

Important dates

Abstract Submission:	September ~~5 (Thu)~~ 18 (Wed), 2019 - ~~October 28 (Mon)~~ November 4(Mon)
Abstract Acceptance Notification:	2019 early December ※Published on HP
Proceedings registration:	December 6 (Fri),2019 - January 9 (Thu),2020
CyPos registration:	February 3(Mon),2020 □February 21(Fri),2020
Slide registration:	March 6 (Fri),2020 - April 3 (Fri),2020

What's New

October 28,2019	Abstract submission deadline has been postponed. NEW
September 18, 2019	Abstract submission is now available.
August 08, 2019	Open the official site.

Support

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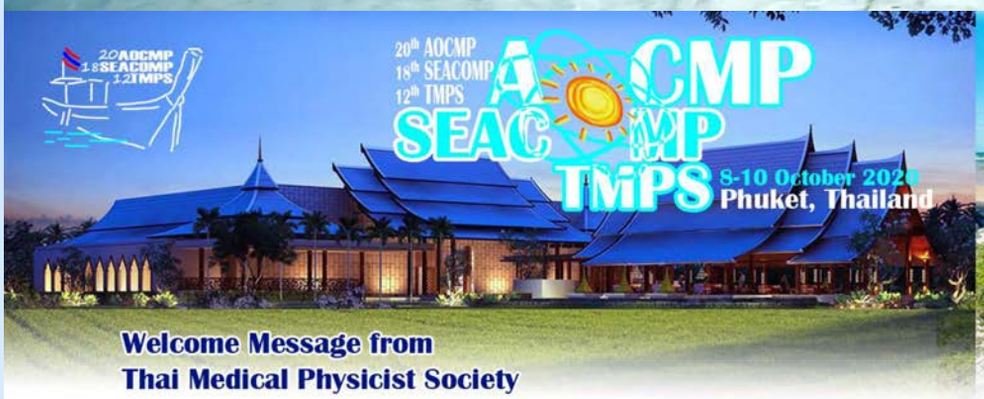


Welcome Message from Thai Medical Physicist Society

On the behalf of Thai Medical Physicist Society and the local organizing committee, I am pleased to extend our warm welcome to the 20th Asia Oceania Congress on Medical Physics and the 18th South East Asian Congress on Medical Physics held on October 8-10, 2020 at Duangjit Resort & Spa, Phuket, Thailand. The theme of the Conference is **"Medical Physics – Achievements, Challenges and Horizons"**

It is the first time that Thailand hosts the 20th AOCMP and 18th SEACOMP in Phuket Island, Thailand.

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

I wish you participate the coming conference arranged with the Welcome Reception, Lunch Symposium, Scientific and Exhibition sessions with social programs in October 8-10, 2020 Phuket, Thailand.

Thank you,

Anchali Krisanachinda, Ph.D.
President, TMPS
July 12, 2019

Important Dates

1 February 2020	Registration opens
1 March 2020	Call for abstracts opens
30 June 2020	Abstract submission closes
25 July 2020	Abstract acceptance notifications
31 July 2020	Early bird registration closes
31 August 2020	Full paper submission closes
8-10 October 2020	Conference dates

WWW.AOCMP-SEACOMP2020.COM


AMPICON-2020
Annual Conference of Association of Medical Physicists of India 2020
DAE Convention centre
Mumbai, India
November 5-8,2020
For details contact:
sdsbarc@gmail.com
rajresh@gmail.com

ACCMP-2021

Welcome to

The 21st Asia-Oceania Congress of Medical Physics

Science for Radiation Medicine

Venue: Cox's Bazar, Bangladesh

Date: 10 – 12 December 2021

50th ANNIVERSARY
1971-2021

BANGLADESH

A Role Model for Developing Countries

Organizer

Bangladesh Medical Physics Society.

In Cooperation With

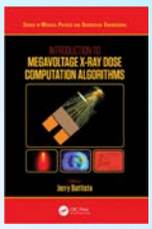
South Asia Centre for Medical Physics and Cancer Research.

Supported by

The Asia–Oceania Federation of Organizations for Medical Physics.

2019 CRC PRESS BOOK REVIEW

Dr. R. K. Bisht, Medical Physicist Gammaknife Centre
Dept. Neurosurgery, AIIMS, New Delhi

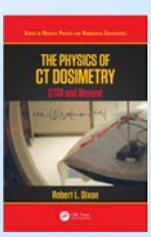


Introduction to Megavoltage X-Ray Dose Computation Algorithms
Author: Jerry Battista
Published on: January 2, 2019

This book starts with a historical perspective gradually building up to three most important algorithms used for today's clinical applications. These algorithms can solve the same general radiation transport problem from three vantages: firstly, applying convolution-superposition principles (i.e. Green's method); secondly, the stochastic simulation of radiation particle interactions with tissue atoms (i.e. the Monte Carlo method); and thirdly, the deterministic solution of the fundamental equations for radiation fields of x-rays and their secondary particles (i.e. the Boltzmann method). It contains clear, original illustrations of key concepts and quantities throughout, supplemented by metaphors and analogies to facilitate comprehension and retention of knowledge.

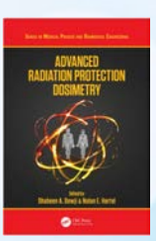
Problems and Solutions in Medical Physics: Nuclear Medicine Physics
Authors: Kwan Hoong Ng, Chai Hong Yeong, Alan Christopher Perkins
Published March 27, 2019

Topics include radioactivity and nuclear transformation, radionuclide production radiopharmaceuticals, non-imaging detectors and counters, instrumentation for gamma imaging, SPECT and PET/CT, imaging techniques, radionuclide therapy, internal radiation dosimetry, quality control and radiation protection in nuclear medicine. Each chapter provides examples, notes, and references for further reading to enhance understanding.



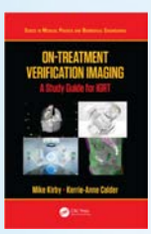
The Physics of CT Dosimetry: CTDI and Beyond
Author: Robert L. Dixon
Published April 4, 2019

This book explores the physics of CT dosimetry and provides practical guidance on the best practice for medical researchers and practitioners. A rigorous description of the basic physics of CT dosimetry is presented and illustrates the flaw of current methodology. It also contains helpful (and rigorous) shortcuts to reduce the measurement workload for medical physicists. The mathematical rigor is accompanied by easily-understood physical explanations and numerous illustrative figures.



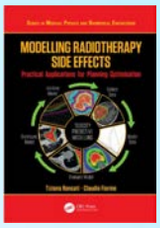
Advanced Radiation Protection Dosimetry
Author: Shaheen Dewji, Nolan E. Hertel
Published April 15, 2019

Although many radiation protection scientists and engineers uses dose coefficients, but few know the origin of those dose coefficients. This is the first book in over 40 years to address the topic of radiation protection dosimetry in intimate details. Advanced Radiation Protection Dosimetry covers all methods used in radiation protection dosimetry, including advanced external and internal radiation dosimetry concepts and regulatory applications. This book is an ideal reference for scientists and practitioners in radiation protection and graduate students in health physics and medical physics courses.



On-Treatment Verification Imaging: A Study Guide for IGRT
Author: Mike Kirby, Kerrie-Anne Calder
Published May 1, 2019

On-treatment verification imaging has developed rapidly in recent years and is now at the heart of image-guided radiation therapy (IGRT) and all aspects of radiotherapy planning and treatment delivery. This is the first book dedicated to this important topic, which is written in an accessible manner for undergraduate and graduate therapeutic radiography (radiation therapist) students and trainee medical physicists and clinicians. The later sections of the book is help for established medical physicists, therapeutic radiographers, and radiation therapists to familiarize themselves with developing and cutting-edge techniques in IGRT.

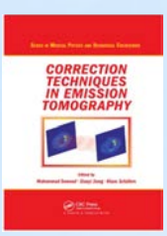


Modelling Radiotherapy Side Effects: Practical Applications for Planning Optimization
Author: Tiziana Rancati, Claudio Fiorino
Published June 10, 2019

The treatment of a patient with radiation therapy is planned to find the optimal way to treating a tumour while minimizing the dose received by the surrounding normal tissues. In order to exploit the possibilities of this process, the availability of accurate and quantitative knowledge of the peculiar responses of the different tissues is of paramount importance.
This book provides an invaluable tutorial for radiation oncologists, medical physicists, and dosimetrists involved in the planning optimization It presents a practical, accessible, and comprehensive summary of the field's current research and knowledge regarding the response of normal tissues to radiation. This is the first comprehensive attempt in the Field since the publication of the QUANTEC guidelines in 2010.

Intelligent and Adaptive Systems in Medicine
Author: Olivier C. L. Haas, Keith J. Burnham
Published September 19, 2019

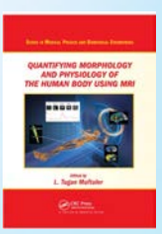
Intelligent and adaptive techniques are rapidly being used in all stages of medical treatment, from the initial diagnosis to planning delivery and follow-up therapy. To realize the full potential of these techniques, developers and end users must understand both the underlying technology and the specifics of the medical application considered. Focusing on this growing area of interest, Intelligent and Adaptive Systems in Medicine clearly and concisely explains a range of adaptive and intelligent systems, highlighting their benefits and limitations with realistic medical examples. Bringing together theory and practice, this volume describes the application of adaptive and intelligent control as well as intelligent systems in the diagnosis, planning, treatment, and follow up of diseases such as cancer. Each chapter presents a family of an intelligent and adaptive system, explains the techniques and algorithms behind these systems, and explores how to solve medical and biomedical problems using intelligent and adaptive systems. The book focuses on the methods of fuzzy logic, artificial neural networks, neuro-fuzzy modeling, adaptive and predictive control, systems and statistical modeling, and image processing. By assessing the use of intelligent and adaptive techniques for medical diagnosis and therapy, this guide promotes further research in this area of “techno-medicine.” It provides researchers and clinicians with the tools and processes that are leading to the invaluable use of intelligent systems in early diagnoses and effective treatment.



Correction Techniques in Emission Tomography
Author: Mohammad Dawood, Xiaoyi Jiang, Klaus Schäfers
Published September 19, 2019

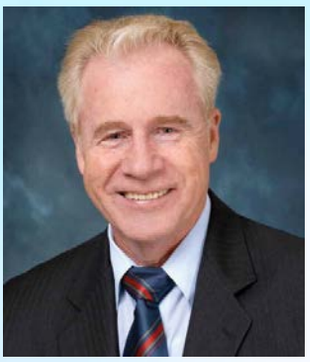
Written by an interdisciplinary team of medical doctors, computer scientists, physicists, engineers, and mathematicians, Correction Techniques in Emission Tomography presents various correction methods used in emission tomography to generate and enhance images. It discusses the techniques from a computer science, mathematics, and physics viewpoint are discussed. The book gives a comprehensive overview of correction techniques at different levels of the data processing workflow. It covers nuclear medicine imaging, hybrid emission tomography (PET-CT, SPECT-CT, PET-MRI, PET-ultrasound), and optical imaging (fluorescence molecular tomography). It illustrates basic principles as well as recent advances, such as model-based iterative algorithms and 4D methods. An important aspect of the book is on new and sophisticated motion correction techniques in PET imaging. These techniques enable high-resolution, high-quality images, leading to better imaging analysis and image-based diagnostics.

Quantifying Morphology and Physiology of the Human Body Using MRI
Author: L. Tugan Muftuler
Published October 21, 2019In the medical imaging field, clinicians and researchers are increasingly moving from the qualitative assessment of printed images to the quantitative evaluation of digital images since the quantitative techniques often improve diagnostic accuracy and complement clinical assessments by providing objective criteria. Despite this growing interest, the field lacks a comprehensive body of knowledge. Filling the need for a complete manual on these novel techniques, Quantifying Morphology and Physiology of the Human Body Using MRI presents a wide range of quantitative MRI techniques to study the morphology and physiology of the whole body, from the brain to musculoskeletal systems.



Illustrating the growing importance of quantitative MRI, the book delivers an indispensable reference for readers who would like to explore in vivo MRI techniques to quantify changes in the morphology and physiology of tissues caused by various disease mechanisms. With internationally renowned experts sharing their insight on the latest developments, the book goes beyond conventional MRI contrast mechanisms to include new techniques that measure electromagnetic and mechanical properties of tissues.

OBITUARY



Prof Barry J Allen (10th June 1940 – 21st November 2019)
Managing Director, Medical Scitec Australia (MSTA) (1995-2019)
Professorial Fellow at four Universities (NSW, Sidney, Western Sydney and Wollongong)
Director- CERO, St George Hospital, Sydney (1994-2012)
Principal Medical Physicist Specialist-Cancer Care Centre & Clinical School, St George Hospital, Sydney
Chief Research Scientist- Australian Atomic Energy Commission (AAEC)/ Australian Nuclear Science and Technology Organization (ANSTO) (1963-1994)
A life time researcher with about 400 publications in 5 research fields

With immense grief we share that Prof. Barry J. Allen, a renowned name in Medical Physics Community and past President of IOMP and AFOMP, died on 21st November 2019 in Australia. Prof. Barry J. Allen started his career at Australian Nuclear Science and Technology Organization (ANSTO) as a Chief Research Scientist in 1964 and was actively involved in research till his last days. He was born on 10 June 1940 in Australia.

I have met personally Prof. Barry Allen on many occasions during various meetings and in his office at St George Hospital, Sydney. His smiling face and jolly nature, I cherish the memories.

Professor Allen was an innovator, introducing new approaches in the use of technology to improve human health and he opened up new directions in the use of technology in medical practice with long-term impact. His demise is a great loss to the entire Medical Physics fraternity and has created a void which is very hard to fill.

Prof Allen completed his high school from Melbourne Boys High School in 1957 and went on to do B.Sc Physics and M. Sc Photonuclear Physics from the University of Melbourne (1958-1962). He joined the Australian Atomic Energy Commission (AAEC) at Lucas Heights in 1963. He became chief research scientist at the Australian Nuclear Science and Technology Organization (ANSTO) (AAEC renamed) in 1964. He married Cynthia in 1969 and moved to Oak Ridge National Laboratory (ORNL), Tennessee to study high resolution resonance neutron capture in collaboration with Dr Dick Macklin. He obtained Ph. D in resonance Neutron Capture from the University of Wollongong. He was awarded D. Sc in Resonance Neutron Physics by the University of Melbourne.
In the early 1980's he started neutron based medical R&D programs in Boron Neutron Capture Therapy (BNCT) for cancer and In Vivo Body Composition (IVBC) for medicine. He designed the in vivo nude mouse irradiation facility at the Moata reactor at Lucas Heights, demonstrating for the first time the induction of double strand breaks in DNA arising from neutron capture induced auger emission with Dr Roger Martin of Peter MacCallum Cancer Centre. This collaborative research work ranged over physics of radiation dosimetry, boron measurements, reactor and accelerator neutron beams, chemistry of boron chemicals, proteins, monoclonal antibodies and liposome's,

radiobiology of high LET reactions and radiation oncology for melanoma and glioblastoma. He became the President of the International Society for Neutron Capture Therapy in 1988 and convened the Fourth International Symposium for Neutron Capture Therapy in Sydney in 1990.

Barry Allen designed the first human body protein monitor (BPM) fabricated by Australian Nuclear Science and Technology Organization (ANSTO) at Lucas Heights with Ned Blagojevic (1980's). It was used initially for pediatric studies of protein change in cystic fibrosis patients with Dr Kevin Gaskin and later installed at Royal North Shore Hospital with Prof Ross Smith for collaborative clinical studies with most Sydney hospitals and continues to operate today. The BPM was an important research tool in studying the efficacy of management of many pediatric and adult diseases and treatments, including cystic fibrosis, renal disease, AIDS, cancer and surgery.
The Targeted Alpha Therapy (TAT) project, begun in 1994 at St George Hospital, was successful in developing new agents for the treatment of melanoma and leukemia, breast, prostate, pancreatic, ovarian and colorectal cancers. He designed and directed two of world's first phase 1 dose escalation trials of intra-lesional and systemic targeted alpha therapy for metastatic melanoma, with 51 patients treated with Dr Peter Graham (Medical Director). He developed the tumour anti-vascular alpha therapy (TAVAT) concept to account for regression of solid tumours by alpha therapy, validated by micro Monte Carlo calculations with Dr Chen-Yu Huang.

High Linear Energy Transfer (LET) dosimetry is required for clinical TAT and the clinical biological dosimeter for systemic radiotherapy, based on the formation of micronuclei in lymphocytes randomly hit by alpha emissions in blood was first demonstrated with Dr Emma Song.

Barry Allen has published over 381 research articles in neutron and biomedical physics. Research topics include neutron capture gamma rays, resonance cross sections, stellar nucleo-synthesis, clinical in vivo body composition, neutron capture therapy, macro and micro-dosimetry, micro-beams, biological dosimetry and preclinical and clinical targeted alpha therapy. He was granted research funds over 4 million dollars for seven research projects titled 'development of new contrast agents', 'radiotherapy – alpha emitters', 'body composition studies in-vivo', 'radiotherapy dosimetry', 'therapy of microscopic disease in biological relapsed myeloma patients', 'optimization of systemic cancer chemotherapy', and 'targeted alpha therapy for metastatic prostate cancer'. He co-authored the text book 'Biomedical Physics in Radiotherapy for Cancer' published in 2011 with Loredana Marcu and Eva Bezak.

Professor Allen was awarded Fellowships in the Australian Institute of Physics (AIP) in 1972, the American Physical Society (APS) in 1981, the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) in 1992 and the Institute of Physics (IoP) in 1999. He was elected President of ACPSEM in 1998, Founding Vice President of AFOMP in 2000-2003 and President of AFOMP in 2003-2006, President IOMP in 2006-2009 and President of IUPESM in 2009-2012. During his tenure he introducing many new initiatives in these organizations, including the Health Technology Task Group of IUPESM to assist developing countries in the implementation of appropriate technology. He designed the AFOMP logo with Dr Kiyonari Inamura. He convened the 2003 World congress on Medical Physics and Biomedical Engineering in Sydney. He facilitated the formation of Vietnamese Association of Medical Physics (VAMP) in 2008. Professor Allen was honored by IOMP in 2013 as one of the 50 medical physicists who have made an outstanding contribution to medical physics over the past 50 years. He was honored as an Officer in the Order of Australia in the Queen's birthday honors list 2015 for his distinguished service to biomedical physics, particularly to radiation oncology and the development of innovative methods of cancer treatment, and to international professional scientific organizations.

Professor Allen was an innovator, introduced new approaches in the use of technology to improve human health and he opened up new directions in the use of technology in medical practice with long-term impact. In his autobiographical retirement speech 'a not so random walk through space, time and spirit' he appealed to every young medical physicist to devote adequate research time to expand the biomedical applications of physics to bring about better therapeutic solutions for cancer treatment.

He was diagnosed with Stage III multiple myeloma in April 2015, he faced the disease with wit and charm. His demise is a great loss to the entire Medical Physics fraternity and has created a void which is hard to fill.

Prof. Arun Chougule
President AFOMP
Chair ETC IOMP

Ms. Mary Joan
Assistant Professor
Department of Radiological Physics
SMS Medical College, Jaipur

MEETING CALENDAR 2020

International Conference on Medical Physics, Radiation Protection and Radiobiology ICMPRPR on January 13-14, 2020 in Zurich, Switzerland

ICMPRPR 2020: 14. International Conference on Medical Physics, Radiation Protection and Radiobiology
March 12-13, 2020 in London, United Kingdom

ESTRO39 Conference2020
April 03-07,2020, Vienna, Austria

The 119th Scientific meeting of the Japan society of Medical Physics
April 09-12, 2020, Pacifico Yokohama,, Japan

8th MR in RT Symposium
May 25th, 2020
Heidelberg, Germany

59th Annual Conference of the Particle Therapy Co-operative Group
May 09-14, 2020, Taipei

2020 Joint AAPM/COMP Meeting
July 12 – 16, 2020, Vancouver, BC, Canada

45th Annual Meeting of the European Radiation Research Society (ERR 2020)
September, 3- 17, 2020. Lund, Sweden

3d European Congress of Medical Physics
September 23-26, 2020, Torino, Italy

20th AOCMP2020-18th SEACOMP-12th TMPS
October, 8-10, 2020, Phuket, Thailand.

41st AMPICON-ICMP2020
November 5-8, 2020 Mumbai, India

ASTRO2020
October 25 - 28, 2020
Miami Beach Convention Center, Miami Beach, Florida

106th Scientific Assembly and Annual Meeting,
November 29–December 4, 2020, at McCormick Place in Chicago, IL.

Officers and Council of AFOMP

President :- Prof. Dr. Arun Chougule

Dr. Arun Chougule
Pro Vice-Chancellor & Dean, Student Welfare,
Rajasthan University of Health Sciences,
Sr. Professor & Head, Department of Radiological Physics,
S.M.S. Medical College & Hospitals
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Vice President & Chair, Awards & Honors Committe Prof. Eva Bezak

Prof. Eva Bezak, PhD, FACPSEM
Professor in Medical Radiation,
University of South Australia
Email: eva.bezak@adelaide.edu.au

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Prof. Hasin Anupama Azhari
Professor and Chairman,
Department of Medical Physics
and Biomedical Engineering (MPBME) .
Dean, Faculty of Physical and Mathematical Sciences,
Gono Bishwabidyalay (University), Dhaka
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Graduate School of
Medical Sciences of
Kindai University, Japan

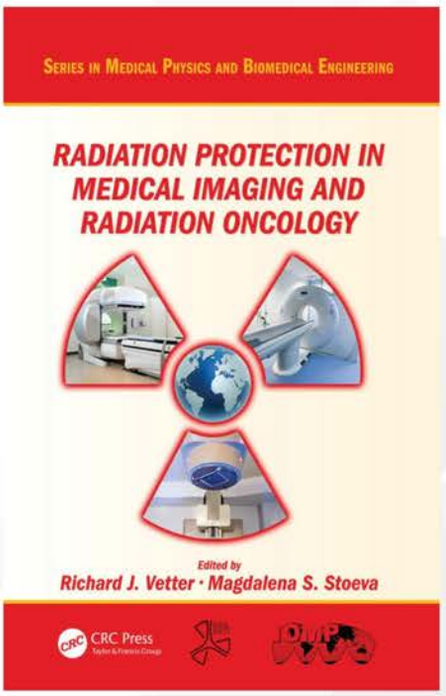
AFOMP webmaster: Ms. Rajni Verma
Contact Email: 1989vermarajni@gmail.com

Radiation Protection in Medical Imaging and Radiation Oncology

The Series in Medical Physics and Biomedical Engineering
presents a new book edited by Richard J. Vetter and Magdalena S. Stoeva

ISBN: 9781482245370 | December 2015 | £57.99

- Discusses both regulatory and professional aspects of radiation protection, covering medical imaging and radiation oncology
- Includes information on radiation exposure from imaging and radiotherapy procedures and their interpretation in terms of safety and radiation risks to patients and members of medical staff
- Provides a fully international approach, with sections devoted to Africa, Asia and Oceania, Europe, the Middle East, and North and South America
- Includes contributed chapters from the world's leading experts in the field
- Functions as either a reference source or for more intensive reading



"The book presents a unique view on the subject. It is written by experts in the field—a collaboration between IOMP and IRPA. ... The content and structure of the book are excellent. ... The book will be a very useful reference for various specialists for many years ahead. ... Throughout this book, the reader will find lots of data, tables, and diagrams. This is an excellent reference, which will be useful in all medical physics department."
—Medical Physics International, Vol. 3, 2015

The books are priced in such a way as to make them affordable to as many medical physicists and biomedical engineers worldwide as possible (both professionals and students).
In addition, all books in the series are available at a 25% discount to members of the IOMP.
Simply enter code AKP34 when ordering at www.crcpress.com to save 25%.

Follow this link to sign up for email alerts from CRC Press about all CRC Press's books in medical physics, and/or other areas of interest: *https://www.crcpress.com/email.*

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