Asia-Oceania Federation of Organizations for Medical Physics

# AFOMP Newsletter

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# 20 YEARS OF ALLIANCE AND COOPERATION!!

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**Dr. Kin-Yin Cheung**
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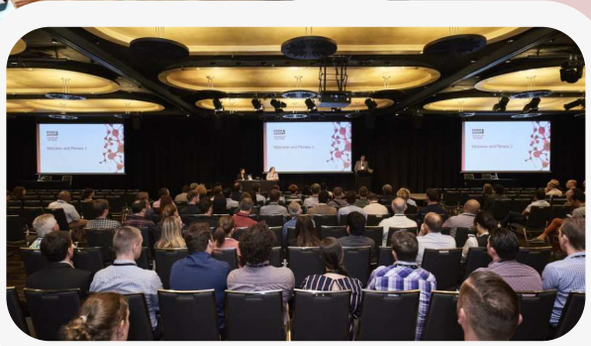
**2015-2018**

# Thank you

**Our gratitude to all AFOMP founding members, past presidents with their whole team. Under the guidance and leadership of these great medical physicists AFOMP has done remarkable work and leading towards its goals.**

# TABLE OF CONTENT

# EDITORIAL

**Celebrating the 20th Anniversary of AFOMP Establishment: The Journey to Excellence**

Dear Readers,

Warm Greetings from the Editorial Board,

It gives me a great pleasure, indeed, I am privileged and honoured to write this editorial on the special occasion of 20th anniversary of AFOMP establishment. Amid we are facing the unprecedented global pandemic challenges due to the COVID-19, the EXCOM of AFOMP's committed leaders have decided to bring out the publication of special issue of Newsletter and reach out you all to celebrate the 20th anniversary of AFOMP formation. This special issue of the newsletter is exclusively planned with messages of world leaders of medical physics professional organizations and detailed reports on the current status of all national members organizations and their achievements and activities in the recent past.

Over the past two decades, AFOMP has become third largest professional body in the world of medical physics organization with around 20 national member organizations. AFOMP have developed many professional policies and guidelines and conducted several scientific and professional activities in the interest of the members of the organizations in the AFOMP regions. However, at this special occasion, it is important to not only to revisit our golden past and present, but also to have strategic plan for the future to achieve a sustainable excellence to build a value-based society and noble profession.

The medical physics is truly a translational science which translates technologies into clinical practice. As medical physicist's possess analytical and problem-solving skills, technical and safety expertise on equipment evaluation and knowledge of the clinical processes, they have special value due to the direct contribution and impact on human health and patient care services.

Recently as there is rapid proliferation in technological advancement, the expanding roles of medical physicists are also becoming phenomenal. Therefore, the needs of the future medical physicists workforce must be evaluated by strategic planning.

In order to ensure to produce the quality workforce, It is paramount important to have accredited educational and training program with harmonized curriculum, certification and continuous professional education to acquire the skills and competency for quality service.

The career progression of the professionals is necessary by employing different levels such as assistant practitioner (level-1), practitioner (level-2), advanced practitioner (level-3) and consultant practitioner (level-4) to ensure that they have suitable knowledge, skill and experience to perform the varied levels of activities and tasks in the technology-driven clinic.

The quality and safety management program are essential to not only to achieve the quality service, but also in preventing errors from injuring patients or compromising their health. The quality assurance and control, quality audit, incident reporting and risk assessment approaches are necessary for quality and safety clinical practice

As scientists, medical physicists expects themselves to explore, discover and innovate and expand the role in applied clinical and translational research while simultaneously practising and mastering the clinical skills.

The mission, vision, values and excellence of the organization can be achieved by strategic planning towards the development of leadership, structural improvement, capability development, process improvement, cultural development and team building. The ultimate responsibility in achieving professional status and recognition is rest with leaders and member's commitment, compassion and dedication to the organization for sustainable future and visibility of the profession. It is a call for a common policy development and implementation across the AFOMP countries towards strengthening the profession.

On behalf of the editorial board, I would like to thank all guests, NMO officials and authors for contributing the messages, reports and articles to this special issue of newsletter.

We hope you will enjoy in reading this special issue of Newsletter.

**“Try not to become a person of success, but rather try to become a person of value”**
**-Albert Einstein**

(Dr. V. Subramani)
Editor, AFOMP Newsletter &
Asst Prof. of Radiotherapy (Medical Physics)
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# PRESIDENT'S MESSAGE

Dear Friends, Colleagues and students

***Accept my heartiest congratulations and best wishes on the occasion of 20th Anniversary of Asia Oceania Federation of organisations for Medical Physics [AFOMP].***

AFOMP was founded by visionary and foresighted medical physics educators from the region on 28 th May, 2000 at Beijing, China. Initially AFOMP started with six founding countries medical physics organisations. During WC2000 at Chicago, six more country medical physics organisations joined AFOMP and AFOMP was admitted to IOMP [International Medical Physics Organisation] on 26 th July 2000 as third Regional Organisation [RO] of IOMP.

Arthur Ashe has rightly said "Success is a journey, not a destination. The doing is often more important than the outcome.' In last 20 years, under the great visionary leaders and subsequent AFOMP officials efforts, the National Member Organisations [NMO's], AFOMP has done substantial progress towards fulfilling the objectives of AFOMP such as promoting medical physics, development of professional status and standards, education and training of physicists, scientific meetings and exchanges of resources in the region. AFOMP region hosts about 4.5 billion people [60 % of world population] in about 50 countries. The region is multilingual, multiple religious faiths and full of heterogenic in socioeconomic, educational, healthcare and research areas. Countries like Australia has highest GDP per capita of around 6000 US$ whereas Nepal has 750 US$ in the region. In AFOMP countries there is no binding force like European directives and therefore with huge diversity the task of AFOMP to homogenise the medical Physics education and profession is quite challenging.

The use of X – rays for diagnosis and radiotherapy by superficial/deep X- rays started in AFOMP countries soon after the discovery of x – rays in 1895 and in early twentieth century. The therapeutic use of radium was commenced by 1920's. Medical physicists were appointed as early as 1930's in many countries of AFOMP, to name a few Australia, India, Thailand, Japan, S. Korea, New Zealand took proactive steps for standardising medical physics education, certification and recognition of the profession, however many are still quite behind.

This remarkable two decades of team work and cooperation has sown seeds of development, advancement and hard work, which are now giving sweet fruits in the form of better recognition, better coordination and cooperation in region as a whole. Several dedicated medical physics professionals have worked quite hard to achieve what it is today. In two decades seven teams of AFOMP Executive committees, which include President, Vice President Secretary General, Treasurer, and Committee Chairs have provided leadership, guidance and served for the betterment of organization and profession. AFOMP website [www.afomp.org] is updated very regularly and contents lot of useful information including six policy statements brought out by

AFOMP. AFOMP has taken lead in regularly organising Asia Oceania Congress of Medical Physics [AOCMP] every year since 2001 and gave a platform to present work done by medical physicists and learn from outstanding speakers/educators. AFOMP provides travel grants to young MP's for participating in AOCMP. AFOMP is bringing out AFOMP newsletter regularly, started Prof. Kiyonari Inamura memorial AFOMP oration, AFOMP lifetime achievement award, best research paper publication awards and so many initiatives to harmonise the MP education- training. AFOMP has also contributed to IOMP in fulfilling the objectives and AFOMP is proud that three distinguished AFOMP members became President of IOMP in addition few contributed as Chairs of various IOMP committees, treasurer of IOMP, four world congress of Medical Physics and Biomedical Engineering [WC] are organised in past and two in coming years in AFOMP region, i.e. 40 % of WC's held in AFOMP region.

Today, AFOMP with 21 NMO's is second largest RO of IOMP in terms of number of MP's and NMO's. Despite of all these efforts some areas needs special attention, as some NMO's are still not participating in active manner as desired from them, do not maintain updated websites nor respond to communications. This may be because of various challenges, which include absence of structured medical physics programs, lack of support from Institution/Govt., inactive national associations or lack of directional leadership. However development is always a gradual and slow process. So to achieve our goals we have to conquer all of these challenges and move forward with enthusiasm. Still we have go a long way in fulfilling the aspirations of our members and rise to growing demand of skilled and knowledgeable MP's in the era of high tech healthcare delivery system and also to bridge the gaps. This is the great opportunity for whole community to celebrate this achievement and also pledge to work even harder with great enthusiasm for development of subject and medical physics profession.

TOGETHER WE ALL will strive hard to achieve the unfulfilled goals set by our founding visionary members and rising aspirations of young medical physics professions. On the occasion of 20th anniversary of AFOMP special issue with special design is brought out. I thank all the NMO's who have shared the information and well wishers from good wishes on this occasion. Special thanks to my colleague Rajni Verma for designing the front page and Mukesh Jain for organising the special issue.

Your suggestions, active participation and contribution are always welcomed by AFOMP.
Once again I wish you all very happy 20th Anniversary of our AFOMP.

Prof. Arun Chougule
President AFOMP

# VICE-PRESIDENT'S MESSAGE

Dear colleagues and friends,

Warmest congratulations to you all on AFOMP's 20 years of teamwork, education, science and friendship, as well as twenty years of rapid technology development that resulted in departments moving from analogue equipment to digital equipment and now even to an AI-type apparatus. We moved from single purpose machines to hybrid ones, such as PET-CT or MRI-Linacs. We have seen rapid implementation of particle therapy. All these changes have impacted medical physics workforce, resulting in new/additional, more complex and broader education and training requirements and perhaps even in some shifts in traditional medical physics tasks. We have no choice but to adapt and evolve with changing clinical, scientific and technological demands to be able to keep contributing to safe diagnoses and treatments of patients in the AFOMP region.

The digital world has seen us become connected more than ever before, being able to keep in touch, distance learn, research and problem solve via email, teleconferences and other apps, making it easier to collaborate and keep active links between physicists from different AFOMP countries. The collaborations have evolved into professional friendships and these days they also include encouragements of staying safe and well during the current pandemic times, making me feel being part of this large international regional community.

Our conferences have grown from strength to strength and are well attended, offering excellent scientific program and professional development. I trust that AFOMP founders would be proud to see how far AFOMP has progressed.

Many of our colleagues have contributed to the success of medical physics in the AFOMP region. To recognize their contribution, as of 2020, AFOMP has inaugurated the AFOMP Lifetime Achievement Award to honour medical physicists who have established distinguished careers in their fields, serving the profession and the community. Additionally, to recognize the quality research conducted in our region, AFOMP Journal Prize for the best paper published in an AFOMP journal has also been established this year. Both prizes will be awarded annually during our Asia-Oceania Congresses on Medical Physics.

Of course, there is so much more that needs to be done, considering the large regionals diversity (including in health and economics), so the next 20 years of AFOMP will continue requiring lot of work, commitment and active contribution from its national member organizations and their members. But as always, I trust that we all are undaunted to rise to the challenge.

Wishing you happy 20th AFOMP anniversary.

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

# GENERAL SECRETARY'S MESSAGE

Dear Colleagues,
I hope all of you are well and safe amidst COVID 19.
On the occasion of 20th anniversary of the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP), this special issue of the AFOMP Newsletter will reflect accomplishment, joy and glorious achievements of AFOMP.

Since its establishment on 28 May 2000, AFOMP has a long history of involvement in medical physics advancement by promoting the co-operation and communication between medical physics organizations, promoting medical physics and related activities in the Asia Pacific region and by developing education and training of medical physics, continuous professional development, funding, an award for the person who contributes to medical physics promotion and development and career progression for clinical medical physicists in AFOMP countries with the suitable material and establishing its viability.

We are grateful for generous supports from NMOs, other organizations, partners and the assiduous efforts exerted by our predecessors to enable us to make reality AFOMP visions and most importantly to spread the AFOMP to the height of the vibrant organization to the other international organizations.

The AFOMP always works to build a strong relationship between NMOs, sub-regional members, corporate members and other sub-regional organizations in the Asia-Oceania region and international bodies such as the IOMP, IAEA, WHO, etc to solve the relevant issues within the AFOMP. The formation of AFOMP is aimed to provide a solid platform for closer and mutual support among its member organizations, particularly in the promotion of education and training, the standard of practice, and the professional status of the medical physicists in its affiliated regions. In the coming years, I would like to request all the member organizations to take steps and come forward to improve the perceptibility of medical physicists and medical physics in their corresponding countries for their own benefit. Actually, society work is a thankless job but its significance is enormous which can have a big positive impact to develop the role and status of medical physicists in the AFOMP region. Our combined success effort certainly will develop the Medical Physics profession in underprivileged countries.

I would like to convey my immense appreciation to all the individuals who contributed to writing the wonderful and inspiring articles about the organization, and the local board members, newsletter editorial board for their full dedication and support. Lastly, special thanks to AFOMP President for his steps to celebrate 20th anniversary, AFOMP idea to publish this special newsletter with NMOs history.

Looking ahead at the coming year, we are confident that the AFOMP is on the right track to address the challenges facing us. On this 20th anniversary, I reaffirm my support for AFOMP, as We work together to strengthen our region and help to meet the challenges of our time.
Wish all of you a healthy and safe life. I hope that we will overcome this pandemic situation soon.

Thanks, everybody and stay safe.

Prof. Dr. Hasin Anupama Azhari
General Secretary
Asia–Oceania Federation of Organization for Medical Physics (AFOMP)

# Founding President of AFOMP MESSAGE

**Kin Yin Cheung, Ph.D.**

Twenty years ago, on May 28, 2000 a group of medical physicists representing their professional organizations in Australia and New Zealand, China, Hong Kong, Indonesia, Korea, Singapore, and Taiwan met in Beijing and founded AFOMP. At the same year AFOMP was admitted as Regional Organization of IOMP during World Congress on Medical Physics and Biomedical Engineering (WC2000) held in Chicago, USA. AFOMP held its first Council Meeting in Chicago during WC2000 with an initial membership of 12 member organizations.

The main objective in forming AFOMP was to create a collaborative platform for promoting the development of medical physics in the region. One of the key pillars of the collaborative platform put up by AFOMP was the annual scientific congress which aimed to facilitate scientific exchange, training and education, and social and business meetings be held. Thailand was selected to host the first Asia-Oceania Congress of Medical Physics (AOCMP). The event was successfully held in Bangkok in November 2001. The local congress organizer, Society of Medical Physics of Thailand and the chairperson, Dr Anchali Krisanachinda set an excellent benchmark on event format and standard for future congress organizers to follow.

Admission of AFOMP to IOMP as a Regional Organization was another important pillar of the collaborative platform. This paved the way for global partnership and established a channel for financial and information resources in support of the work of AFOMP and its member organizations. This established the link with other IOMP national and regional member organizations and with international professional institutions such as ICRP and statutory bodies such as IAEA and WHO. IOMP has provided valuable supports of various forms to AFOMP over the past twenty years. Likewise, AFOMP has participated and contributed to the work of IOMP. For instance, AFOMP medical physicists have served in various committees of IOMP, three of them served as IOMP Presidents and at least six of them served as committee chairs. The collaboration with the IAEA has particularly been fruitful in the AFOMP region. AFOMP members have served as experts or consultants in numerous IAEA projects on improving medical physics in support of radiation medicine and on training of medical physicists and drafting of guidance documents on medical physics and radiation safety. The collaboration on training led to the setting up of competence-based residency training programme for medical physicists in a number of AFOMP countries.

The most important pillars of AFOMP were formed by its Committees and its member organizations. Their supports and contributions have been the key elements of success in the operation of the Federation in achieving its goals and objectives.

AFOMP has achieved a lot over the past twenty years in meeting its objective. Its membership has

grown from 12 to 21. It has played a pivotal role in promoting the standard

of practice, professional role and responsibility and professional recognition of the medical physicists in the region. The advancement made by the medical physicists since formation of AFOMP in terms of professional status and standard of practice can be recognized by the large increase in the number of medical physicists, education and training programmes and professional certification boards in AFOMP member countries. The high level of standard and quality in the practice of the medical physicists are well reflected by their work in support of the rapid development of radiotherapy, radiology, nuclear medicine services in the region where a large scale modernization in the healthcare systems has taken place using sophisticated state-of-the-art medical technologies. Their research and development work has also been brought to a new height as demonstrated by the quality and amount of their presentations at the AOCMP and their publications in peer reviewed journals.

It has been my great pleasure to have witnessed the progress made in our profession and in the medical specialty of radiation medicine in the region. It has also been my great honour to have served in AFOMP as Founding President and worked together with a large group of great AFOMP medical physicists, particularly Professors T.J. Wong, Barry Allen, Akira Ito, Kiyonari Inamura, Tony Wong, Kwan-Hoong Ng, Yimin Hu, Anchali Krisanachinda, Madan Rehani, Tae-Suk Suh, Wee-Saing Kang, David Huang, Shanglian Bao, A.M. Pendse, Tim van Doorn, Djarwani Soejoko, Agnette Peralta, A.S. Pradhan, Masahiro Endo, A. S. Mollah, John Drew, Shinichi Wada, Rena Lee, James Lee, Arun Chougule, and Hasin Anupama Azhari, just to mention a few. Their support and contributions to AFOMP are much appreciated. I would also like to express my gratitude to Professors Raymond Wu, Nan-Zhu Xie, Colin Orton, Gary Fullerton, Bill Hendee, Geoffrey Ibbott, Cari Borras, Frank Pernicka, Franco Milano, Ahmed Meghzifene and many others who have provided valuable guidance, consultations and contributions to the initial formation of the AFOMP and/or subsequent operation of the Federation.

Year 2020 unfortunately is a challenging year for everyone living in this planet, medical physicists together with other healthcare professionals are fighting to save the lives of patients with and with COVID-19 virus infection. We may be facing one of the biggest challenges of our lifetime. Our experience 20 years ago in that medical physicists in the region worked together to overcome many national and international hurdles and difficulties and succeeded in forming AFOMP. I have no doubt in that by working together globally at all levels, we shall be equally successful in resolving our current problems and wining our battle against the COVID-19 pandemic.

Stay healthy and safe and we shall prevail.

Kin Yin Cheung
AFOMP Founding President

# PAST PRESIDENT'S MESSAGE

**Kwan Hoong Ng, PhD, DABMP**

Department of Biomedical Imaging, University of Malaya, Kuala Lumpur, Malaysia

In 1999 Prof Akira Ito and I organised a meeting in Guangzhou with several leaders from Asia and Oceania to explore the formation of a regional organization, thus sowing the seed for AFOMP. The following year AFOMP was officially formed and became a regional chapter of IOMP at the 2000 Chicago World Congress.

During the past two decades, we have witnessed tremendous progress in medical physics. I have often highlighted the need to nurture our future generations of medical physicists:

- Have a high level of ability and interest in physical sciences and computing.
- Have an interest in advances in medicine and related fields 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 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.

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

Prof Kwan Hoong Ng

# Past President's Message

**Prof. Yimin Hu**

Dear friends and fellow medical physicists,

I am so glad that we, AFOMP, are celebrating our 20th anniversary this year! How time flies! I still remember on May 28th, 2000, the day we founded the AFOMP in Beijing. It was during the 2nd Beijing International Congress on Medical Radiation Physics, which was organized by Prof. Raymond Wu (USA) and me (China), medical physicists from Australia & New Zealand, China, Hong Kong, Indonesia, Korea, Singapore, and Taiwan gathered together and voted unanimously to form a regional medical physics federation and named as Asia-Oceanic Federation of Medical Physics Organizations (AFMPO). We soon adopted a new name as Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) in July 2000 in Chicago and elected K.Y. Cheung from Hong Kong as the First President.

Since its foundation, AFMOP is holding its Annual Meeting called ACOMP, and working closely with its member organizations and international organizations on the development of professional status and standard, medical physics service and service standard, education and training of physicists, and scientific meetings and exchanges, etc. AFOMP has become an important communication platform for its members and those who are concerned about the development of medical physics. AFOMP also gain its reputation through the hard work of its officers and members. Especially the timely release of AFOMP GUIDELINES ON RADIATION ONCOLOGY OPERATION DURING COVID-19 this year had greatly helped and encouraged medical physicists not only in Asian-oceanic region, but also in the whole world as well during this difficult time.

Looking forward to the future, I feel confident that AFOMP will continue to actively carry out its work to promote the development of medical physics and make greater contributions to the development of medical and health undertakings in the Asian-oceanic region and in the world.

Best regards,

Prof. Yimin Hu
Past President AFOMP

# Immediate Past President's Message

**Dr. Tae Suk Suh**

Dear Colleagues

I am pleased to provide congratulations to Asia-Oceania Federation of Organization for Medical Physics (AFOMP), now celebrating 20 years in existence. AFOMP, like many others around the world was created to support professional, educational and scientific activities of medical physicists in AFOMP. The AFOMP has made important contributions in each of these areas over the 20 years since its founding.

It has been my pleasure to witness in the past 20 years the important contributions of AFOMP in promoting the advancement of medical physics in AFOMP and beyond. The Society is congratulated for the enormous achievements they have made over these years, particularly in the development of an impressive infrastructure for many official meetings and the guidelines for education, training, and professional development of medical physicists in AFOMP

AFOMP has also made significant contributions in promoting international collaboration in the development of our profession. The Society has successfully hosted many international scientific meetings in medical physics and related sciences in the past, including 20 times Asia-Oceania Congress of Medical Physics (AOCMP)

AFOMP delegation to all world events held outside AFOMP has always made great contribution. AFOMP has done an excellent job in running the AFOMP website and the AFOMP Newsletter. AFOMP is an active regional member of the International Organization of Medical Physics (IOMP).

Finally, I would like to extend my sincere gratitude to the former founders of AFOMP and members of AFOMP for all their contributions to the medical physics community. I wish them Happy Birthday and continued success in the years ahead.

# IUPESM President's Message

My heartiest congratulation to the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) on the occasion of its 20th Anniversary. Congratulation also to Prof. Arun Chougule (President AFOMP) and his team for organising the celebration under very difficult circumstances caused by the current unprecedented pandemic outbreak that is facing the whole of humanity.

Twenty over years ago, the International Organization for Medical Physics (IOMP) had suggested the formation of an Asian regional chapter. However, it required the visionary and cohesive efforts of leading Medical Physicists in the Asia-Oceania region to make it happen. Notably Akira Ito (Japan), Raymond Wu (USA), Barry Allen (Australia), Kwan Hoong Ng (Malaysia), Yimin Hu (China), Kin Yin Cheung (Hong Kong), Jui Wong Toh (Singapore) and perhaps other pioneers, whose enthusiastic leadership led to the formation of AFOMP on May 28, 2000 at the IUPESM World Congress on Medical Physics and Biomedical Engineering in Chicago. It is heartening to note that over the last 20 years, AFOMP has grown to 19 National members and 3 Affiliate National members. The efforts in promoting the field of Medical Physics in the Asia-Oceania region by AFOMP is highly commendable. Particularly at this time of the COVID-19 pandemic, AFOMP has made available on its website the COVID-19 Information Resources and its very own guidelines on radiation oncology operation during COVID-19. Such guidelines are crucial in the combat against the corona virus, making sure that medical treatment is still available and is provided in a safe environment.

Coincidentally, IUPESM celebrates its 40th Anniversary this year. To mark this important milestone in our shared history, several events and initiatives on a global scale has been planned to acknowledge the involvement of those who contributes to the advancement of physical and engineering sciences in medicine for the benefit and wellbeing of humanity. There will be a special issue of the IUPESM official journal Health and Technology as well as webinars highlighting collaboration between Medical Physicists and Biomedical Engineers and the inauguration of the new IUPESM Fellowship award. The celebration will culminate at the IUPESM World Congress 2021 in Singapore (www.wc2021.org), showcasing the advances in health-related technologies to the global Medical Physics and Biomedical Engineering community. We welcome strong contribution of AFOMP in these activities and events.

Finally, I would like to wish AFOMP every success in its future endeavour in advancing the field of Medical Physics in the Asia-Oceania region and beyond. I look forward to participating in the 20th Asia-Oceania Congress on Medical Physics in Phuket, Thailand.

Best wishes
James Goh, PhD
President, International Union for Physical and Engineering Sciences in Medicine (IUPESM)

# IUPESM Vice President's Message

Special congratulations to the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) for the occasion of its 20th Anniversary. Over these 20 years AFOMP had some of the fastest growth of medical physicists in the world - existing national societies were expanded, new societies were formed, many new University programmes were opened. AFOMP is now the second largest Regional Organisation of the International Organization for Medical Physics (IOMP).

As Co-Director of the ICTP College on Medical Physics, I was very happy to be able to contribute to the education of some young colleagues from AFOMP. I was also fortunate to open, as IOMP President, the excellent AOCMP 2017 in Jaipur, India. From there we made the first international web link for the celebrations of the International Day of Medical Physics.

AFOMP provides an excellent example of the contribution of our profession to the healthcare provision in Oceania and Asia – the continent with the highest number of people on the planet.

I wish to all colleagues from the National Members Organisations of AFOMP, and to the leads of AFOMP, many more years of continuous expansion, of success and progress!

Prof. Slavik Tabakov, PhD, Dr h.c., FIPEM, FHEA, FIOMP, HMAMPI
Vice-President IUPESM (www.iupesm.org)
Past-President IOMP (www.iomp.org)
Founding Co-Editor of IOMP Journal Medical Physics International
Co-Director ICTP College on Medical Physics
Founding Programme Director for MSc Clinical Sciences
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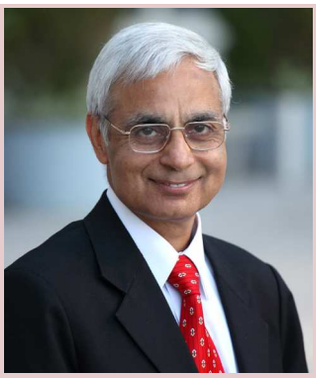
# IOMP President's Message



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23rd April 2020
To
Prof. Arun Chougule,
President, AFOMP

Dear Prof. Chougule,
I am delighted that Asian Federation of Organization for Medical Physics (AFOMP) is celebrating its 20th anniversary.

This is an important occasion from many angles. When we look at the age of a human being, 20 years is a vibrant age when the person has gone through youthful years and is matured to vote in many countries. This is the age to demonstrate responsibility. When we look at the age of professional organizations, they can sustain for many hundreds of years. Among the oldest professional societies are the American Society of Civil Engineers (1852), American Chemical Society (1876), American Mathematical Society (1888), and American Physical Society (1899). Thus 20 years may sound too young. In any way, this is the age to be enthusiastic about the future.

Looking from the side of IOMP, I personally have been pleased that AFOMP is older than many other regional organizations except the European Organization (EFOMP) which was created in 1980. AFOMP has been regularly organizing conferences from the start in 2000/2001 and thus earlier than EFOMP, it has its newsletter, has its Awards, has agreements with journals and has been conducting elections regularly. Having been myself a part of the group in 2000 that led to formation of AFOMP, I am indeed so pleased to see that AFOMP has attained 20 years of age.

I wish to congratulate AFOMP on its 20th anniversary and wish it great success in coming years. My thanks to leadership of AFOMP for the hard work that they have been investing.

Yours sincerely,

Madan M. Rehani
President, IOMP

# IOMP Vice President's Message

Dear AFOMP Colleagues,

I extend my warmest greetings and congratulate you on the 20th anniversary of the AFOMP.

Twenty years ago, the world was a different place for medical physicists. Medical physics was a new subject in many countries and medical physicists were few often working under very difficult conditions. It was in that world that Professors Colin Orton and Gary Fullerton from IOMP and Dr Akira Ito, Professor Raymond Wu and Professor Barry Allen explored the possibility of forming AFOMP. Much has changed since AFOMP's founding. Through 2 decades of hard work there is now greater choice, and a clearer path to opportunity for medical physicists from the Asian-Oceanian region.

AFOMP is among IOMP's strongest federations. We share common goals of expanding medical physics, organizing international cooperation and encouraging the formation of national medical physics societies in countries where these societies do not exist. I would like to take this opportunity to thank AFOMP's leadership and colleagues from Asia-Oceania for their tremendous work. Success is inevitable because of their effort and combined strength.

Happy birthday AFOMP!

Sincerely,
Prof. John Damilakis, MSc, PhD, FIOMP
IOMP Vice President

# AAPM President's Message

M. Saiful Huq, PhD, FAAPM, FInstP
President
American Association of Physicists in Medicine (AAPM)
Professor, Radiation Oncology
and Clinical and Translational Science
Director, Division of Medical Physics
Department of Radiation Oncology
UPMC Hillman Cancer Center and University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

It is indeed a great privilege and honor for me to write this message sharing my excitement with the members and leadership of the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) who are celebrating the 20th anniversary of its formation.

The 20th anniversary is certainly an occasion to celebrate the accomplishments of AFOMP. Ever since its founding meeting held two decades ago on May 28, 2000 during the 2nd Beijing International Congress on Medical Physics, Beijing, China, AFOMP has worked very closely with its member organizations, the International Organization for Medical Physics (IOMP) and other national and international organizations to promote matters that are of significant interest to medical physicists. These include, but are not limited to, education and training of medical physicists, enhancement of professional status and standard for medical physicists and development of scientific meetings and exchanges.

Today, AFOMP is an organization consisting of nineteen National Members and three Affiliate National Members with membership totalling about 7000. It has established five committees that deal with Education and Training of medical physicists, Professional Relations, Science, Funding, and Awards and Honors. During the last twenty years, AFOMP has facilitated the organization of nineteen annual meetings of the Asia-Oceania Congress on Medical Physics (AOCMP) in various countries in the AFOMP region. These meetings have provided a scientific platform to medical physicists from around the world, particularly from the AFOMP region, to exchange medical physics knowledge. Thousands of scientists and medical physicists from the developing and developed world have benefitted from attending these meetings.

These are significant accomplishments. In a short time-span of twenty years, AFOMP has positioned itself to be recognized as one of the leading voices for medical physicists in the Asia-Oceania region.

AFOMP should be proud of its accomplishments. On the eve of this anniversary, AFOMP should not only take pride in its successes of the past and celebrate its accomplishments, but also look ahead, focusing on challenges that medical physicists from the AFOMP region will face in the future.

On behalf of the members and the leadership of the American Association of Physicists in Medicine (AAPM), I wish to convey my warmest congratulations to the founding members of AFOMP and its leadership for their vision for AFOMP and the significant accomplishment that AFOMP has made during the last two decades. Over the years, AAPM has contributed in a significant way to AFOMP and the region through its ISEP programs, AAPM workshops, teaching programs, supporting education materials and other initiatives. AAPM looks forward to a higher level of scientific cooperation, and working together, to developing professional standards for medical physicists, enlarging membership of medical physicists from the countries in the AFOMP region, and expanding our relationships for a mutually beneficial future.

Professor M. Saiful Huq
President, AAPM

# ALFIM President's Message

Dear Colleagues:
On behalf of ALFIM, I would like to congratulate the AFOMP for its 20th anniversary. The AFOMP has been instrumental in promoting Medical Physics in Asia and Oceania, and its leadership serves as an example to the Medical Physics community in Latin America.

Since its establishment, AFOMP has carried out many noteworthy activities like the formation of working committees to set regional standards on roles and functions of Medical Physicists and other professionals as well as support for training events. The latter is of great importance due to the advanced technology in radiotherapy and the limited training opportunities available to clinicians.

Although there are cultural, social, educational and economic differences between Asia-Oceania and Latin America, one element that unite us is the betterment of Medical Physics. A Medical Physicists must be recognized as a healthcare professional and AFOMP working together with ALFIM could accomplish this goal. By working together, standards on accreditation, education and training of Medical Physicists and other clinicians can be established. Furthermore, shortages of qualified Medical Physicists and other clinicians could be better assessed and effective solutions could be implemented.

Likely challenges, disappointments and victories filled the past 20 years, and just as likely, they were faced with hope, optimism and idealism that kept the AFOMP moving forward.
From Latin America we join the anniversary celebration with the great commitment to contribute to the advancement of Medical Physics worldwide.

Dra. Sandra Guzmán
President ALFIM

# EFOMP President's Message

The common nature of AFOMP and EFOMP as federations of national member organisation is a great asset for our organizations since it allows them to be recognized at the international level as the unique representative of all the existing national medical physics societies in the two continents.

We share as federations several common goals:

- To "Promote education and training" for Medical Physicists which we do through our European School for Medical Physics Experts and through our e-learning platform.
- To "Share knowledge" with our international colleagues which we do that through our Journal Physica Medica - European Journal of Medical Physics which is honoured by the presence in the editorial board of many eminent scientists coming from Asia and Oceania.
- To "Bridge knowledge across specialities" which we do through our European Congress of Medical Physics, which is paralleled by similar initiatives leaded by AFOMP
- And, last by not least, AFOMP and EFOMP participate in international activities through IOMP, our common house.

It is a very fortunate coincidence that this year both Federations are going to celebrate their anniversaries (20th anniversary for AFOMP and 40th anniversary for EFOMP) and I am very happy to wish AFOMP every success in the common mission to strengthen our profession in a world which, now more than before, needs a global approach and an international collaboration.

Dr. Marco Brambilla
President of EFOMP
Head of Medical Physics Department
University Hospital of Novara, Italy

# MEFOMP President's Message

Dear AFOMP Colleagues,

I am delighted to congratulate you all for the 20th anniversary of your organization.

AFOMP had a hard work and success during the last 20 years which inspires us in Middle East area to do the same thing, your teamwork in our science has great success to promote medical physics science in Asia and reflected to other part of the world.

Again, congratulations and I wish you all your endeavors more success in the coming year.

Dr. Huda Naemi
President MEFOMP

# FEDERATION OF AFRICAN MEDICAL PHYSICS ORGANIZATIONS

Member of the International Organization for Medical Physics (IOMP)

https://fampo-africa.org


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**Reference:** FAMPO/EC/2020/Vol.3 -1….  **Date:** …28th April 2020.

Dear Prof. Chougule,

## CONGRATULATORY MESSAGE TO AFOMP ON TWO DECADES OF MERITORIOU S SERVICE TO A NOBLE PROFESSION

On behalf of the Executive Committee, the Council and all the members of FAMPO, we wish to felicitate with you and the entire membership of AFOMP in the Asia sub-continent on this milestone in the annals of history of our noble profession in your region.

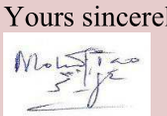
I wish to further congratulate you for exemplary leadership which has propelled the regional federation thus far and also want to appreciate the various contributions from each of the AFOMP statutory committees to various topical issues which are normally released and disseminated from time to time.

On our part, we want to assure you and our esteemed colleagues of FAMPO's support and professional camaraderie even as we step forward in struggling with a worldwide pandemic of an epic proportion, hoping that the new world order that will emerge from this "uncertain times" will be to the utmost benefit and advancement of our noble profession.

Thanking you and the team members for the wonderful job you are all doing and which has not escaped the acclaim that this congratulatory message has epitomely conveyed.

Wishing you more accomplishments and successes in the years ahead please.

Yours sincerely,



**Dr. Taofeeq A. IGE.**
**President.**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# SEAFOMP President's Message

Dear Colleagues in AFOMP

Greetings

This year marks the 20th anniversary of the establishment of The Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) . First of all, I as president of the South-East Asia of Federation for Medical Physics (SEAFOMP) wish to express my deepest appreciation to you all the founder the AFOMP and the members. I would like to congratulate on the remarkable journey of the AFOMP.

At the Chicago World Congress in 2000, AFOMP and SEAFOMP were officially joined as a regional chapter of the International Organization for Medical Physics (IOMP). From 2000 onwards, both of organization have good cooperation and collaboration to enchant the knowledge and competencies of medical physics in their region. One of the collaboration is the joint meeting between AFOMP and SEAFOMP.

It is my hope that the 20th anniversary of the AFOMP provides an opportunity to consider the future of AFOMP, an organization that was established as a foundation for the work and achievements of medical physics in the Asia-Oceania region.

Prof. Freddy Haryanto
President SEAFOMP

# IAEA DMRP Section's Message

## the staff of Dosimetry and Medical Radiation Physics Section IAEA, Vienna, Austria

*The staff of the Dosimetry and Medical Radiation Physics Section congratulates AFOMP on their 20-year anniversary celebration! An organization that includes membership of 22 national organizations from countries that together represent more than 40% of the world's population, has a major responsibility to the safe and effective care of many patients. We are pleased to have been supported by the AFOMP executive and ordinary members over the years in Agency endeavors to promote the recognition and development of medical physics professionals. This includes the significant contribution of experts in the Asia Oceania region to the draft, review and pilot of the Agency guidance documents on structured clinical training of medical physicists, through the Regional Cooperative Agreement for research, development and training related to nuclear sciences for Asia and the Pacific. We look forward to many more years of fruitful cooperation and trust that AFOMP will take the lead in continuing the professional development of medical physics in the region.*

*Dosimetry and Medical Radiation Physics Section*
*Division of Human Health*
*Department of Nuclear Sciences and Applications*
*International Atomic Energy Agency*
*IAEA, Vienna, Autria*

# Twentieth anniversary of Asia-Oceania Federation of Organizations for Medical Physics [AFOMP] – Are we near to achievements of our goals?

**Prof. Arun Chougule,**

President AFOMP, Sr. Professor Radiological Physics, SMS Medical College, Jaipur, India
arunchougule11@gmail.com

I am very happy and fortunate to be President of AFOMP during its 20th Anniversary of AFOMP. I owe a lot to the visionary founding members of this great regional organization of IOMP who have put tremendous hard work and devotion to establish the AFOMP.

The idea of forming a regional organization for medical physics in Asia was fostered during World Congress of Medical Physics and Biomedical Engineering [WC1991, held at Kyoto, Japan] in the minds of leading medical physicists of that time from Asia and stimulated by IOMP leaders. The idea and initiatives were carried forward and Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) was founded on 28th May 2000 at Beijing meeting by visionary and foresighted medical physics professionals and leaders; it was only possible with the aspiration of and enthusiastic and cohesive efforts made by many medical physicists. It is worth to mention the initiatives and efforts of Dr. KY Cheung, Dr. Yimin Hu, Late Dr. Kiyonari Inamura, Dr. Akira Ito, Dr. Kwan Hoong Ng, Late Dr. Barry Allen, and Dr. Anchali Krisanachinda and many more from AFOMP region. In addition it was inspiration and guidance of Dr. Geoff Ibbott [the then President of AAPM], Dr. Carrie Boras [Chair of Science Committee IOMP], Dr. William Hendee, Dr. Raymond Wu, Dr. Colin Orton Dr. Gary Fullerton and Dr. Nan-zhu Xie has given the required thrust for formation of AFOMP.

The idea of regional organization for medical physics from Asia –Oceania region was first conceived during the International conference on Medical Imaging, Medical physics and precision radiation therapy at Guangzhou, China on 5th October, 1999. During the conference Dr. Ito and Dr. Kwan organized a meeting of medical physics representatives from China, Japan, S. Korea, Hong Kong, Thailand and Malaysia attending the conference to discuss and take steps towards forming a regional medical physics organization, the seeds were sowed.

During the 2nd International Congress on Medical Radiation Physics at Beijing, Yimin Hu and Raymond Wu organized second meeting of medical physicist's representatives who were attending the conference from China, S. Korea, Australia, New Zealand, Hong Kong, Indonesia, Singapore and Taiwan on 28th May 2000 to take forward the initiative of formation of regional organization. The members attending the meeting decided to form a protem committee Chaired by Dr. KY Cheung for drafting the constitution of the regional organization.

Photo of founding members of AFOMP [28th May 2000, Beijing, China]

During the World Congress of Medical Physics and Biomedical Engineering [WC2000] at Chicago, the first council meeting of AFOMP was held during 24 & 25 July 2000 and was attended by representative from twelve countries from Asia–Oceania. During the first council meeting of AFOMP, Dr. K Y Cheung was elected as first President of AFOMP.

Photo of first AFOMP EC [25th July 2000, WC, Chicago, USA]

Photo of founding members of AFOMP and AFOMP EXCOM

IOMP council meeting held on 26 July 2000, admitted AFOMP as Regional Organization [RO] of IOMP, third organization to be RO of IOMP [first was EFOMP, second was ALFIM]. Since then AFOMP has widened its scope and today 21 countries national medical physicist associations (NMO) with over 8500 medical physicists in Asia-Oceania region are members of AFOMP, the second largest in number of affiliated NMO's and also number of medical physicists.

**AFOMP National Member Organizations as on May 2020**

| S.No. | Country | Name of National Medical Organizations' | Establishment Year | Number of Medical Physicists (Approx) |
|---|---|---|---|---|
| 1. | Australia | Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) | 1977 | 750 |
| 2. | Bangladesh | Bangladesh Medical Physics Association (BMPA) | 1998 | 300 |
| 3. | Peoples Rep. of China | Chinese Society of Medical Physics (CSMP) | 1981 | 3000 |
| 4. | Hong Kong | Hong Kong Association of Medical Physics (HKAMP) | 1985 | 100 |
| 5. | India | Association of Medical Physicists of India (AMPI) | 1976 | 1500 |
| 6. | Indonesia | Indonesian Medical Physics and Biophysics Association (HFMBI) renamed as Indonesian Association of Physicists in Medicine [AFISMI] | 1990<br>2016 | 438 |
| 7. | Iran | Iranian Association of Medical Physicists (IAMP) | 1991 | 300 |
| 8. | Japan | Japan Society of Medical Physics (JSMP) | 1977 | 2000 |
| 9. | S. Korea | Korean Society of Medical Physics (KSMP) | 1990 | 360 |
| 10. | Malaysia | Medical Physics Group of the Institute of Physics Malaysia | 1991 | 75 |
| 11. | Mongolia | Mongolian Society of Medical Physics & Informatics (MSMPI) | 2003 | 20 |
| 12. | Myanmar | Myanmar Medical Physicists Association | 2016 | 30 |
| 13. | Nepal | Nepalese Association of Medical Physicists (NAMP) | 2009 | 18 |
| 14. | New Zealand | Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) | 1977 | 100 |
| 15. | Philippines | Philippine Organization of Medical Physicists (POMP) renamed as Society of Medical Physicists in the Republic of the Philippines(SMPRP) | 1986<br>2017 | 100 |
| 16. | Singapore | Society of Medical Physicists of Singapore | 1998 | 43 |
| 17. | Republic of China, Taiwan | Chinese Society of Medical Physics, Taipei | 1996 | 250 |
| 18. | Thailand | Thai Medical Physicist Society (TMPS) | 2001 | 200 |
| 19. | Vietnam | Vietnam Association for Medical Physics (VAMP) | 2008 | 154 |
| **AFOMP Affiliate National Member Organizations** | | | | |
| 20. | Bangladesh | Bangladesh Medical Physics Society (BMPS) | 2009 | 275 |
| 21. | Malaysia | Malaysian Association of Medical Physics (MAMP) | 2000 | 75 |
| 22. | Pakistan | Pakistan Organization of Medical Physicists (POMP) | 2010 | 100 |

*The aims and purpose of the AFOMP are*

*1. To promote the cooperation and communication between medical physics organizations in the region*
*2. To promote medical physics and related activities in the region*
*3. To promote the advancement in status and standard of practice of the medical physics profession*

4. To organize and/or sponsor international conferences, regional and other meetings or courses;
5. To collaborate or affiliate with other scientific organizations

To fulfill the objectives and to cater to the needs of the medical physicists and their education, AFOMP has created five main committees to work on number of important tasks.

1. Professional development committee (PDC)
2. Education and training Committee (ETC)
3. Scientific Committee (SC)
4. Awards and Honors Committee (AHC)
5. Funding Committee (FC)

These committees have drafted policy statements to deal with minimum level of education and training of medical physics, continuous professional development and career progression for clinical medical physicist in AFOMP countries. The PDC has brought out six policy statements which are approved by AFOMP council and they are

**Policy Statement-1 : The role, responsibilities and status of the clinical medical physicist in AFOMP**

The document was developed by the AFOMP Professional Development Committee (PDC) and was approved and released by the AFOMP Council in 2006. The main purpose of the document is to give guidance to AFOMP member organizations on the role and responsibilities of clinical medical physicists. The document also provides definition of clinical medical physicist. Further this document discusses the following topics:

- Professional aspect of education and training
- Responsibilities of clinical medical physicist
- Status and organization of the clinical medical physics services
- The need for clinical medical physics services

**Policy Statement 2: Recommended clinical radiation oncology medical physicist staffing level in AFOMP countries.**

The document was developed by the AFOMP Professional Development Committee (PDC) and was released by the AFOMP Council in 2009. The main purpose of the document is to give guidance for minimum medical physicists required for providing medical physics services to a radiation oncology department. A calculation scheme is presented to estimating minimum medical physics staffing requirements that is primarily based on number of equipments, equipment levels & complexicity of treatment and patient numbers in addition to allowances for staff training, professional development and leave requirements.

**Policy statement 3: Recommendations for the education and training of medical physicists in AFOMP countries.**

This policy statement prepared by joint efforts of PDC, ETC and SC committee of AFOMP in 2011 and provides guidance for designing and developing medical physics education and training programs.

**Policy statement 4: Recommendations for continuing professional development systems for medical physicists in AFOMP countries.**

The document was developed by PDC and released by AFOMP in 2012. It provides guidance to member countries to develop a continuing professional development system for ensuing that the knowledge, skill and competency of clinical medical physicists are up to date so as to discharge the responsibilities effectively & efficiently.

**Policy statement 5: Carrier progression for clinical medical physicists in AFOMP countries.**

The document was developed by PDC and released by AFOMP in 2015. It provides guidance on how clinical medical physicists' carrier should progress from their initial training as carrier progresses. It is intended to be advisory in nature and provides options for member countries and employers of clinical medical physicists to develop suitable carrier advancement structure.

**Policy statement 6: Code of ethics for medical physicists in AFOMP countries.**

Policy statement prepared by PDC and released by AFOMP in 2017 and provides guidelines on how medical physicists should conduct themselves in ethical manner and discharge the professional duties.

AFOMP works in many areas to enhance medical physics by organizing various scientific activities, conferences and officially publishes & endorses various journals & newsletter. Also promotes students & young professional through various grants.

One of the most important scientific events organized by AFOMP every year is Asia-Oceania Congress of Medical Physics (AOCMP). This congress gives a strong platform to AFOMP region medical physics communities to unite, exchange their scientific research & expertise and discuss professional issues.

The AOCMP meetings organized at various places since 2001 are as follows

1. First AOCMP at Bangkok, Thailand, 2001
2. Second AOCMP at Gyeongju, S. Korea, 2002
3. Third AOCMP at Sydney, Australia, 2003
4. Fourth AOCMP at Kuala Lumpur, Malaysia, 2004

5. Fifth AOCMP at Kyoto, Japan, 2005
6. Sixth AOCMP at Seoul, S. Korea, 2006
7. Seventh AOCMP at Huangshan, China, 2007
8. Eight AOCMP at Ho Chi Minh City, Vietnam, 2008
9. Ninth AOCMP at Chiang Mai, Thailand, 2009
10. Tenth AOCMP at Taipei, Taiwan, 2010
11. Eleventh AOCMP at Fukuda, Japan, 2011
12. Twelfth AOCMP at Chiang Mai, Thailand, 2012
13. Thirteen AOCMP at Singapore, 2013
14. Fourteenth AOCMP at Ho Chi Min City, Vietnam, 2014
15. Fifteenth AOCMP at Xian, China, 2015
16. Sixteenth AOCMP at Bangkok, Thailand, 2016
17. Seventeenth AOCMP at Jaipur, India, 2017
18. Eighteenth AOCMP at Kuala Lumpur, Malaysia 2018
19. Nineteenth AOCMP at Perth, Australia, 2019

Planned AOCMP meeting

1. Twentieth AOCMP at Phuket, Thailand , 2020
2. Twenty-first AOCMP at Cox Bazaar, Bangladesh, 2021


*Photo of valedictory function of 14 th AOCMP- 2014, HCM City, Vietnam*

**Since 2018 AFOMP has started Prof. Kiyonari Inamura Memorial AFOMP Oration**

To recognize and appreciate the outstanding contribution of medical physicists from AFOMP region, an oration award in the name of Prof. Kiyonari Inamura has started by AFOMP since 2018. Prof. Kiyonari Inamura was one of the founders of AFOMP and contributed significantly to the sustainable development of AFOMP. He served AFOMP at different capacities/positions over years. He was Professor emeritus at Osaka University and a longstanding member of CARS congress organizing committee and Deputy Editor of IJCARS. His pioneering contributions to medical physics and medical engineering include research and development in radiotherapy treatment planning systems, picture archiving and communication systems. It was always on the forefront of his ideology to educate and motivate the students to advance their understanding of medical physics. His efforts in advancing interdisciplinary and international cooperation are unparalleled and his way of leading by example has been of great benefit not only to the medical physicists' community of AFOMP but also to the rest of the world.

The Prof. Kiyonari Inamura memorial AFOMP oration is awarded every year to outstanding medical physicists from AFOMP region for his/her contribution to medical physics education, research and development. Award is presented during AOCMP and awardee orator delivers an oration on first day of the conference.

**Oration Awardee of 2018** – Prof. Tomas Kron, Australia
**Oration Awardee of 2019**- Prof. Kwan Hoong Ng, Malaysia


Photo of Prof. Kiyonari Inamura Memorial AFOMP Oration 2019, Perth, Australia

To encourage and support young medical physicists with limited resources to participate in AOCMP, AFOMP provides about 8–10 travel grants every year. Over the years more than 100 young medical physicists from AFOMP region have received the travel grants. The list of travel grant awardees is available on AFOMP website. For encouraging research and presentation of their work, young medical physicists and students are awarded with cash prize for the selected best oral and poster presentations in each of the specialties of radiotherapy Medical Physics, Diagnostic Medical Physics and Nuclear medicine medical physics.

For widening the scope and recognize contribution of Medical Physicists AFOMP has started AFOMP Life time achievement award for outstanding contribution towards education, professional development, research and best research publication awards for research papers published in AFOMP journals every year.

AFOMP publishes AFOMP newsletter regularly since 2007. The newsletter is published half yearly, in January and June. The newsletter is a mouthpiece of AFOMP and provides a platform for publishing medical physics science and research related articles, reports, educational material, scientific activities, workshop and conference related information.

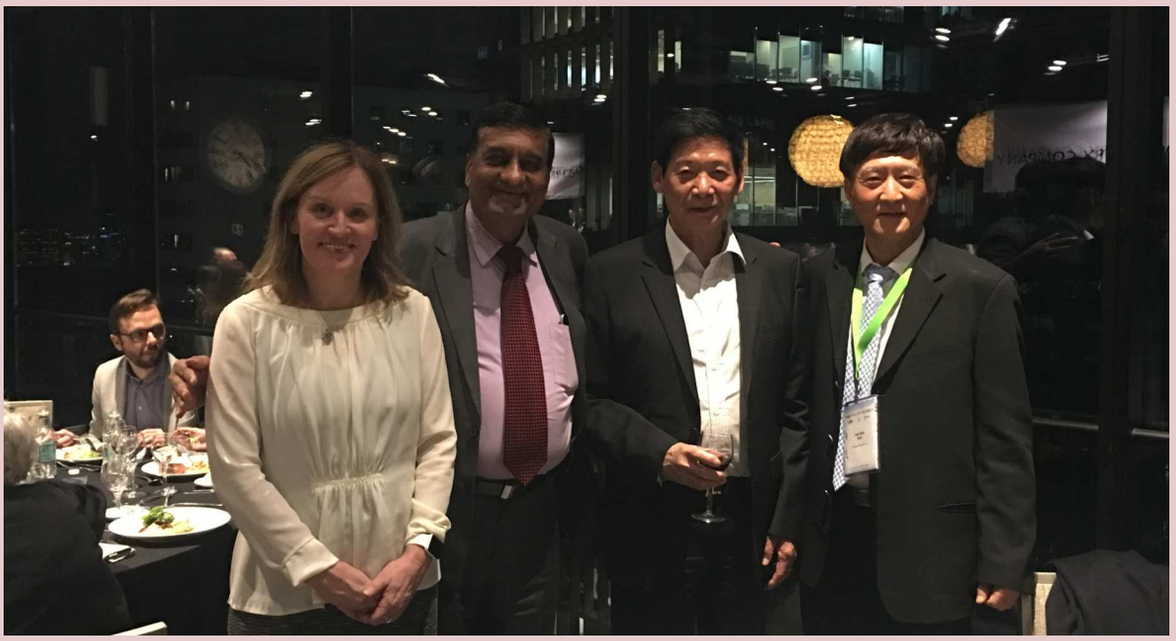
In addition AFOMP has three official journals namely
1. Physical & Engineering Science in Medicine [https://www.springer.com/journal/13246]
2. Radiological Physics and Technology [https://www.springer.com/journal/12194]
3. Journal of Medical Physics [http://www.jmp.org.in/]

AFOMP members are encouraged to publish their research articles in these journals for benefit of AFOMP members.

For sustaining the professional organization and carrying out the activities in addition to the devoted and committed office bearers, members of various committees, we need the finances. To generate funds and create win-win situation with our trade partners/supporters, AFOMP has started corporate membership. A company, manufacturer or marketing agency connected with medical physics equipment, accessories or services can become a corporate member and gets benefit of advertisement on AFOMP website, full page color advertisement in AFOMP newsletter and sharing of AOCMP delegate data as per rule for five years by paying US$ 5000 once. As of now AFOMP has three corporate members and negotiations with others are going on.
1. PTW The Dosimetry Company, Freiburg, Germany
2. SUN Nuclear Corporation
3. Rosalina Instruments, India

Over last twenty years six executive committee of AFOMP under leadership of President has completed their terms and contributed greatly for making the AFOMP viable and vibrant federation. Past Presidents of AFOMP who along with their executive committee members, chairs of various committees and NMO's have brought AFOMP to this level are

| | | |
|---|---|---|
| 1. | 2000 – 2003 | Dr. Kin-Yin Cheung, Hong Kong |
| 2. | 2003 – 2006 | Dr. Barry Allen, Australia |
| 3. | 2006-- 2009 | Dr. Kiyonari Inamura, Japan |
| 4. | 2009 – 2012 | Dr. Kwan Hoong Ng, Malaysia |
| 5. | 2012 – 2015 | Dr. Yimin Hu, China |
| 6. | 2015 – 2018 | Dr. Tae Suk Suh, S. Korea |



*Past President, Immediate Past President, President and President designate [Photo taken during ICMP2019 at Santiago, Chile]*

To increase the scientific an academic cooperation and collaboration among the regional organization for benefit of members of the federations, AFOMP took initiative and an agreement was signed between AFOMP and MEFOMP on 12th December 2017. We hope that this will enhance exchange of experts, resources and sharing of knowledge for mutual benefit for all.

AFOMP

MEFOMP

Middle East Federation of Organizations of Medical Physics

Date: December 12, 2017

**MoU between AFOMP & MEFOMP**

**Background**

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

**Purpose and Scope of this MoU**

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

**Areas of Collaboration**

The areas of collaboration between the AFOMP and the MEFOMP could include, but are not limited to, the following initiatives:

**1. Education/Training**

The chairperson of the AFOMP 'Education and Training Committee' and the chairperson of the MEFOMP 'Education and Training Committee' shall liaise on relevant matters of mutual interest to the two Federations;

**2. Scientific Matters**

The chairperson of the AFOMP 'Science Committee' and the chairperson of the MEFOMP 'Science Committee' shall liaise on relevant matters of mutual interest to the two Federations;

**3. Professional Matters**

The chairperson of the AFOMP 'Professional Development Committee' and the chairperson of the MEFOMP 'Professional Relations Committee' shall liaise on relevant matters of mutual interest;

*Photo of signing of agreement between AFOMP and MEFOMP- 12th December 2019 at IAEA HQ, Vienna, Austria*

*IOMP has provided valuable supports of various forms to AFOMP over the past twenty years.*

*Likewise, AFOMP has participated and contributed to the work of IOMP and hosted World congress of Medical Physics and Biomedical Engineering [WC] on four occasions. Further, AFOMP medical physicists have served in various committees of IOMP, three of them served as IOMP Presidents and seven of them served as committee chairs. In addition AFOMP takes active participation in activities, programmes and initiatives of IOMP. Since the starting of IDMP in 2013, every year on 7th November AFOMP and its members celebrate IDMP to showcase the contribution of medical physicists. AFOMP actively contributed in developing theme and logo for IDMP. AFOMP participates and contribute in disseminating the IOMP publications such as eMPW, IOMP newsletter, circulars, information, notifications through AFOMP website and emails. The AFOMP website www.afomp.org is completely redesigned and launched in 2018 and is updated very frequently.*

*AFOMP countries have contributed to IOMP and hosted four World Congress of Medical Physics and Biomedical Engineering [WC] and two are planned*
*5 th WC1991- Kyoto, Japan*
*9 th WC2003, Sydney, Australia*
*10 th WC 2006, Seoul, S. Korea*
*12 th WC 2012, Beijing, China*
*15 th WC 2021, Singapore*
*16 th WC2024, Adelaide, Australia*
*AFOMP members have provided good professional leadership and occupied positions of President, Treasurer and Chairs of committees in IOMP*
*IOMP Presidents from AFOMP*
*1991- 94 Dr. Udupi Madhvanath, India*
*2006- 09 Prof. Barry Allen, Australia*
*2012- 15 Prof. K.Y. Cheung, Hong Kong*
*2018-21 Prof. Madan M. Rehani, India*
*IOMP Treasurer from AFOMP*
*2012- 15 Prof. Anchali Krisanachinda, Thailand*
*2015- 18 Prof. Anchali Krisanachinda, Thailand*
*Many Chairs of IOMP committees were/are from AFOMP during last many years*
*AFOMP members' academic, scientific and professional contribution is recognized by IOMP in terms of bestowing many awards.*

***Fellow of IOMP was started in 2013 and since then many members from AFOMP are awarded FIOMP***
***In 2013***
1. *Prof. Barry Allen, Australia*
2. *Prof. K.Y. Cheung, Hong Kong*
3. *Prof. Kwan Hoong Ng, Malaysia*

***In 2015***
1. *Prof. Yimin Hu, China*
2. *Prof. Kiyonari Inamura, Japan*
3. Prof. Anchali Krisanachinda, Thailand

**In 2016**

1. Prof. Tomas Kron, Australia
2. Prof. Tae Suk, S. Korea

**In 2017**

1. Dr. Agnette Peralta, Philippines

**IOMP Maria Skłodowska Curie award**

**2018** Prof. Kwan Hoong Ng, Malaysia

**IOMP Harold John Medal**

**2018** Prof. Anchali Krisanachinda, Thailand

**IOMP –IDMP awards started in 2015, since then many members from AFOMP are awarded**

**IOMP- IDMP award**

**2015** – Prof. Tomas Kron, Australia and Prof. Anchali Krisanachinda, Thailand
**2016** - Prof. Arun Chougule, India and Prof. Kwan Hoong Ng, Malaysia
**2017** Dr. Howell Round, New Zealand
**2018** Prof. Hasin Anupama Azhari, Bangladesh
**2019** Prof. Eva Bezak, Australia

**Outstanding Medical Physicists**

On the occasion of 50 years of IOMP in 2013, IOMP has chosen 50 outstanding Medical Physicists across the world, whose contribution to medical physics was exemplary, out of 50 outstanding Medical Physicist, 12 are from AFOMP region

1. Prof. Barry Allen, Australia
2. Prof. David Townsend, Singapore
3. Prof. Eiichi Tanaka, Japan
4. Prof. Yimin Hu, China
5. Prof. Kiyomitsu Kawachi, Japan
6. Prof. Anchali Krisanachinda, Thailand
7. Prof. Tomas Kron, Australia
8. Prof. Kwan Hoong Ng, Malaysia
9. Prof. Ambika Sahai Pradhan, India
10. Prof. Madan M. Rehani, India
11. Prof. Tai Suk Suh, S. Korea
12. Prof. David Thwaites, Australia

**IUPAP Medal-2018**- Dr. Kuo Men, China

**IOMP best paper presentation award started from 2015 and winners from AFOMP are**

**2016** Takahiro Nakamoh, Japan;
Munira Mohd Rejab, Malaysia;
Nunung Nuraeni, Indonesia;
Shola Kimura, Japan

**Challenges and difficulties**

Arthur Ashe has rightly said

*"Success is a journey, not a destination. The doing is often more important than the outcome.'*

In last 20 years, under the great visionary leaders and subsequent AFOMP officials efforts, the

National Member Organisations [NMO's], AFOMP has done substantial progress towards fulfilling the objectives of AFOMP such as promoting medical physics, development of professional status and standards, education and training of physicists, scientific meetings and exchanges of resources in the region. AFOMP is playing a lead role in scientific and professional development of medical physics communities in Asia-Oceania region. Due to its continuous efforts in subsequent years surely the status of medical physics and physicist has increased but still there is long way to go ahead to reach its goals.

If we look at socio-economic & educational status of AFOMP countries we found huge diversity in socioeconomic and educational levels and therefore task of AFOMP to homogenize the medical Physics education and profession is quite challenging.

AFOMP region hosts about 4.5 billion people [60 % of world population] in about 50 countries. We have national medical physics association in 21 countries only and therefore efforts needs to be put in creating and facilitating formation of medical physic associations and in those countries which are lacking in medical physics experts and a structured medical physics education program, efforts needs to be put by AFOMP to promote medical physics.

Table below compares the availability of medical physicist per million populations in various regions of the world

| REGIONAL ORGANISATION OF IOMP | NUMBER OF MEDICAL PHYSICIST/ MILLION POULATION |
|---|---|
| US-CANADA | 25 |
| EFOMP | 13 |
| ALFIM | 2.0 |
| FAMPO | 0.5 |
| **AFOMP** | **2.0** |

The comparison of medical physicist available per million population shows that AFOMP region is much behind in terms of Medical Physicists/million as compared to US-Canada and Europe. Further, only few countries in AFOMP region have accredited structured medical physics education program and residency programs.

Further the AFOMP region is multilingual, multiple religious faiths and full of heterogenic in socioeconomic, educational, healthcare and research areas. Countries like Australia has highest GDP per capita of around 6000 US$ whereas Nepal has 750 US$ in the region.

In AFOMP countries there is no binding force like European directives. In Europe a decision taken at the level of European Union like the Euroatom directives becomes binding on all member states. All member countries in European Union translate and implement the directives incorporating in national regulations. In absence of common union in Asia each country has

developed Medical Physics education in its own way and there is no harmonization.

Medical physicists are health professionals and are in great need of close integration and cooperation. To be clinically qualified medical physicist needs knowledge of principals of physics applied to medicine, acquire sufficient practical experience, special talent and many years of work. However the role and importance of medical physicists is not rewarded or regarded in most of Asian countries by the health authorities and public, it so deserves. Only together can we solve our many problems and successfully protect our professional and social interests. This includes advanced training, prestigious status, and a decent salary, corresponding to the uniqueness, scarcity and responsibility of a medical physicist. We need effective and strong professional organization with remarkable leadership. Despite of all these efforts some areas needs special attention, as some NMO's in AFOMP are still not participating in active manner as desired from them, do not maintain updated websites or responds to the communication. This may be because of various challenges, which include absence of structured medical physics programs, lack of support from Institution/Govt., inactive national associations or lack of directional leadership. However development is always a gradual and slow process, so to achieve our goals we have to conquer all of these challenges and move forward with enthusiasm. Still we have to go a long way in fulfilling the aspirations of our members and rise to growing demand of skilled and knowledgeable MP's in the era of high tech healthcare delivery system and also to bridge the gaps. This is the great opportunity for whole community to celebrate the achievement so far and also pledge to work even harder with great enthusiasm for development of subject and medical physics profession in the region.

**"To achieve more and fulfill our objectives, we should imagine together."**
**Once again I wish all very happy 20th Anniversary of AFOMP**

# Twenty Years of AFOMP Policy Development

Howell Round

Article 4(c) of the AFOMP Constitution states that one of its "Aims and Purposes" is to promote the advancement in status and standard of practice of the medical physics profession. To help it achieve this, over the last twenty years the Professional Development Committee of AFOMP has produced six policy statements to guide its members and their national governments to achieve AFOMP's aims and purposes.

Developing policies that are applicable to all member countries is quite challenging in view of the diverse cultures, socio-economic status and standard of medical practice and equipment in the different countries. The membership of the Professional Development Committee was always quite diverse and included members from more developed and lesser developed countries.

The policies were usually developed after studying the policies and practices of other medical physics organizations and adapting them to the unique needs of AFOMP countries. A draft policy would be passed to the member countries for comment, and after changes to reflect the comments the policies would go to AFOMP's Executive and Council for ratification.

The policies are meant to be advisory rather than compulsory for the member countries as the member countries often do not have the power to enforce them. But their strength is in the ability for them to be used to influence government policy when guidance is sought from a national medical physics fraternity as they have been agreed internationally/regionally.
The six policies are:

**PolicyStatement1:**
**The role, responsibilities and status of the clinical medical physicist in AFOMP.**
The main purpose of the policy is to give guidance to AFOMP member organizations on the role and responsibilities of clinical medical physicists. It also provides definition of clinical medical physicist. Further, it discusses the professional aspects of education and training, the responsibilities of the clinical medical physicist, the status and organization of the clinical medical physics service and the need for a clinical medical physics service.

**Policy Statement 2:**
**Recommended clinical radiation oncology medical physicist staffing levels in AFOMP countries.**
The main purpose of the policy is to give guidance for minimum medical physicists required for providing medical physics services to a radiation oncology department. A calculation scheme is presented to estimating minimum medical physics staffing requirements that is primarily based on numbers of equipment, equipment levels and complexity of treatment and patient numbers in addition to allowances for staff training, professional development and leave requirements.

**Policy Statement 3:**
**Recommendations for the education and training of medical physicists in AFOMP countries**
This policy provides guidance for designing & developing medical physicist education and training programs. It is compatible with the standards being promoted by the International Organization for Medical Physics and the International Medical Physics Certification Board

**Policy Statement 4:**
**Recommendations for continuing professional development systems for medical physicists in AFOMP countries.**
This policy gives guidance to member countries to develop a continuing professional development system for ensuring that the knowledge, skill and competency of clinical medical physicists are up-to-date so as to discharge the responsibilities effectively & efficiently.

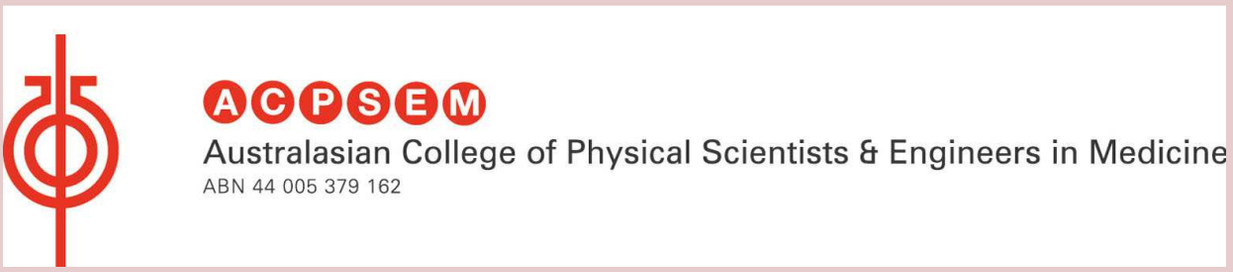
**Policy Statement 5:**
**Career progression for clinical medical physicists in AFOMP countries.**
This policy gives guidance on how clinical medical physicists' careers should progress from their initial training as career progress. It is intended to be advisory and sets out options for member countries and employers of clinical medical physicists to develop suitable career structures in their countries.

**Policy Statement 6:**
**Code of ethics for medical physicists in AFOMP Countries**
This policy gives guidance on how medical physicists in AFOMP countries should conduct themselves in an ethical manner in their professional practice. It was developed after the ethics policies and codes of conducts of several medical physics societies and other professional organisations were studied.

The detailed policies are downloadable from the AFOMP web site. All were also published in AFOMP's official journal Australasian Physical and Engineering Sciences in Medicine from 2009 to 2018.

The members of the Professional Development Committee who developed the policies were Yoshihisa Akiyama, Kin Yin Cheung, X Deng, Shigekazu Fukuda, Y Han, Brendan Healy, Yimin Hu, Y X Huang, Kiyonari Inamura, Hee Joung Kim, Anchali Krisanachinda, Joyce Leung, H L Liu, Kwan Hoong Ng, A S Pradhan, Lilian Rodriguez, Howell Round, A C Shiau, Rompin Shih, Raju Srivastava, Yak Koon Tay, Francis Tang, Kuppusamy Thayalan, Timothy Van Doorn, Toh Jui Wong, Byong Yong Yi

# Australia-ACPSEM Report




The Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) would like to take this opportunity to congratulate the Asia- Oceania Federation of Organisations for Medical Physics (AFOMP) on their 20th Anniversary. The ACPSEM has worked closely with the AFOMP member organisations throughout these years, especially in increasing the patient-care capacity of radiation oncology services via the College's Asia Pacific Special Interest Group (APSIG), which has organised medical physicist mentoring and volunteer overseas support assignments to assist radiotherapy services and treatment centres in under-resourced countries in the Asia-Pacific region.

These assignments involve teaching, advice and assistance, new equipment installation guidance, establishment of appropriately verified treatment planning systems as well as new RT technology awareness and education sessions. APSIG also supports remote mentoring, equipment-transfer coordination, and has also facilitated visits of Asia-Pacific Medical Physicists to Australia and New Zealand for conferences and hospital training.

Since its inception in 2009, APSIG has facilitated over 20 international volunteering assignments, working in seven countries throughout the Asia-Pacific region and has provided thousands of hours of off-site support via mentoring, education and operational advice for Asia-Pacific local RT treatment centres and hospitals.

About ACPSEM

The ACPSEM is a professional college that educates, certifies, registers and supports Physicists, Scientists and Engineers working in medicine in Australia and New Zealand. We support our members to have fulfilling careers in a broad range of clinical, academic and research roles, nurturing new generations of leaders as we do so.

We set the professional standards that underpin our certification and registration programs, and promote and regulate the science and practice of our field through advocacy and research, including the development of position papers and guidelines.

The ACPSEM was founded in August 1977 at its inaugural annual conference. Now the College's annual scientific conference- Engineering and Physical Sciences in Medicine is the premier annual event for medical physicists, biomedical engineers and radiopharmaceutical scientists in Australia

and New Zealand and attracts approximately 300 delegates every year.

The official publication of the ACPSEM started out as a newsletter, the Australasian Newsletter of Medical Physics, first published in December 1959. As research and professions in medical physics evolved, so too did the newsletters, which were eventually replaced in 1977 by a more comprehensive quarterly journal with a focus on peer-reviewed research. "Physical & Engineering Sciences in Medicine" is now distributed to members as well as to libraries, individual subscribers, company subscribers and other institutions throughout the world.

Since its establishment, the College has been driving the professional standards in medical physics in Australia and New Zealand through its accreditation programs. In 2004, ACPSEM Training, Education and Assessment Program (TEAP) commenced with 10 trainees in New South Wales, Australia and 6 in New Zealand. This program combines post-graduate study with full-time competency-based training and assessment in an ACPSEM Accredited clinical department, we currently offer training and education programs in three disciplines:

- Radiation Oncology Medical Physics (ROMP)
- Diagnostic Imaging Medical Physics (DIMP)
- Radiopharmaceutical Science (RPS)

The Key Chronological Progression in Medical Physics Profession in Australia and New Zealand

1960 Formed Hospital Physicists' Association, Australian Regional Group.

1977 Registered in the Commonwealth Department of Health, Handbook on Health Manpower, Part 2. – 69. Physicist, Clinical
The education and training requirements state:
A university or other degree in science with a physics major is the normal basic qualification. This must be supplemented by in-service training in specialised physical topics and preferably also by courses in the medical sciences such as anatomy and physiology.

1977 Australia and New Zealand professional organisation incorporated in Victoria and named: Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM).

1987 ACPSEM established Accreditation in Radiation Oncology and Radiology.

1996 – 2000 ACPSEM membership consulted on training and education needs for accreditation in radiation oncology medical physics.

1997 ACPSEM Accreditation in Radiological Physics commenced

2000 ACPSEM Position Paper published on: Requirements for Radiation Oncology Physics in

Australia and New Zealand which stated to obtain accreditation:

- have worked for a minimum of two years (full time equivalent) in a training program as a registrar physicist (or its approved equivalent) and
- have successfully completed the training program to the satisfaction of the ACPSEM; and
- have worked for at least a further 3 years in a position that a base level of competency and
- have reached the knowledge and practical skills necessary for the advanced competency level.

2001 – 02 The Radiation Oncology Inquiry met.

2002 The Baume Report on the Radiation Oncology Inquiry published and endorsed by the Minister for Health and Ageing. With respect to training, the report stipulates a more streamlined training approach as follows:

A medical physicist training program should be introduced to provide structured, supervised clinical training to working trainees, while supporting them to complete an appropriate postgraduate degree. Such a program would resemble those now in place for many clinical specialties. This program should take no longer than five years to complete and upon completion allow the candidate to sit the ACPSEM exam to gain full accreditation as an unsupervised medical physicist.

Recommendation 63: That the proposed national body work with ACPSEM to introduce a formal five-year training program, developed and implemented by the ACPSEM, for medical physicists working in radiation therapy. The training program should be piloted by 2004 and fully implemented by 2005.

2003 Australia hosts the 20th World Congress on Medical Physics and Biomedical Engineering in Sydney

2003 ACPSEM Accreditation in Nuclear Medicine Physics commenced

2004 ACPSEM TEAP commenced with 10 trainees in NSW and 6 in New Zealand. A further 7 were employed in NSW during 2005 with others added from Victoria and Queensland.

2012 ACPSEM membership exceeded 500

2012-13 ACPSEM combined Radiology and Nuclear Medicine TEAP Schemes into a joint Diagnostic Imaging TEAP

2015 Radiopharmaceutical Scientists welcomed in to ACPSEM

2016 ACPSEM TEAP in Radiopharmaceutical Science commenced.

2018 TEAP scheme launched for Radiopharmaceutical Scientists adding to the existing radiation oncology and diagnostic imagine medical physicist schemes

2019 ACPSEM co-hosts with AFOMP the 19th Asia-Oceania Congress of Medical Physics (AOCMP) in conjunction with the 2019 Engineering & Physical Sciences in Medicine Conference (EPSM) in Perth, Australia

2020 ACPSEM membership reaches 750 including 140 TEAP trainees

# BANGLADESH MEDICAL PHYSICS SOCIETY (BMPS)

*M. Akhtaruzzaman, PhD*

*General Secretary, Bangladesh Medical Physics Society (BMPS)*
*Senior Medical Physicist, Labaid Cancer Hospital, Dhaka, Bangladesh*

*Bangladesh Medical Physics Society (BMPS) begins its journey in June, 2009 in order to promote the medical physics education, training and enhance the professional standard of medical physics community in Bangladesh. At the beginning, BMPS is registered from the competent authority of the People's Republic of Bangladesh.For transparency, financial transaction is made by a Bank account and every year audit is done by an external auditor. As per constitution, Executive Committee is formed in annual general meeting (AGM) in every 2 years.Since its inception, BMPS has been working incessantly for the development of medical physics community. Currently, the total members of BMPS is 362 (General- 135, Associate- 167, Promoting- 40 and Foreign- 7, Life time- 11 and Honorary- 2). The first international workshop was held at the radiotherapy department of Dhaka Medical College & Hospital on 10th June 2010 just after one year of its foundation (Fig. 1a). At the same day, BMPS also launch its webpage (Fig. 1b). The workshop was leading by Prof. Golam Abu Zakaria, the main initiator and promoter of medical physics in this country.*

*Figure 1: Activities of BMPS (a) First workshop on Dosimetry and Quality Assurance (QA) in June, 2010; (b) Inauguration of BMPS official website.*

## NATIONAL AND INTERNATIONAL CONFERENCES/WORKSHOPS/SEMINARS:

In order to strengthen the identity, one of the major activities of BMPS is globalization. With that aim, BMPS has been organizing international conferences called ''International Conference on Medical Physics in Radiation Oncology and Imaging (ICMPROI)'' with national, regional and international cooperation. Already three successive ICMPROI were held in 2011, 2014 and 2018 (Fig. 2). However, BMPS organizes its annual conference regularly and 3 workshops/seminars

every year. Alternatively, BMPS members attend medical physics international conferences, trainings, workshops and seminars regularly, and disseminate the acquired knowledge/information to the community, which definitely further motivate the small but growing medical physics community in Bangladesh.

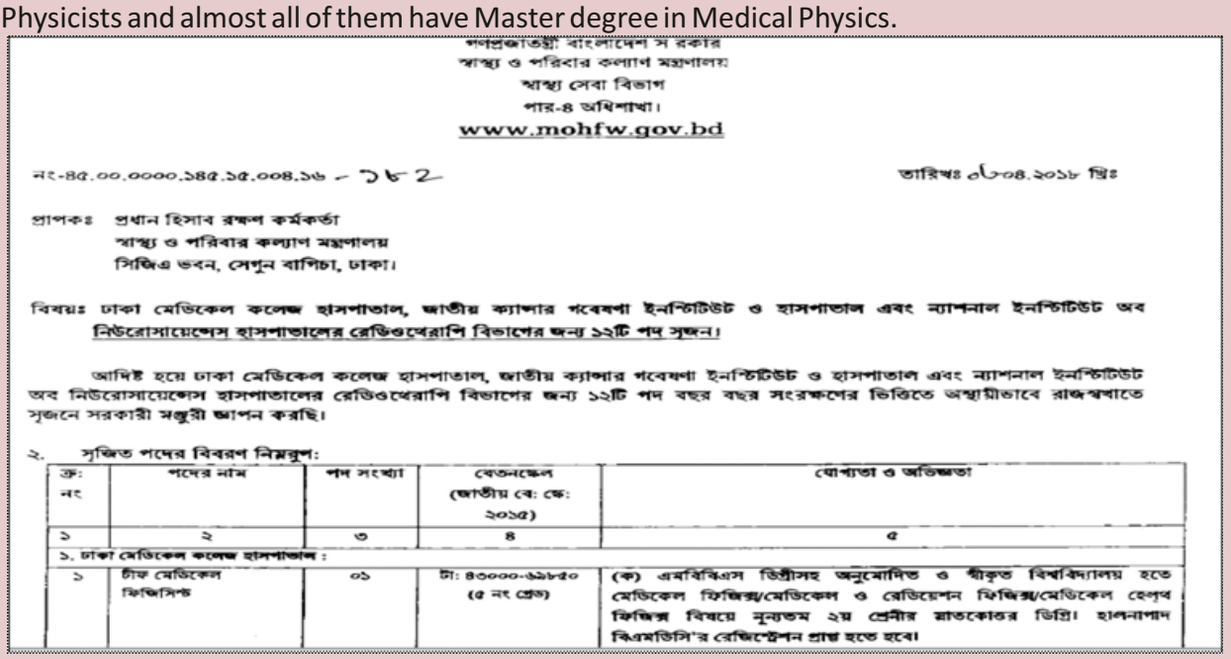

*Figure 2: Example of national and international conference/workshops/seminars organized by BMPS (a) International conference (ICMPROI) in 2011in cooperation with Gono University and Bangladesh Society of Radiation Oncologist (BSRO); (b) International workshop on Quality Control (QC) of CT-Simulator in 2012 in cooperation with Square Hospital Ltd.; (c) Annual conference in 2013 in cooperation with National Institute of Cancer Research and Hospital(NICRH) and United Hospital Ltd; (d) International conference (ICMPROI) in 2014 in cooperation with Association of Medical Physicist in India (AMPI) and Nepalese Association of Medical Physicist (NAMP); (e)*

*Annual conference in 2015 in cooperation with Bangladesh Atomic Energy Commission (BAEC); (f) International conference (ICMPROI) in 2018 in cooperation with Nepalese Association of Medical Physicist (NAMP), Bangladesh Society of Radiology and Imaging (BSRI), Bangladesh Cancer Society (BCS) and GonoUniversiy.*

### *MEDICAL PHYSICIST POST CREATION AND RECRUITMENT IN PUBLIC HOSPITALS:*

For the first time in Bangladesh, there was a circular from the Ministry of Health and Family Welfare (MOHFW) asking for 3 Medical Physicists together with other health care professionals in 2009. However, unfortunately, due to discrepancies in recruitment rules, it was not possible to recruit Medical Physicist in that time. Since then, BMPS start liaising with Director General of Health Services (DGHS) and MOHFW for establishing a unified recruitment rules for the appointment of Medical Physicists to be appointed in public hospitals. Eventually, BMPS succeeds to develop the expected common recruitment rules by a government order (GO) in April, 2018 (Fig. 3) leading by the founder president of BMPS, Prof. Dr. HasinAnupamaAzhari. In the meantime, 12 positions created in three different public hospitals under the direct supervision of BMPS in cooperation with the respective hospitals. The 3 hospitals are: National Institute of Cancer Research and Hospital (NICRH), National Institute of Neuroscience and Hospital (NINH) and Dhaka Medical College & Hospital (DMCH). For each hospital, there are 4 positions are created according to the rank (Medical Physicist, Senior Medical Physicist, Principal Medical Physicist and Chief Medical Physicist). However, we are still trying to recruit Medical Physicist against the created positions.

On the other hand, all private radiotherapy centers are running by the experienced Medical Physicists and almost all of them have Master degree in Medical Physics.



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প্রাপকঃ প্রধান হিসাব রক্ষণ কর্মকর্তা
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়
সিজিএ ভবন, সেগুন বাগিচা, ঢাকা।

বিষয়ঃ ঢাকা মেডিকেল কলেজ হাসপাতাল, জাতীয় ক্যান্সার গবেষণা ইনস্টিটিউট ও হাসপাতাল এবং ন্যাশনাল ইনস্টিটিউট অব নিউরোসায়েন্সেস হাসপাতালের রেডিওথেরাপি বিভাগের জন্য ১২টি পদ সৃজন।

আদিষ্ট হয়ে ঢাকা মেডিকেল কলেজ হাসপাতাল, জাতীয় ক্যান্সার গবেষণা ইনস্টিটিউট ও হাসপাতাল এবং ন্যাশনাল ইনস্টিটিউট অব নিউরোসায়েন্সেস হাসপাতালের রেডিওথেরাপি বিভাগের জন্য ১২টি পদ বছর বছর সংরক্ষণের ভিত্তিতে অস্থায়ীভাবে রাজস্বখাতে সৃজনে সরকারী মঞ্জুরী জ্ঞাপন করছি।

২. সৃজিত পদের বিবরণ নিম্নরূপ:

| ক্র: নং | পদের নাম | পদ সংখ্যা | বেতনস্কেল (জাতীয় বে: স্কে: ২০১৫) | যোগ্যতা ও অভিজ্ঞতা |
|---|---|---|---|---|
| ১ | ২ | ৩ | ৪ | ৫ |
| ১. ঢাকা মেডিকেল কলেজ হাসপাতাল : | | | | |
| ১ | চীফ মেডিকেল ফিজিসিস্ট | ০১ | টা: ৪৩০০০-৬৯৮৫০ (৫ নং গ্রেড) | (ক) এমবিবিএস ডিগ্রীসহ অনুমোদিত ও স্বীকৃত বিশ্ববিদ্যালয় হতে মেডিকেল ফিজিক্স/মেডিকেল ও রেডিয়েশন ফিজিক্স/মেডিকেল হেলথ ফিজিক্স বিষয়ে ন্যূনতম ২য় শ্রেনীর স্নাতকোত্তর ডিগ্রি। হালনাগাদ বিএমডিসি'র রেজিস্ট্রেশন প্রাপ্ত হতে হবে। |

*Figure 3: Government order (GO) for Medical Physicist position for 3 public hospitals. Each hospital may recruit 4 Medical Physicists according to the rank.*

### *PUBLIC AWARENESS:*

Although the concept of Medical Physics in Bangladesh has started its journey in the mid-90s in cooperation with the Task Group 16 "Medical Physics in the Developing Countries" of the German Society for Medical Physics (DGMP) through seminars/workshops, still this is a new era in Bangladesh. Therefore, the focal persons of BMPS have been trying to emphasize the medical physics education, training and the importance of Medical Physicist in medicine through television, newspaper, magazines, social media etc. (Fig. 4). BMPS also organizes seminars at the different schools, colleges and universities to provide the information and need of medical physics education in this country.


*Figure 4: Public awareness activities on electronic, printing and social media regarding importance of medical physics education and Medical Physicist by the focal person of BMPS.*

### INTERNATIONAL DAY OF MEDICAL PHYSICS (IDMP) AND BMPS NEWSLETTER (VOICE OF BMPS):

On the occasion of its 50th anniversary in 2013, the International Organization for Medical Physics (IOMP) started celebrating the 7th November as International Day of Medical Physics (IDMP). The day was chosen by IOMP in recognition of the pioneering research work on radioactivity of Marie Sklodowska-Curie's birthday (7th November 1867). Since 2013, BMPS celebrates IDMP by a seminar/workshop and/or a rally (Fig. 5a). In this auspicious day, BMPS also publishes its electronic newsletter- the Voice of BMPS (7 issues until 2019) consisting of scientific articles, activities reports, past and forthcoming events (Fig. 5b).

a

b


*Figure 5: Since 2013, BMPS celebrates IDMP on 7th November (a) IDMP celebration in 2019 at different radiotherapy centers across the country; (b) Front page of electronic Newsletter (Voice of BMPS) published in 2013.*

## INTERNATIONAL MEDICAL PHYSICS CERTIFICATION BOARD (IMPCB) EXAMINATION:

BMPS host the IMPCB part-I & part-II exams were held in Dhaka, Bangladesh from 13 to 14 March 2018, just after the 3rd International Conference on Medical Physics in Radiation Oncology and Imaging (ICMPROI-2018), 10-12 March, 2018. There were 18 candidates attended the exam (Fig. 6).

a

b

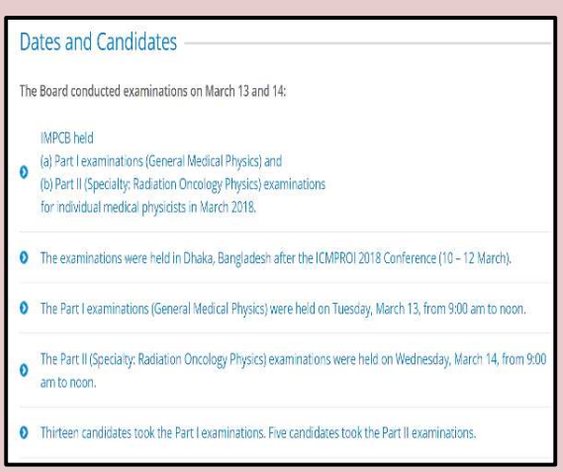


*Figure 6: IMPCB part-I & part-II exams held in Dhaka, Bangladesh from 13 to 14 March 2018 (a) Examiners and candidates; (b) Information from IMPCB website.*

## INVOLVEMENT IN ''E-ENCYCLOPEDIA OF MEDICAL PHYSICS AND MULTILINGUAL DICTIONARY”:

The EMITEL Encyclopedia was developed by 8 Specialists Groups, working in parallel. These cover

various activities and Medical Physics terms from the following areas: - Diagnostic Radiology (X-ray Imaging); Nuclear Medicine; Radiotherapy; MRI; Ultrasound Imaging; Radiation Protection; General and Medical terms; Web software development. Currently, the Dictionary includes 29 languages. With more than 200 contributors from 35 countries EMITEL is the largest international project in the profession. Fortunately, a group of BMPS members (Fig. 7)was the contributor of this achievement (from English to Bengali translation**).**

Bengal Translation:
Prof. Golam Abu Zakaria (University of Cologne, Germany); Ms Hasin Azhari (Anupama) [Editor for Bengali Language Translation], Mr Md Akhteruzzaman, Mr Safayet Zaman, (all from Gono University, Dhaka)

Figure 7: Contributors of e-Encyclopedia of Medical Physics and Multilingual Dictionary (English to Bengali translation).

## RECOGNITION FROM AFOMP AND IOMP

Since its inception, BMPS has been working vigorously for the development of medical physics education, training and quality treatment for the patient. As a result, both AFOMP and IMOP acknowledge BMPS as their first affiliated members in 2014 and 2017 respectively(Fig. 8).

Asia-Oceania Federation of Organizations for Medical Physics

The Executive of the Asia-Oceania Federation of Organizations for Medical Physics

recognises

the Bangladesh Medical Physics Society

as an Affiliate Member

and accords it the associated rights and responsibilities.

Assoc Prof W H Round
Secretary General
23 June 2014

---------- Forwarded message ----------
From: VIRGINIA TSAPAKI
Date: Fri, Jul 15, 2016 at 4:30 PM
Subject: BMPS is now officially an affiliate member of IOMP
To: VIRGINIA TSAPAKI, Virginia Tsapaki

Dear Hasin

Just to let you know that BMPS application to become an affiliate member of IOMP is approved by the IOMP Council.

Congratulations! Sally Hawking from IOMP administration is going to contact for further issues.

Kind regards

Virginia

IOMP SG

*Figure 8: Recognition of BMPS from (a) AFOMP in 2014; (b) IOMP in 2016*

## *CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD)*

In Bangladesh, no accredited hospital so far for the professional training/residency training for medical physicists. However, in last semester Bachelor and Master Students go to hospital for 3 to 6 months for performing their project/thesis practical works under the collaboration between

university and hospital. In addition, BMPS members get the opportunity for having 3 months clinical training in Germany under the collaboration between Gono University, Bangladesh and Heidelberg University, Germany with the financial support from German Academic Exchange Service (DAAD) (Fig. 9a).Moreover, South Asia Centre for Medical Physics and Cancer Research (SCMPCR) has taken a great initiatives to train the Medical Physicists, Physicians and Technologists under crash programme. In this initiative, a group of experts will come to Bangladesh for 2 to 3 weeks and train the Radiotherapy/Nuclear Medicine/Radiology staff for 1 week in a hospital. Furthermore, the senior members of BMPS organize workshops entitled (Hands-on Training of BMPS) and invite Medical Physicists working in the hospitals and academic institutions (Fig. 9b).

*MEDICAL PHYSICS INTERNATIONAL Journal*
*Figure 9: CPD of BMPS members (a) Training in Germany; (b) Hands-on training by BMPS President*

## ESTABLISHMENT OF BANGLADESH MEDICAL PHYSICS CERTIFICATION BOARD (BMPCB)

We are working incessantly addressing the different issues including demand, training, residency etc. of medical physicists in Bangladesh. A good number of medical physicists in radiation oncology and nuclear medicine are working in different public and private hospitals in the country. Almost all of them have 5-10 years of experience and undergone training programmes through International Atomic Energy Agency (IAEA), Bangladesh Medical Physics Society (BMPS) and respective hospitals. However, in order to prove the competency in the international arena, we require a professional certification. Lately, BMPS president got the certification from IMPCB and some other members passed the part-I and part-II exam.

Therefore, we are approaching to form the “Bangladesh Medical Physics Certification Board (BMPCB)” by complying the rules and regulations of the “By-Laws of the International Medical Physics Certification Board (IMPCB)”.

## HOSTING ASIA-OCEANIA CONGRESS OF MEDICAL PHYSICS (AOCMP) 2021 IN BANGLADESH

It is our pleasure that BMPS got the opportunity to host Asia-Oceania Congress of Medical Physics (AOCMP) 2021 in Bangladesh. BMPS would like to express the gratitude to the AFOMP council members for choosing Bangladesh as venue for AOCMP 2021. We already have selected the venue (Fig. 10a), website is on live now. The congress will be held from 10 to 12 December 2021 in the beautiful city- the Cox's Bazar. It is further mentioned that Cox's Bazar is the city of world's longest sandy sea beach (Fig. 10b). You may get all information related to AOCMP 2021 from **www.aocmp2021.com.**

*MEDICAL PHYSICS INTERNATIONAL Journal*

*Figure 10: AOCMP 2021 will be held in Bangladesh (a) Seagull Hotel- the congress venue; (b) World's longest sandy sea beach, Cox's Bazar*

Although the number of private hospitals with radiotherapy and nuclear medicine setup is increasing, which is a positive impact for medical physics profession, an urgent implementation of the created positions for medical physicists in thepublic hospitals is necessary.However, residency training and certification programme must also be implemented soon.In order to uplift the situation in terms of education, training professional development, BMPS has been giving its best efforts and strongly believe thatthe aforementioned challenges can be addressed under a unified society with the close cooperation of regional and international organizations.

# Introduction to Chinese Society of Medical Physics

*Prof. Jianrong Dai,*

**President, Chinese society of Medical Physics [CSMP], Beijing, China**

Chinese Society of Medical Physics (CSMP) was established in June 1981, and was admitted to the International Organization for Medical Physics (IOMP) in May 1986. CSMP is the only organization that represents China in the field of medical physics worldwide. The current president is Prof. Jianrong Dai from National Cancer Center/Cancer Hospital, Chinese Academy of Medical Sciences， and the secretary is Prof. Jie Qiu from Peking Union Medical College Hospital. There are seven professional committees under CSMP, including medical radiation physics committee, medical imaging physics committee, medical biophysics committee, medical laser physics committee, biomedical signal physics committee, clinical hemorheology physics committee, and medical physics education committee.

For many years, CSMP has been appealing to the government departments to attach importance to the cultivation of medical physics and establish the professional title system for medical physicists. CSMP facilitated the 221st Xiangshan scientific conference in 2004, which focused on the development of medical physics in China. After that meeting, many medical physics undergraduate, master, and PhD programs were set up in some famous universities. After nearly 40 years of development, the number of medical physics-related workers has grown from a few hundred at the beginning to more than 5,000 now. Most of them are working in clinical hospitals, scientific research institutes, or universities.

“Chinese Journal of Medical Physics”, an official science journal of CSMP, was officially published in 1993 and is the only academic journal about medical physics in China. The journal is published monthly and features the latest clinical and scientific advances in medical physics. CSMP established its website “www.csmp.org.cn” in 2006, providing an excellent interaction platform for members and other medical physicists.

CSMP actively participates in international academic exchanges, and has successfully held several international meetings with IOMP, SFMP, AAPM and AFOMP. Among them, the most famous international conferences are “the International Congress on Medical Radiation Physics (Beijing, 1999 and 2000)”, “the International Medical Physics Workshop (Chendu,2004)”, “the satellite meeting of World Congress on Medical Physics and Biomedical Engineering (Hangzhou, 2006)”, “the 7th Asia-Oceania Congress of Medical Physics (Huangshan, 2007)”, “the Great Wall Medical Physics meeting (Beijing, 2008 and Nanjing, 2010)”, “the World Congress on Medical Physics and Biomedical Engineering (Beijing, 2012)”, and “the 15th Asia-Oceania Congress of Medical Physics (Xi'an, 2015)”. In addition, CSMP holds a national meeting every two years, with more than 500 people from home and abroad attending each time.

In the nearly 40 years since its inception, CSMP has led the development of medical physics in China from scratch to strong, and has made important contributions to ensuring the quality of patient diagnosis and treatment, improving the level of clinical technology and scientific research, and promoting international exchanges. Looking forward to the future, CSMP will continue to work actively to promote the development of medical and health services in China.

**Hong Kong Association of Medical Physics**
**A brief Introduction**
**Dr. Michael LEE**
**President**

## The beginning of Medical Physics in Hong Kong

In Hong Kong, the use of Radiation in Medicine dates to the pre-war era. The first recorded Diagnostic X-ray machine in Hong Kong was installed at the Nethersole Alice Ho Miu Ling Hospital in 1910. The first known deep therapy machine, a G.E. Maximar 400 kVp X-ray machine, was installed in 1939 at the Queen Mary Hospital. In the early days, Medical Physics was practiced by clinical doctors, radiographers, university staffs, technicians and even X-ray mechanics. The first Medical Physicist, Mr Geoffrey Mauldon was recruited from Australia in 1956 on a two-year secondment basis to "assist in putting Medical Physics onto a systematic footing". Mr Mauldon began his work in Queen Mary Hospital under the directive of the Dr HO Hung Chiu, consultant in Radiotherapy and Oncology, also consultant in Radiology. He started the profession of Medical physicist in Hong Kong, and stayed on to serve until retirement in 1988 (and he is still in Hong Kong today). One by one, more Medical Physicists were recruited and trained to serve the surging demand and the expanding diagnostic and therapeutic radiation facilities in the city. In the beginning most Medical Physicists worked in the public hospitals, gradually private hospitals also established their own Medical Physics team, and some physicists moved to work for the Government in regulating the use of radiation.

*The first Medical Physicist Geoffrey Mauldon in his office in Queen Mary Hospital*

### *Establishment and Development of HKAMP*

HKAMP was established in 1985 by a group Medical Physicists to promote the advancement of

Medical Physics, enhance the quality of Medical Physics practices, and encourage the exchange of professional knowledges in the Medical Physics community. Since establishment, HKAMP has been actively involved in organizing, or co-organizing scientific activities and seminars, as well as social gatherings (usually luncheon accompanying scientific activities) that benefit communication and cooperation between fellow Medical Physicists. The Association also collaborates with other professional organizations in the academia or industry as the supporting organization for scientific activities that were related to the medical physics discipline. Current, HKAMP is a member of the International Organization for Medical Physics (IOMP) and Asia-Oceania Federation of Organization for Medical Physics (AFOMP). We regularly inform our

*organizations. These open up more opportunities for our members to reach beyond the local Medical Physics circle to a broader scientific territory.*

*Visit to DayaBay Nuclear Power Plant in 2016*

There are currently 4 different types of members: Honorary Members, Fellows, Full Members and Associate Members. At the time of writing, there are over 80 full members and 50 associate members, all of them are present or past professional Medical or Health Physicists from the public sectors, private sectors and the Government regulatory body.

For many decades, Medical Physicists were recruited “as is” with a large variety of training background and experience.

It was entirely up to the hiring institute to decide what kind of on-job trainings were suitable and whether the physicist had reached the required standard. It gradually became an issue with the rapidly increasing diversity and complexity of Medical Physics duties. In 2005, with great effort

and devotion from the Executive Committee, and invaluable help from Professor Colin Orton, HKAMP established a certification system specifying the training requirements and the assessment process for a Medical Physicist to be certified competent in his/her chosen specialty. An examination committee was also established to organize and conduct the examinations. In recent years, HKAMP has also started organizing education courses for physicist trainees. The certification is recognized by many institutes, including the Hospital Authority, of Hong Kong. In 2018, the certification system of HKAMP was accredited by the International Medical Physics Certification Board (IMPCB). To date, we have already certified more than 60 Medical Physicists.

**The Medical Physicist Certification System**

The Professional Certification System, including the Examination and the Maintenance of Certificate Scheme, was established in 2005. The examinations are conducted by the Examination Committee of the HKAMP to assess the competency and knowledge of individuals in the medical physics profession. Candidates of the Examination are resident physicists or trainees from local hospitals.

There are four specialties of Medical Physics in the certification scheme: Radiotherapy Physics, Imaging Physics, Engineering Physics, Health Physics. A Medical Physicist, having undertaken the required training and passed the necessary examinations, will be certified in one of these specialties.

The examinations consist of 3 parts, namely Part I, II and III (also known as the Professional Assessment).

1. Part I multiple-choice questions ("MCQ") written examination. This can be taken by physicists who have been in the profession for one year. The examination consists of 100 MCQs covering all specialties of Medical Physics.
2. Part II written (long questions) and oral examination. This is to be taken by physicists who have completed two year's on-job training covering the required amount of Medical Physics aspect detailed in the syllabus. The paper is specialty-specific containing 5 long questions of the specialties chosen by the candidates. For the oral part, a portfolio describing the two-year on-job training is assessed by an examination panel which also conducts the oral examination covering various aspects related to the candidate's chosen specialty.
3. Part III oral examination (Professional Assessment). This is to be taken by physicists who have gathered another two years' experience after passing the part II examination. This examination certifies medical physicists who are competent by virtue of their education and training to practice medical physics independently, safely and professionally. A certified medical physicist carries the title Certified Medical Physicist ("CMPhy").

Maintenance of Certificate

Certified Medical Physicists are required to perform Continuous Professional Development (CPD) activities in order to maintain the certificate. The CPD cycle is 3 years and all existing certified


*Certified Medical Physicist Award Ceremony in 2007, officiated by Professor Colin Orton (front row fifth from left), with Mr Geoffrey Mauldon sitting next to him (front row forth from left)*

**Looking into the future**

*HKAMP has been established for more than 30 years, and has always been participating in the promotion of Medical Physics development and support in the community. With the increasing demand and advancement in diagnostic and therapeutic application of radiation, there is a growing demand of qualified Medical Physicists in Hong Kong and the nearby region. We would like to extend our contribution by helping our members develop professionally, and to provide a platform to enhance mutual support as well as idea exchange. We are also seeking legislative or regulatory recognition of this profession as to promote the status of Medical Physicists and maintain the standard of Medical Physics services in Hong Kong.*

# Birth and the Growth of Medical Physicists and AMPI

Sunil Dutt Sharma, PhD
President, AMPI
C/o Radiological Physics & Advisory Division, Bhabha Atomic Research Centre, CT&CRS,
Anushaktinagar, Mumbai - 400094, India (Email: sdsbarc@gmail.com)

## 1. Historical Aspects

The medical use of ionizing radiation started in mid 40s in India at Tata Medical Centre in Mumbai with the use of Ra-226 and a formal training programme in Medical Physics was started in 1962 at Bhabha Atomic Research Centre, Mumbai. The Association of Medical Physicists of India (AMPI) was founded in 1976 with the main objective to promote the application of physics in medicine. The AMPI is a non-profit, non-trade, an all India organization primarily engaged in educational and research activities in the field of applications of Physics in Medical Sciences. In fact, it is a registered public trust which is governed by the constitution of the association (Executive Committee and the Board of Trustees). The AMPI was started with less than 100 members on record in 1976. Immediately after its formation, the association started publishing a quarterly bulletin popularly known as "AMPI Medical Physics Bulletin". This periodical was containing a few articles of practical importance along with other scientific and technical information including regulatory and administrative requirements for medical uses of ionizing radiation. The association also started conducting annual conferences from the year of its inception where national and international experts used to share their knowledge and information for the benefit of the society. In 1994, the AMPI Medical Physics Bulletin was converted as a journal publication named "Journal of Medical Physics". In the last 45 years, the association has grown up as a fully matured professional society and many activities have been added for the benefit of the members, profession, and the society. A brief overview of achievements of AMPI, academic activities in medical physics, scientific meetings, and contribution at international level have been give in the subsequent sections.

## 2. Activities and Achievements

In the early days, annual scientific activities of the association was limited to conducting a workshop and an annual conference in addition to publication of AMPI medical physics. However, the association has always made efforts to enhance its activities and in the last four decades, AMPI has widened its role and added few feathers in its functioning which are listed in the revised constitution currently in force. The current aims and objectives of the AMPI constitution which provides directions for its activities are: (i) to promote the advancement of physics as applied to medicine especially radiotherapy, nuclear medicine and radiology and the biological sciences; (ii) to take appropriate steps to carry out, support, and to encourage research and development as

well as teaching in various fields associated with the application of physics in medical sciences; (iii) to provide a forum for persons who are engaged or interested in the field of medical physics and to arrange scientific meetings and discussions; (iv) to initiate measures to effectively disseminate worldwide information in this field to all members of the Association; (v) to promote the academic status of medical physics and its educational regulations in the medical institution where Medical Physics work is carried out in India and to encourage appropriate authorities to implement the suggestions laid down by the Association; and (vi) to initiate action to maintain the standards in the practice of medical physics by certifying members of AMPI by conducting periodical examinations. All the activities conducted under the above listed objectives of the association is well recognized by the Governmental system of the country including associated regulators.

It is easy to draw a clear inference that AMPI is trying to strengthen the profession and the discipline by inculcating the culture of education, research and service. In addition, the association has also included in its activity the competency certification of medical physicists (Radiation Oncology Physics) to maintain the standards of medical physics professional which is important for quality medical physics service. To fulfil this requirement, AMPI launched its college (College of Medical Physics of India, CMPI) in 2009. CMPI started conducting certification examination since 2010 on a regular basis and so far 65 candidates have been certified by the CMPI. CMPI has also been entrusted to conduct refresher courses. As of now, the CMPI is conducting one teaching course in a year. However, there are plans to increase the number of courses in a year.

**3. Membership, Decentralization and Women Empowerment**

The strength of membership started increasing year by year and currently we have over 2000 active members (majority of them are life members). The members of AMPI are not limited to India rather we have AMPI members from abroad (SAARC countries, Middle east, Africa, USA, Canada, Europe, Australia) as well. Among Indians, the list of members include both resident and non-resident Indians. The membership of AMPI covers a wide spectrum of professionals including medical physicists (clinical, research scientists and regulators), radiation oncologists, nuclear medicine physicians, radiologists, biomedical engineers, radiation biologists, radiation safety experts, etc. The association is managed by executive committee (15 members who elect among themselves a President, a Vice President, a Secretary, a Treasurer and a Joint Secretary) and board of trustees (5 members who elect among themselves a Chairman and a Convener) elected by its members through e-voting. The tenure of the elected representatives is now three financial years.

It is important to note that the number of women medical physicists are increasing steadily and hence a very good percentage of AMPI members are women. Women medical physicists are contributing significantly and they are now involved in each and every activity of the association.

We are proud to state that Secretary, AMPI; Chief Examiner, CMPI; and one of the members of Board of Trustees are women medical physicists. Following is the list of AMPI Executive Committee, AMPI Board of Trustees and CMPI Board for 2018 - 2021.

| **AMPI Executive Committee (www.ampi.org.in)** | | **AMPI Board of Trustees** | |
|---|---|---|---|
| President | Dr. Sunil Dutt Sharma | Chairman | Mr. Satya Pal Agarwal |
| Vice President | Dr. Pratik Kumar | Convener | Dr. Pankaj Tandon |
| Secretary | Dr. Shobha Jayaprakash | Members | Dr. Ramasamy Nehru |
| Joint Secretary | Dr. Anuj Kumar Tyagi | | Dr. Kamlesh Passi |
| Treasurer | Dr. Sridhar Sahoo | | Dr. Arun Chougule |
| Members | Dr. K. Joseph Maria Das | **CMPI Board (www.cmpi.org.in)** | |
| | Dr. Ghanshyam Sahani | | |
| | Dr. Varadharajan Ekambaram | Chairman | Dr. Tharmar Ganesh |
| | Dr. Muthuvelu Kulandaivel | Vice Chairman | Dr. Ajai Srivastava |
| | Mr. Rajesh Thiyagarajan | Chief Examiner | Dr. Swamidas Jamema |
| | Mr. Suresh Chaudhari | Registrar | Dr. J. Velmurugan |
| | Dr. Godson Henry Finlay | Secretary & Treasurer | Dr. B. Paul Ravindran |
| | Dr. Vinod Kumar Dangwal | Members | Dr. Dayananda Sharma |
| | Dr. Vinod Pandey | | Dr. Raghvendra Holla |
| | Dr. Challapalli Srinivas | | Dr. M. Ravikumar |

To encourage and to promote the frequent scientific interactions among the members, the association has been divided in seven chapters, namely (i) Andhra Pradesh and Telangana Chapter, (ii) Eatern Chapter, (iii) Karnataka Chapter, (iv) Kerala Chapter, (v) Northern Chapter, (vi) Tamin Nadu and Puducherry Chapter, and (vii) Western Chapter. These chapters are managed by elected representatives as in the case of the main body. The chapters are playing an important role in the growth of the discipline and the association.

**4. Academic and Scientific Activities**

Academic and scientific activities of the association includes AMPI Annual Conference (usually held in the month of November), Annual conferences of AMPI Chapters (total 7 conferences in a year), AMPI workshops (at least 2 in year), CMPI teaching course (at least one in a year). It is worthy to mention here that Post Graduate level medical physics courses are conducted at 23 institutions/universities in the country (list is available at www.aerb.gov.in) and about 200 medical physicists are graduating every year from these courses. Many AMPI members are participating in these courses as faculty and examiners. In addition, many senior AMPI members are internship supervisors for the medical physics students. The association has also contributed

in harmonizing the medical physics courses in the country. The association is also conducting short term training courses in collaboration with Bhabha Atomic Research Centre, Mumbai for safety certification of radiation therapy technologists (this course has recently been discontinued), radiotherapy service engineers, X-ray service engineers, and X-ray QA professionals.

**5. Journal of Medical Physics (www.jmp.org.in)**

The Association of Medical Physicists of India (AMPI) publishes a free access quarterly peer-reviewed indexed international journal (Journal of Medical Physics) from last 44 years. The journal is indexed with/included in: DOAJ, EMBASE/ Excerpta Medica, Emerging Sources Citation Index (ESCI), Indian Science Abstracts, IndMed, PubMed Central, PubMed, Scimago Journal Ranking, SCOPUS, Web of Science. The journal is registered with the abstracting partners: Baidu Scholar, CNKI (China National Knowledge Infrastructure), EBSCO Publishing's Electronic Databases, Ex Libris – Primo Central, Google Scholar, Hinari, Infotrieve, National Science Library, ProQuest, TdNet, Wanfang Data. With effect from January 2020, the journal is globally free access including the PDF content. AMPI would definitely propose to consider JMP as official journal of AFOMP. There is no publication fee for publishing a paper (research paper, review paper, technical note, etc.) in this journal. The journal is published by internationally renowned publisher M/s Wolters Kluwer (Medknow).



**6. AMPI Awards, Fellowships and Overseas Travel Grants**

AMPI instituted Dr. Ramaiah Naidu Memorial Oration Award in 1992 in the honour of first medical physicist of India Dr. Ramaiah Naidu who had the honour of working with Madam Curie and Dr. Faila. This award is given every year to a renowned medical physicist and the first awardee was Dr. Andree Dutreix of France. In addition, the association has also instituted Dr. M. S. Agarwal Young Investigator Award, AMPI Meritorious Medical Physicist Award and AMPI Best Paper (Oral/Poster) Awards. Further, to support the specialized training to young medical physicists in the use of advance technology, short duration fellowships are provided to a few AMPI members. In addition,

AMPI members are also provided partial financial support for overseas travel to attend the international conferences and present a scientific/technical paper.

**7. Service at International Forum (AFOMP/IOMP)**

Members of AMPI are always in forefront to contribute for the profession and the society at international levels. Many AMPI members have served/serving AFOMP/IOMP in various capacities (Dr. U. Madhavanath as IOMP President, Dr. Madan Rehani as IOMP General Secretary and President, Dr. Arun Chougule as AFOMP President and Chairperson of IOMP Committees, Dr. S. D. Sharma in the scientific & publication committee of AFOMP and education and training committee of IOMP and Dr.V.Subramani, Editor of AFOMP Newsletter and Science Committee of IOMP etc.).

# Indonesia Medical Physics Profile

Dr. Supriyanto Pawiro

A. Professional Society

Until 2015, Indonesia has two medical physics organizations; Himpunan Fisikawan Medis dan Biofisika Indonesia (HFMBI), and Ikatan Fisikawan Medik Indonesia (IKAFMI). HFMBI was affiliated to the International Organization for Medical Physics (IOMP) and mainly focused on education and research, while IKAFMI, whose members mostly work on clinical setting, served as a partner to the Ministry of Health and dealt with regulations drafting.

The situation of that time was not convenient, since many issues could not be solved with two separate organizations. As the society grew along with the increase of medical infrastructure number and complexity, the community sensed the need for the two professional organizations to fuse together—and so it was declared that the two parties are merged on October 31th 2015.

Abiding the regulation regarding associations/societies from the Ministry of Law, Republic of Indonesia, all members agreed to dissolve the two organizations and establish a new one, named 'Aliansi Fisikawan Medik Indonesia' (abbreviated as AFISMI) with 'Indonesian Association of Physicists in Medicine' as its English name. In 2016, the new organization begun its labor by first re-registering members of two previous organizations and then proceed with the long-run effort for the recognition and development of medical physics in Indonesia.

Pawiro et al [1,3] explained that the number of member of society increased from 298 to 381 with clinical physicists from 161 to 202 in 2016 and 2017, respectively. The current number of clinical physicists in March 2020 and compared to previous data, the number is increased to 438 out of 597 professional society members of AFISMI. From the data, the number of clinical physicist in diagnostic radiology (DRMP) increased significantly compared to clinical physicists in radiotherapy and nuclear medicine. It is caused by BAPETEN's regulation mentioning that medical physicist being one of the requirements to get operational license for fluoroscopy, computerized tomography, and mamography machines. This number is in correlation with big number radiology facilities in Indonesia[4]

In addition, the increasing number of clinical physicists of radiotherapy (ROMP) is around 10% and is directly related with the development of new centers and radiotherapy machines in the country. Furthermore, the number of clinical physicist in nuclear (NMMP) is also increasing along with the increasing number of nuclear medicine centers. The rest of AFISMI members are bureaucrats at Ministry of Health and BAPETEN, academics, researchers at government institutes, and other professionals at manufacturers and their representatives[4]

B. Recognition of Medical Physicist in Indonesia

Medical physicist as profession in Indonesia has been recognized in 2007 by Ministry of Health in Decree No. 48/ 2007. Currently, medical physicist has been mentioned in Government Regulation No. 36/2014, classified under Biomedical Technology cluster together with radiographer and biomedical engineer. By law, medical physicists has to be present in Radiotherapy, Diagnostic and Interventional Radiology, and Nuclear Medicine services as one of the prerequisites for medical devices to be licensed for clinical use. It is regulated by both the Nuclear Energy Regulatory Agency and Ministry of Health under separate decrees.

According to Government Regulation No. 12/2012 about higher education, medical physics education comprises of academic and professional training. In line with international recommendations, the Clinically Qualified Medical Physicist (CQMP) has academic qualification of postgraduate level with minimum 2 years of additional clinical training at hospital [2]. However, a challenge is present to directly adopt the international recommendation concerning the demography of population and also medical devices distribution. In order to answer the quantity demand of medical physicists in Indonesia, the medical physics professional society, Aliansi Fisikawan Medik Indonesia (AFISMI) decided on providing two levels of medical physicists which are Associate Medical Physicist (Assoc. Medphys) and Clinically Qualified Medical Physicist (CQMP). This leveling scheme is in line with the directives from Indonesian regulation according to Government Regulation No. 12/2012. The Associate Medical Physicist level falls on the category of Indonesian Qualification Framework (IQF) in Level 7, whereas Clinically Qualified Medical Physicist is categorized in IQF as Level 8. An Associate Medical Physicist essentially holds a bachelor's degree in Physics and completed the additional professional training for 6-12 months. Based on the Competence Standard of Medical Physicist developed by AFISMI and Ministry of Health, Associate Medical Physicists are dedicated to play limited role in physics service; i.e. related with simple equipment, techniques, and procedures for radiotherapy, diagnostic radiology, and nuclear medicine. For the use of advanced techniques and devices in radiotherapy, diagnostic and interventional radiology, and nuclear medicine, the Clinically Qualified Medical Physicist (CQMP) must be present. The Associate Medical Physicist also served as a bridge to match the current national capacity with the international qualification of medical physicist in the future [1].

As consensus at the professional society (www.afismi.org) and the Indonesian Association of Higher Education in Medical Physics (AIPFMI, www.aipfmi.org), the educational background to enroll to the Associate Medical Physics training is described. Participants must only graduate from undergraduate program of physics or nuclear engineering with major in medical physics. The candidate has to proof with their academic transcript and completed the specified subjects; anatomy and physiology, radiological physics and dosimetry, imaging physics, radiotherapy physics, and nuclear medicine physics. If the candidates come from other theoretical and applied

physics program, they must complete the matriculation on the aforementioned core subjects in medical physics. The training of IQF 7 is initiated and conducted by the Center for Medical Physics and Biophysics, Institute of Applied Sciences, Faculty of Mathematics and Natural Sciences, Universitas Indonesia (CMPB UI), with participants coming from other universities throughout Indonesia. The first batch of this training started in February 2018.

According to the data from batch 1 to batch 5, the training administrator must select participants based on admission test scores and also geographical distribution aspects. The selected participants for the Associate Medical Physics training can be seen in Table 1[4]

Table 1. Professional training program for Associate Medical Physicist [4]

| Batch | Number of participants | Graduated | Job position secured |
|---|---|---|---|
| Batch 1 | 49 | 47 | 44 |
| Batch 2 | 34 | 33 | 23 |
| Batch 3 | 32 | 32 | 26 |
| Batch 4 | 29 | 29 | 12 |
| Batch 5* | 33 | - | - |
| Total | 177 | 141 | 105 |

International Atomic Energy Agency (IAEA) through the Regional Technical Cooperation project in Asia Pacific conducted the pilot project to initiate the Clinically Qualified Medical Physics residency program in Indonesia in 2016. The pilot ROMP and DRMP has been started as described in Tabel 5 under the IAEA project RAS6077 followed the IAEA Training Coure Series, and it was translated to e-learning system called the Advanced Medical Physics Learning Environment (AMPLE). This e-learning system provides the possibility for residents to submit their work and the supervisor to grade their work [1]. Table 2 shows the paticipant of CQMP residency program in Indonesia which is registered by CMPB UI. The requirement of candidate is graduated form master of medical physics with background education in physics or nuclear engineering and have to completed associate medical physics training scheme before the candidate started the training. Up to now, this program is a voluntary program.

For ROMP program, three residents have graduated from based on asessment in April 2019 which was performed by external expert of IAEA and local medical physcists. Two residents of ROMP batch 1 still doing additional assignment to pass the program. The second batch will be asessed and evaluated in 2020. The first and second batch is trial program for 2 years flexible program depending on the clinical environment. The third batch has been started with fixed program for mandatory module in one year and then continue with internship for 6 months.

The DRMP program is started with remote residency program which is supervised by clinically

qualified medical physicist from Australia. Up to now, we only have one resident who still struggling to finish the program. In addition, the NMMP program is finally started under the project IAEA RAS6087 with 2 residents in June 2020. Furthermore, the Table 2 indicated that ROMP batch 3 and NMMP batch 1 will be started with 4 residents and 2 residents, respectively[4]

Table 2. clinical qualified medical physics residency program [4]

| Specialities*, Batch | Number Participants | Graduated | Job position secured |
|---|---|---|---|
| ROMP 1 | 5 | 3 | 5 |
| ROMP 2 | 4 | - | 4 |
| ROMP 3 | 4 | - | - |
| DRMP 1 | 1 | - | 1 |
| NMMP 1 | 2 | - | - |
| Total | 16 | 3 | 10 |

*ROMP (Radiation Oncology Medical Physics), DRMP (Diagnostic Radiology Medical Physics), NMMP (Nuclear Medicine Medical Physics). The first batch ROMP and DRMP is under IAEA RAS6077 project, wheras first batch of NMMP is under IAEA RAS087 project

After completion of the professional training in both schemes, medical physicist has to be registered in the Indonesian Health Professional Council (Konsil Tenaga Kesehatan Indonesia, KTKI), Ministry of Health. The council will issue the registration certificate. This medical physicist registration certificate is a prerequisite document for radiation medicine facilities license application under BAPETEN's authority.

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# Iranian Association of Medical Physicists (IAMP)

Registered as a Scientific Society in IR Iran (Registration Number: 15772)
A National Member of the International Organization for Medical Physics (IOMP)

Postal address: Level 2, 15 Danesh Sani Lane, North Kargar Street, Tehran 14139-14183, Iran
Email: info@iamp.ir Website: www.iamp.ir
Fax: +98 (0) 21 88020916 Tel: +98 (0) 21 88631826, +98 (0) 21 88632456

HISTORY OF THE IAMP:

- Established in 1991
- Past/Present Presidents:
- Azim Arbabi PhD
- Mohammad Ali Oghabian PhD
- Hossein Mozdarani PhD
- Seyed Rabi Mahdavi PhD
- Mohammad Amin Mosleh-Shirazi PhD (Present)

IAMP SUB-COMMITTEES:

- Medical Imaging
- Radiotherapy
- Modelling and Simulation
- Radiobiology
- Education and Training

NUMBER OF MEDICAL PHYSICISTS IN IRAN:

- Number of graduates in medical physics employment:
  PhD: approx. 200
  MSc: approx. 100
- Number of IAMP members: approx. 350

RECENT INVOLVEMENT OF MEMBERS IN IOMP COMMITTEES:

- Prof. M.T. Bahreyni Toossi, Member of the Education and Training Committee, IOMP (2018-2021)
- Prof. H. Mozdarani, Member of the Science Committee, IOMP (2015-2018)

MEDICAL PHYSICS EDUCATION IN IRAN:

- PhD programs in Medical Physics (mostly by course and research, a few by research only) offered in the following sub-specialties:
- Medical Imaging
- Radiotherapy
- Nuclear Medicine
- Radiobiology
- Nonionizing Radiation

- Master of Science programs in Medical Physics:
- *Medical Physics*
- *Medical Imaging Technology*
- *Radiobiology and Radiation Protection (Radiobiology since 2019)*

ENGLISH-LANGUAGE SCIENTIFIC JOURNALS PUBLISHED IN THE FIELD OF MEDICAL PHYSICS:

- Iranian Journal of Medical Physics (Official Publication of the IAMP)
- International Journal of Radiation Research
- Journal of Biomedical Physics and Engineering
- Frontiers in Biomedical Technologies

EXAMPLES OF SCIENTIFIC CONFERENCES:

- National Medical Physics Conferences (12)
- First International Conference of the MEFOMP
- Medical Physics and/or Radiobiology sessions at the National Clinical Oncology Conferences (3)
- Optimization in Radiotherapy Conferences (2)
- Ion Therapy Conference
- Perspectives of Advanced Radiotherapy in Middle Income Countries Conference
- National Conference of Radiological Sciences
- Advances in Positron Emission Tomography
- Radiation Protection in Radiology
- Radiation Protection in Nuclear Medicine

EXAMPLES OF PRACTICAL WORKSHOPS:

- Dosimetry of Megavoltage Photon Beams (several workshops)
- Dosimetry of Electron Beams (several workshops)
- Commissioning and quality assurance of linear accelerators
- Radiotherapy treatment planning (Introductory, Advanced) (several workshops)
- Intensity modulated radiotherapy (planning, QA) (several workshops)
- Nuclear Medicine Imaging (several workshops)
- QA in Nuclear Medicine (several workshops)
- Monte Carlo simulation (several workshops)

EXAMPLES OF OTHER EVENTS:

- Annual celebrations of the International Day of Medical Physics (central & local events)
- Introductory lectures on medical physics as a career (at various universities)

SOME RECENT DEVELOPMENTS INVOLVING THE IAMP:

- Phase 1 of the Clinical Radiotherapy Physics Training & Certification program
- Certification exams organized: 6

- Participants: 167
- Certified: 62
- Evaluation of a locally manufactured radiotherapy linear accelerator
- Initial and interim testing of radiation performance and safety
- Providing advice to the Health Ministry regarding the purchase of various major equipment
- Updating the IAMP Statute in light of the changes in the field in the country
- Carrying out a remote electronic election for the first time
- One of the founding organizations of the MEFOMP

SOME ONGOING DEVELOPMENTS INVOLVING THE IAMP:

- Phase 2 of the Clinical Radiotherapy Physics Certification exam
- Phase 2 of the Medical Physicist Clinical and Professional Training Scheme
- National Audit of Radiotherapy Practice
- National Ion Therapy Project

*Further information on education and training of medical physicists in Iran (up to 2017):*
*SR Mahdavi, B Rasuli, A Niroomand-Rad (2017), Education and training of medical physics in Iran: The past, the present and the future. Physica Medica 36: 66-72.*

# Short Introduction of Japan Society of Medical Physics

Shigekazu Fukuda, Ph. D
President of JSMP

I'd like to express my congratulations to AFOMP for its 20th anniversary. JSMP will continue to cooperate in the activities of AFOMP as a national member of AFOMP and IOMP. I would like to introduce JSMP in short for mutual understanding AFOMP members.

**History of JSMP and current status**

The Japan Society of Medical Physics (JSMP) was integrated in March 2000 by the Japanese Association of Medical Physicists (JAMP) and the Japanese Association of Radiological Physicists (JARP).

The origin of JARP can be traced to the “Expert Committee on Physics” established in March 1961 after the physics committee under the Japan Radiological Society (JRS), which was active in the 1950s, was progressively dissolved. The date of March 1961 is the starting point of JSMP. In October 1992, the name was changed from "Expert Committee on Physics" to "Japanese Association of Radiological Physicists (JARP)".
Meanwhile, JAMP was formed with the physicist of the “Expert Committee on Physics” of JRS for the purpose of registering a national member of IOMP in 1977. In February 1980, JAMP was approved as the 22nd national member of IOMP. The first general meeting was held in October of the same year, and JAMP was officially launched.

In March 2000, JAMP became independent of JRS and established JSMP together with JAMP. The number of JSMP members has continued to grow and is over 2400 in 2020.

**Academic Meetings**

JARP / JAMP has held academic conferences twice a year so far. After the integration of JARP and JAMP to JSMP was established, JSMP holds the spring academic conference within the Japan Radiology Congress (JRC) and the autumn academic conference on its own. JSMP joined the JRC and has become an official member in 2004. The members of JRC are JRS, Japanese Society of Radiological Technology (JSRT), JSMP, and Japan Medical Imaging and Radiological Systems Industries Association (JIRA).

Japan and South Korea are neighboring countries, and the exchange of medical physics personnel in both countries has been active for a long time. Against this background, the academic conference was planned to be jointly hosted by JSMP and Korean Society of Medical Physics (KSMP), and in the fall of 1996, the 1st Korea-Japan Joint Meeting on Medical Physics was held in Seoul. After that, the Japan-Korea Joint Meeting has been held eight times every three years alternately in Japan and South Korea. The Japan-Korea Joint Meeting not only deepened the exchange between the academic societies of the two countries, but also contributed greatly to

enhancing the internationality of JSMP by giving young academic members the opportunity to make their first international presentations.

**Radiological Physics and Technology (RPT)**

The journal that had been published until the establishment of JSMP was renamed Journal of Japanese Medical Physics (JJMP) and continues to this day. JJMP published many articles in Japanese and some in English and were accepted in MEDLINE. In the 2000s, the need for English-language journals became recognized as the internationalization of research progressed. After some years of preparation, JSMP has published Radiological Physics and Technology (RPT) in English 4 times a year with JSRT since 2008. RPT also became one of the official journals of AFOMP in 2016. AFOMP members are encouraged to submit your articles to RPT

**Certification of Medical Physicists**

The certification system for medical physicists was started by JRS in 1987. But, due to the fact that the number of qualified examinees was limited to those who were from science and engineering, and the position in the field was ambiguous and the work was limited to research and education, the number of qualified people was around 100 and did not spread to the medical field.

On the other hand, in the latter half of the 1990s, radiological technologist education was upgraded from the traditional three-year vocational school education to four-year college education, and graduate school education was also provided. In addition, it is the radiological technologist who is responsible for the medical physicist duties such as quality assurance of the medical equipment and reduction of patient exposure in the medical field where the medical physicist is absent.

Against this background, medical physicist examination qualifications were expanded to those from radiation technology, and certification under the new system began in 2003. As a result, the number of certified medical physicists has rapidly increased. Since it is necessary to be a member of JSMP and/or JRS in order to become a medical physicist, the rapid increase in the number of medical physicist certified persons and applicants for certification also caused an increase in the number of JSMP members.

JRS and JSMP jointly established the Japanese Board of Medical Physicist Qualification

(JBMP) in 2009 to meet the increasing public requirement of certified medical physicists and the increase in the number of certified people. The work of accrediting medical physicists has been transferred to JBMP. As of 2020, there are more than 1200 medical physicists.

**AFOMP and JSMP**

The medical physics society was established in each country due to the progress of radiation medical treatment with the economic development in Asia and Oceania region. As these medical physics societies successively joined the IOMP, the momentum of forming a federation of academic societies in the Asia-Oceania region as a region member of the IOMP was rising. The

Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) was established by convening representative meetings of IOMP member countries in the Asia-Oceania region at the 2000 World Congress in Chicago. Dr. K. Y. Cheung was elected as the first president, Dr. B. Allen as the vice president, and Dr. Akira Ito as secretary general of AFOMP. In addition, Dr. Kiyonari Inamura was elected vice-president in 2003, and served as 3rd president of AFOMP for three years from 2006. Prof. Kiyonari Inamura Memorial Oration Award was established by AFOMP in 2018.
AFOMP has held an academic conference once a year in parallel with the academic conferences in each country and held the first Asia-Oceania Congress of Medical Physics (AOCMP) in 2001 in Bangkok. In relation to the JSMP conference, the 5th AOCMP was co-hosted with the 4th Japan-Korea Joint meeting at Kyoto in 2005, and 11th AOCMP was jointly hosted with the 6th Japan-Korea Joint meeting at Fukuoka in 2011.

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# Korean Society of Medical Physics

Hyun-Tai Chung, Ph.D.

Chair of International Affairs, Korean Society of Medical Physics
Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea

The beginning of the Korean Society of Medical Physics (KSMP) was an undistinguished event as typical as in other countries. In January 1990, twenty-two people working in radiation-related fields at hospitals in Korea gathered in Goshin University Hosptial in Busan. They agreed to found an organization for clinical medical physicists. They held the inaugural meeting of the Korean Association of Physicists in Medicine(KAPM) at Seoul National University Hospital in Seoul on September 22. Despite the harsh conditions such as a small number of members and funds, the main goal of the association was to be an academic society. It distributed a booklet on standard protocols for radiation measurement on the day of inauguration. The first volume of the official journal, the Korean Journal of Medical Physics, was published in October the same year. The certificates of medical physics expert were granted to three persons on December 15, 1990.As a newly introduced and yet unknown and unstable occupation, the identity issue was one of the most significant subjects of the KAPM, and the certificate was the first endeavor to be admitted as an expert.

Globalization was one of the essential activities of the society to expand its academic base and to get support for strengthening the identity. The KAPM made its debut in the international community when it joined the International Organization of Medical Physics (IOMP) on July 10, 1991, within a year after its founding. It held the first joint academic meeting together with Japanese medical physicists at Seoul National University Hospital in September 1996. The Japanese Association of Radiological Physicists and the Japanese Association of Medical Physicists participated in the meeting. Since then, this joint meeting has been held alternatively in Korea and Japan every three years. In 1998, the identity issue drew a shadow on the society. There was a discussion about which ministry of Korean government the organization belongs to. To register to the Ministry of Health and Welfare to which every other medical society was registered, the KAPM members disassembled itself. Instead, they established the Korean Association of Medical Physicists. However, the trial did not reach its goal, and they founded the KSMP in 1998. It registered as an aggregate corporation to the Ministry of Science and ICT in June 2002. It obtained membership of the Korean Academy of Medical Sciences in 2006 for the first time as a non-medical doctor society. It became one of the founder members of the Asia-Oceania Federation of Organizationfor Medical Physics (AFOMP) in July 2000. Since then, it hosted two Asia-Oceania Congress on Medical Physics (AOCMP) conferences in 2002 and 2006. In 2001, it succeeded in winning the venue for the World Congress on Medical Physics and Biomedical Engineering (WC). Together with the Korea Society of Medical and Biological Engineering, the KSMP hosted WC2006

in Seoul from August 27 to September 1, 2006. About three thousand participants from sixty-three countries enjoyed the WC2006. The KSMP could considerably step up to the international community through this event.

The year 2020 is the 30th anniversary of the KSMP. Now, there are 362 full members and 328 associate members. About 150 participants join two annual meetings recently. Ninety-five members with the KSMP approved certificate of medical physics expert are leading researches and quality assurance activities in more than100 therapeutic and diagnostic radiology sites. There are as many advanced radiation treatment and diagnostic radiology devices as any other country in Korea. The KSMP members expertly manage state-of-the art MR-linacs, stereotactic radiosurgery devices, and PET-CTs, and contribute to public health. The KSMP is taking the lead to establish official governmental protocols for quality control of radiation therapy equipment. Since 2005, it accredited five post-graduate programs and two clinical training programs to educate and train young students to want to be medical physicists. The official journal changed its title to 'Progress in Medical Physics.' It publishes all articles in English and opens the full-text papers freely on-line (http://progmedphys.org). Recent revitalization of particle therapy was not only a challenge but a chance. Complexity and indispensable high physical accuracy associated with particle therapies opened a new domain to the KSMP members. Many young researchers are working in two proton therapy sites in operation and two carbon ion therapy sites under construction.

Compared to the beginning of the KSMP, almost all surrounding conditions such as job security, number of members, and research fund have been improved. Not surprisingly, the KSMP has to resolve several issues still. Researchers in the other fields and the general public do not recognize medical physics as an area of expertise yet. The Korean government has not accredited the certificate of medical physics approved by the KSMP. Many occupational appointments are not academic but clinical. Educational institutes and hospitals are having difficulties in sharing their resources and in cooperating. Many medical physics societies in the world confront similar matters, but we have confidence that our young colleagues will work in better environments as we will exert ourselves for it. In conclusion, being a medical physicist seems to be a promising and sagacious choice in Korea.

# Malaysia Medical physics Profile

Malaysia has about 349 medical physicists serving both the public and private institutions . She currently has two medical physics professional organizations, i.e. the Medical Physics Division (MPD), under the umbrella of the Institute of Physics Malaysia (IFM), accepted by IOMP in 1991 and the Malaysia Association of Medical Physics (MAMP), joined as an affiliate member in 2013.
Executive committee members of the Malaysian medical physics organizations

| Name<br>] | MPD, IFM | MAMP (affiliate member) |
|---|---|---|
| **Chair:** | Professor Dr. Kwan Hoong Ng | Dr. Hafiz Mohd Zin |
| **Vice Chair:** | Dr. Noriah Jamal | Dr. Rafidah Zainon |
| **Secretary:** | AP Dr. Jeannie Wong | AP Dr. Noramaliza Mohd Noor |
| **Assist. Secretary:** | Dr. Hafiz Mohd Zin | Dr. Rozilawati Ahmad |
| **Treasurer:** | AP Dr. Yeong Chai Hong | Dr. Husaini Salleh |
| **Assist. Treasurer:** | AP Dr. Ung Ngie Min | - |

We have organised several regional conferences, workshops and seminars under the umbrella of South-East Asian Federation of Organizations for Medical Physics (SEAFOMP), ASEAN College of Medical Physics (ACOMP) and Asia-Oceania Federation of Organizations for Medical Physics (AFOMP), as shown in **Error! Reference source not found.** On the 7th of November every year, we have been actively involved in International Day of Medical Physics (IDMP) celebrations. These includes holding exhibition for public awareness, organising global webcast. The global webcast that was held in conjunction with 150th birthday of Marie Sklodowska-Curie in 2017 features prominent medical physicists such as Professor Dr. Madan Rehani, Vice President of the International Organization for Medical Physics (IOMP), Dr. María del Rosario Pérez, scientist of WHO and Dr. Noriah Jamal, former Director of the Division of Planning and International Relations, Malaysian Nuclear Agency. The webcast was recorded and made publicly available on https://youtu.be/K1bG8VCc_qk]

Both organizations organised bi-annual national scientific meetings on medical physics known as 'International Seminar on Medical Physics' that attracts typically 100-200 participants from Malaysia and beyond. The work presented are published in the Journal of Physics Conference Series, IOP, UK since the 9th edition of the meetings (2014 J. Phys.: Conf. Ser. 546 01100).]
Scientific events organized by the Malaysian medical physics organizations

| Date | Event/ Activities | Congress Theme | No. Of delegates |
|---|---|---|---|
| 11 - 14 Nov 2015 | AAPM/IOMP/ISEP Imaging Physics Workshop | *Practice"* | 214 |
| 10 Dec 2015 | Workshop on Digital Radiography | To review the basic principles, image quality and artifacts, as well as some routine quality control (QC) tests in digital radiography | 40-50 |
| 5-6 Aug 2016 | Interventional Radiology: Safety, Optimization, Dosimetry and Quality Control | To provide the latest updates on radiological safety, optimization, dosimetry and quality assurance related aspects in the field of interventional radiology | 64 |
| 27-28 Aug 2016 | 10th International Seminar on Medical Physics (ISMP) 2016 | Fostering Medical Physics Research and Clinical Practice for Better Healthcare | 200 |
| 6 Dec 2017 | Workshop on Radiation Dosimetry II - Solid State and OSL Dosimetry: Physics & Applications | To provide a basic understanding of physics of semiconductor and optically stimulated luminescence dosimetry. | 38 |
| | 16th SEACOMP & 18th AOCMP & Workshop on Patient Dose Management and Monitoring in Diagnostic Radiology | A Sustainable Future For Medical Physics | 529 |
| 4 July 2019 | Updates in Radiobiology | | 50 |
| 7-8 Nov 2019 | 11th International Seminar on Medical Physics (ISMP) 2019 | Medical Physics: Together We Make an Impact | 112 |

These two organizations have also combined effort to undertake a survey of the medical physics profession in the country, leading to the publication of the article "Medical physicists in Malaysia: A national workforce survey 2019" .

The members are actively involved in the education and training of the medical physicists in the country. Currently, the country has two master programmes for the education and training of medical physicists at the University of Malaya and the Universiti Sains Malaysia . The master programme at the University of Malaya is accredited by the Institute of Physics and Engineering in Medicine (IPEM), and had been recognised as a regional training centre for postgraduate medical physics by the IAEA, contributing to the development of medical physics profession in Cambodia, Vietnam and Brunei.

The members are also actively organising education and training workshops on specific aspects of medical physics such as quality assurance and safety, radiotherapy and imaging modalities, as well

as related physics courses for the oncologists, radiologists, radiographers and technologists in the hospitals. Our goal is to improve patient care by improving the professionalism and expertise of medical physicists through these collaborative efforts.

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# HISTORY OF MYANMAR MEDICAL PHYSICIST ASSOCIATION

Swe Swe Lin
Secretary, Myanmar Medical Physicist Association
Department of Radiation Oncology, Pinlon Cancer Center, Yangon, Myanmar

## HISTORY OF MYANMAR MEDICAL PHYSICIST AND MEDICAL PHYSICS EDUCATION

The first medical physicist from Myanmar who trained in England assigned to work in radiation therapy department of Yangon General Hospital in 1958. Starting from 1958, the limited numbers of medical physicists who had a chance to take long-term training (more than 1 years) allocated in Mandalay and Taunggyi General Hospital. From that time, the medical physicist training accomplished in local apprenticeship and some short course programs which supported by International Atomic Energy Agency (IAEA) and World Health Organization (WHO). The candidates for the training came from academic level or senior technologist who graduate from physics or equivalent subject. That will be the challenge for Myanmar medical physics field which has no proper academic education and training program for national level. The bachelor degree course for medical imaging technology was established by Ministry of Health in 1991 at Yangon. Currently, there are three universities which offer bachelor in medical imaging technology and two universities which give master degree in that field. Radiation therapy technologist undergraduate course was introduced in 2018 at University of medical technology, Yangon. The first medical physics two-year master program is expected to establish in 2021 at the same University.

## HISTORY OF MYANMAR MEDICAL PHYSICIST ASSOCIATION

The Association of Myanmar Medical Physicist (MMPA) was set up in mid of 2016 with 30 members who were working as medical physicists and radiation protection officers from Myanmar. The number of memberships increased to 33 in current years. The percentage of male and female in the association is 24% and 76% respectively. The majority of the members are from radiation therapy by 24 personals. The second lead is from nuclear medicine with 7 members and diagnostic radiology with 2 radiation protection officers. MMPA joined the International Organization for Medical Physics (IOMP), Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) and South-East Asian Federation of Organization for Medical Physics (SEAFOMP) at the end of 2016.

## MMPA and AFOMP

In December 2016, MMPA participated in 22nd International conference on Medical Physics, 16th Asia- Oceania Congress of Medical Physics and 14th South East Asia of Medical Physics in Bangkok, Thailand with 9 delegates. Moreover, two members from MMPA joined the 18th Asia-Oceania Congress of Medical Physics in Kuala Lumpur, Malaysia in 2018.

**ORGANIZATIONAL ACTIVITIES**

The first scientific meeting for the association was held on September 2016 at Pinlon Hospital, Yangon, Myanmar. About 50 radiation professionals from variety of branches around Myanmar joined in this meeting.

*Fig 1: The 1st scientific meeting of Myanmar Medical Physicist Association on September 2016 at Pinlon Hospital*

The second annual meeting was jointly organized with Thai Medical Physicist Society on January 2018 at Bangkok, Thailand. Around 25 delegates from MMPA attended this program.]


*Fig 2: The 2nd annual meeting jointly organized with Thai Medical Physicist Society on 2018*

In the mid of 2018, MMPA conducted the SPECT/CT Quality Assurance Workshop (1/2018) in Yangon, Myanmar. This activity could help to strengthen the quality assurance knowledge of medical physicists who specialised in Nuclear Medicine.

*Fig 3: SPECT/CT Quality Assurance Workshop (1/2018) at Pinlon Hospital, Yangon, Myanmar*

Radiation Protection and Patient Safety Workshop (2/2018) was held at the end of 2018. This workshop organised with the intention to provide the deep understanding of the radiation risk, protection and patient safety not only for radiation professionals but also for other medical staffs who are not the radiation workers. The workshop conducted in two hospitals, Shwe gone daing hospital and Pinlon Hospital, Yangon, Myanmar.


*Fig 4: Radiation Protection and Patient Safety Workshop (2/2018) at Shwe gone daing hospital in 2018*

# Nepalese Association of Medical Physicists

Dr. Kanchan P. Adhikari
General Secretary, Nepalese Association of Medical Physicists (NAMP)
Associate Prof. & Chief Medical Physicist, NAMS, Bir Hospital
Katmandu, Nepal

BACKGROUND

In Nepal, radiological services with first X-ray was started way back in 1923. Similarly, first radiation therapy was started in 1976 with Brachytherapy service (Radium Needle). In 1988, CT scan and Nuclear Medicine as the first such technology of its kind was introduced at the NAMS, Bir Hospital. That was the beginning of introduction of medical physicists in Nepal. In 1987, Dr. Gauri Shanker Pant, medical physicist from All India Institute of Medical Sciences (AIIMS) was sent to Nepal to start and run the nuclear medicine imaging service at NAMS, Bir hospital by the Indian government. Dr. Pant was initially busy in the installation and quality acceptance of these equipment and in routine operation of the imaging service. Dr. Pant also delivered lectures on technical aspects of CT, MRI and radiation safety measures and was subsequently offered honorary visiting faculty designation by the Tribhuvan University Teaching Hospital where he taught medical physics as relevant to Diagnostic Radiology (Diploma) students. Later Dr. Pant was also volunteered in establishing Cobalt-60 and trained Nepal's first medical physicist Mr. P.P Chaurasia, who was recruited for the job of Medical Physicist. In 1989, first medical physicist post was created at Bir Hospital, just before introducing first radiation therapy service unit with a Tele Cobalt-60 machine in Nepal.

In 2002, B.P. Koirala Memorial Cancer hospital introduced first Linear Accelerator and HDR Brachytherapy service in the country, which has paved the way for more medical physicist positions in the country. In 2004, 2005 & 2006 NAMS, Bir hospital, has been assigned different projects to find out status of radiation protection and inventory of radioactive sources being used in Nepal by then Ministry of Science & Technology of Nepal, under the secretary-ship of Dr. Kanchan P Adhikari, medical physicist. Final report of those projects has recommend to the government of Nepal to acquire a membership of International Atomic Energy Agency (IAEA) and to establish radiation regulatory system in the country.

In, 2009, Nepalese Association of Medical Physicists (NAMP) was established to improve medical physics practice with a goal of patient safety for the medical use of radiation in radiology, nuclear medicine and radiation therapy. Since then, NAMP was affiliated to International Organization for Medical Physics (IOMP) and Asia-Oceania Federation of Organizations for Medical Physics (AFOMP). In 2010, NAMP became one of a charter member organizations of The International Medical Physics Certification Board (IMPCB). Members of NAMP have been involved as a

committee member of AFOMP's and IMPCB's various committees. Around six members of NAMP has been awarded travel grant from AFOMP to attend AFOMP conferences until 2019. Current executive committee members of the Nepalese Association of Medical Physicists (NAMP) is shown in table 1

Table 1: Executive Committee members

| Post | Name |
|---|---|
| President | Pradumna Prasad Chaurasia |
| Vice President | Prof. Shanta Lall Shrestha |
| General Secretary | Dr. Kanchan P. Adhikari |
| Secretary | Bidyapati Jha |
| Treasurer | Surendra B. Chand |

INFRASTRUCTURE

Nepal has seven radiotherapy centers; three public, one semi-public and three private where almost all physicist in Nepal are confined. The following table shows the distribution and status of radiation emanating equipment being used in Nepal.

Table 2: Medical Imaging and Radiation Therapy Equipment

| Equipment | Total | Equipment Per million inhabitants* |
|---|---|---|
| Cobalt-60 | 2 | 0.07 |
| Linear Accelerator | 5 (+1) | 0.21 |
| HDR Brachytherapy | 6 (-2) | 0.14 |
| X-ray | 1000 + | 35.60 |
| CT Scan / CT Simulator | 100 + | 3.56 |
| Mammogram | 15 + | 0.53 |
| Gamma Camera | 3 | 0.11 |
| PET/CT | 2 | 0.07 |
| Blood Irradiator | 1 | 0.03 |

*28.09 million (Source: World Bank, Central Bureau of Statistics, Nepal)

In Nepal, medical physics professional is yet to be regulated by government/competent authority. We still do not have licensing and registration system for medical physicist. There is also lack of medical physics position in government system. Ministry of Health & Population of Nepal has yet to create medical physics positions. Though Medical physicists are one of the key components in radiation oncology and plays a vital role in improving cancer cure through technology, the rules and regulation regarding medical physics services are still lacking. About 60% of the cancer cases worldwide occur in low and middle income countries but however, the existing infrastructure is far behind to cope successfully with the increasing threat not only to public health but also

national economies. Modern radiation therapy treatments require trained and qualified professionals and big capital investment. However, Nepal does not benefit from this advancement due to lack of sufficient number of radiotherapy machines and insufficient number of specialized medical physicists. Nepal still do not have medical physics education and training program. Efforts have been done to start post graduate course in medical physics in Nepal but not got the desired success yet. Physicists from government centers have been participating in various IAEA/RCA projects on strengthening education and training program of medical physics.

Table 3: Distribution of Medical Physicists

| **Discipline** | **Total** |
|---|---|
| Radiotherapy | 16* |
| Nuclear Medicine | 0 |
| Radiology /Academic | 1 |
| Company | 1 |
| **Total** | **18** |

*physicist from India, working in two private centers.

WAY FORWARD

Since 2008 after obtaining a membership of IAEA, the turning point of recognition of role and responsibilities of medical physicists ensued in Nepal. The main accomplishments include the approval of Nuclear & Radioactive Materials Protection and Security Bill from the lower and Upper houses of Parliament in Nepal. The finalized draft for minimum standards required for operating diagnostic radiology and nuclear medicine facility has already been completed through MoEST with an active participation of medical physicist. Once it is carried out, role and responsibilities of medical physicists and NAMP will be increased. Since 2012, Nepal has been involved in various Technical Cooperation (TC) projects associated with the IAEA with an active involvement of medical physicist from project designing to successful implementation of project as a national project counterpart (NPC). Therefore, the future of role and responsibilities of medical physicist as well as NAMP in Nepal mainly depends on the infrastructure of a strong regulatory system and sustainable safety culture of radiation users. Despite all the challenges inherent, the author remains confident that recognition, role and responsibilities of medical physicists in Nepal will be enhanced and NAMP could play its active role in promoting this field.

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**The History of Medical Physics in New Zealand.**

Dr. Howell Round

Medical radiation was introduced to New Zealand in 1896 when a doctor, William Hosking, imported x-ray equipment. This was quite remarkably soon after the discovery of X-rays by Roentgen as Hosking was practicing in a remote wood milling town on the opposite side of the world to Roentgen. Communications were very poor in those days so it would be expected that news of Roentgen's discovery would have a long time to reach New Zealand and the process of ordering and shipping the equipment would also have been lengthy. But Hosking was a very progressive individual and later he also imported some radium to treat his wife's breast cancer. His radiation protection practices were extremely poor – he even kept the radium sources on his bedside table! Not surprisingly, this led to his untimely death.

By 1930, four radiotherapy departments had opened, and a radon plant was set up at Wellington Hospital, but no physicist was employed. In 1933, the first medical physicist, John Strong, was employed, based at Victoria University in Wellington, to quality assure all of the medical x-ray equipment in New Zealand. His practices regarding radiation safety were also somewhat poor by modern standards. Many years later when the laboratory where he worked was being renovated it was found that a set of his footsteps down the corridor could be followed from the isotope traces left from on the soles of his shoes. Eventually he was sent to England to further his knowledge and skills, but World War Two broke out during his journey and instead of continuing in medical physics he joined the British radar research team. Unfortunately, he was killed in an air accident while testing radar equipment.

Following World War-II, the first hospital physicist to be appointed was Warren Sinclair in Dunedin. He was eventually sent to the UK for further training with a promise that he would receive half of his salary while away. But the half salary was never paid so he did not feel committed and did not return to New Zealand and went to the United States of America instead where he enjoyed a very successful career in medical physics.

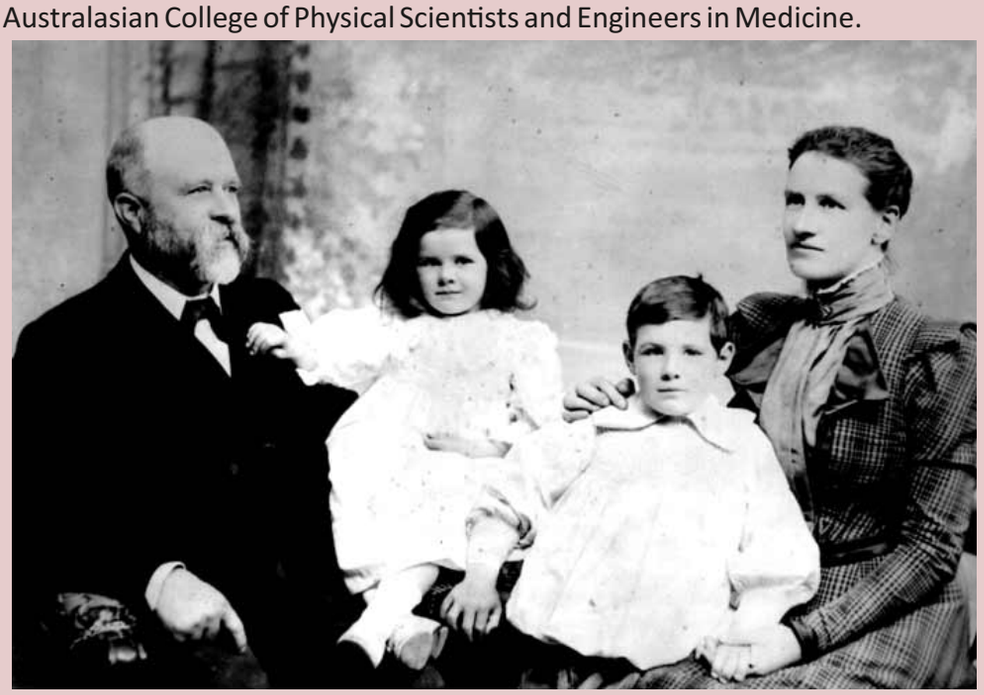
Over the next two decades physicists were appointed in all six of the major government hospitals where radiotherapy and nuclear medicine services were established. Since then four private radiotherapy centres have also been established, each of which employs medical physicists.

Eventually the need for more formal education and training of medical physicists was realized and in 1983 an MSc degree in Medical Physics was offered by Otago University in Dunedin. It had some success, but it eventually was discontinued and New Zealand was left without a medical physics degree programme. The need for a training programme was of concern to the medical physics community and in 2002 a meeting of chief physicists and university academics was held to look at establishing a formal programme consisting of an MSc in Medical Physics followed by a period of

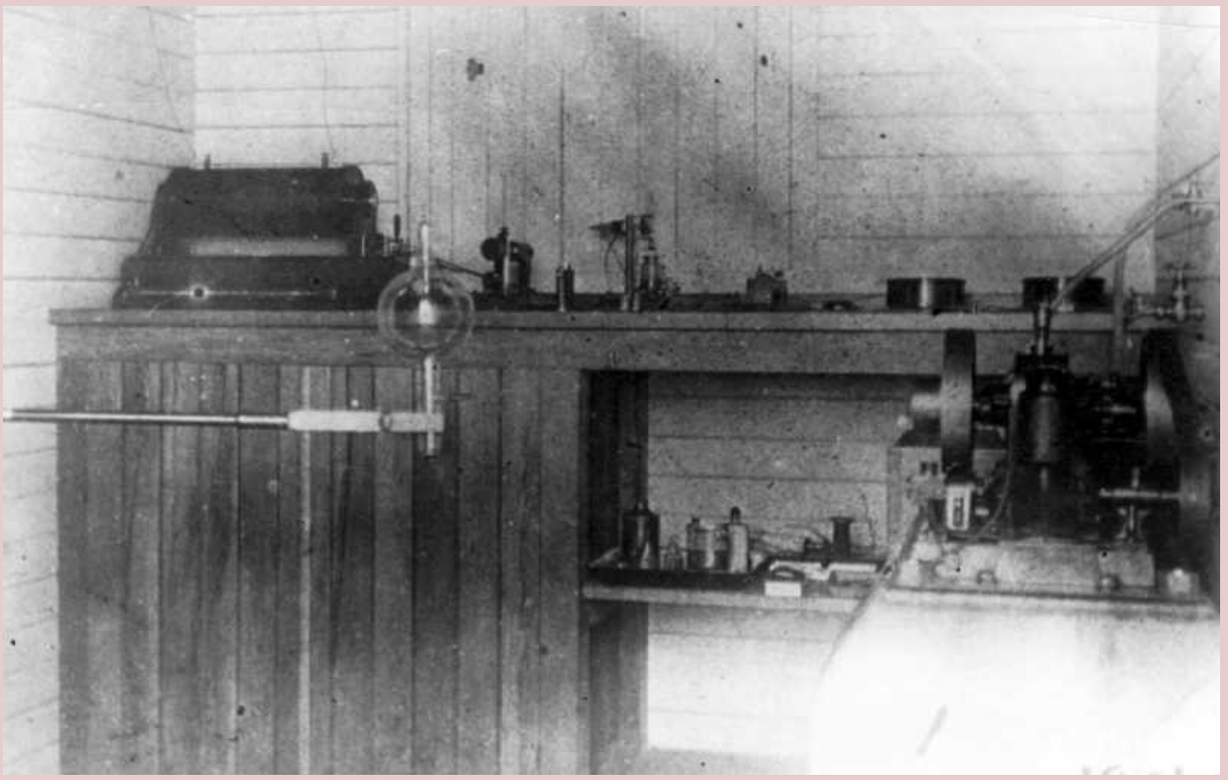
structured in-hospital training. Howell Round was on sabbatical from his university at that time and he agreed to develop a draft training program. After working on it for a few weeks it was pointed out to him that John Drew in Sydney was doing exactly the same for Australia. So John and Howell worked together to develop a programme under the control of the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM). They formed a good team as John was a very senior clinical physicist and Howell was a senior academic, so their experience and skills complemented each other. An MSc in Medical Physics at Canterbury University, Christchurch, was quickly established and accredited in 2003 as the first M.Sc. degree in the ACPSEM's new Training, Education and Accreditation Program (TEAP). The Australia and New Zealand governments supported TEAP with significant funding and it developed quickly in both countries. Certification as a medical physicist is offered in radiation oncology physics and in diagnostic imaging physics.

There are now approximately 90 clinical medical physicists practicing in New Zealand. Most of them are employed in radiation oncology physics, but a significant number are private consultants who provide the medical physics expertise required by diagnostic imaging departments.

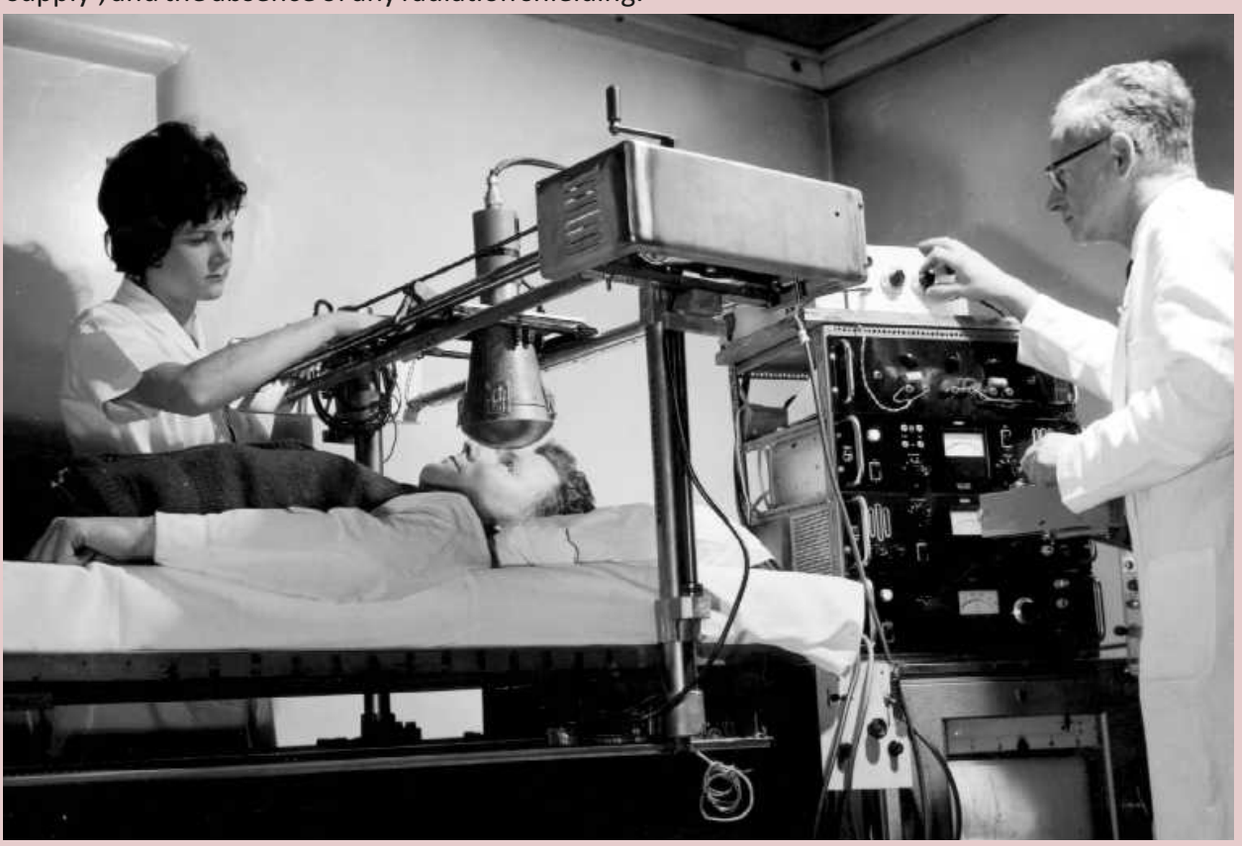
New Zealand's medical physicists were initially represented by the NZ Hospital Physicists Association and later by the New Zealand Medical Physicists' Association. As biomedical engineering was becoming more important, the latter association became the New Zealand Medical Physics and Biomedical Engineering Association. During the late 1970s the Australasian College of Physical Scientists in Medicine was formed by the medical physicists in New Zealand and Australia and the other New Zealand medical physics associations disbanded. In a later move to recognise that the College also represented biomedical Engineers, its name was changed to the Australasian College of Physical Scientists and Engineers in Medicine.



Dr William Hosking and family.



One of New Zealand's early X-ray plants (1904). Note the induction coil (at left on bench) as the 'HT supply'; and the absence of any radiation shielding.



An early nuclear medicine rectilinear scanner built by medical physics staff at Christchurch Hospital.

# Medical Physics History in Pakistan & POMP Introduction

Dr Mansoor Naqvi, President POMP

The beginning of Medical Physics in Pakistan is linked with first Nuclear Medicine center established by the Pakistan Atomic Energy Commission (PAEC) in 1960 in Karachi where apparently, no medical physicist was available initially. In 1962, the first radiotherapy unit was installed in the Jinnah Postgraduate Medical Centre Karachi. In 1963 and 1965 two more nuclear medicine diagnostic centers were established at Lahore and Jamshoro respectively. PAEC not only pioneered the radiation based facilities but also released the need to develop the human resource to smoothly function so their training center, Centre of Nuclear Studies, Islamabad (currently known as Pakistan Institute of Engineering and Applied Sciences—PIEAS) organized postgraduate courses in medical physics in late 1970s, mid-1980s and mid-1990s.

The first linear accelerator was installed in 1985 in Pakistan at NORI Hospital in Islamabad. This was a Varian linear accelerator. Currently there are over 90 medical centers (30 in public sector and rest in private sector) with radiation therapy, nuclear medicine and diagnostic imaging facilities in Pakistan with around 3000 radiation workers including Medical Physicists, Radiologists, Radiation Oncologists, Nuclear Physicians, Radiographers, Radiation Therapy & Nuclear Medicine Technologists. The present number of medical physicists in the country is around 75.

Pakistan now has a wide range of old and modern equipment, from planar gamma cameras, Co-60 units, 2D treatment planning systems up to PET cyclotrons, Gamma Knife, Cyber Knife, aCyber Knife, IMRT and IGRT modalities.

PIEAS started a two-year postgraduate program in medical physics in the year 2001 which is recognized by the IAEA and IOMP. The program is composed of lectures, laboratory demonstrations and hands-on training on medical equipment such as linear accelerators, simulators, TPSs, etc. PIEAS also offers a PhD program in medical physics. Some other universities occasionally offer special courses in medical physics.

Along with that few medical centers have in-house training programs for newly-recruited medical physicists. Short training courses are being conducted for medical physicists' professional development. More than a dozen training courses were conducted in 2012-13.

Until late 2009, when there was a growing number of medical physicists as well as the addition of new modalities, the physicists wanted to have recognition as competent professionals. It's never too late, so at the foundation of medical physics forum, the title of ''Pakistan Organization of Medical Physicists (POMP)'' was established on 12th June, 2010 when a group of physicists from five medical centers met at Sindh Institute of Urology and Transplantation (SIUT), Karachi. Soon after its formation, POMP actively worked on its mission to advance medical physics in Pakistan by disseminating scientific and technical information; fostering educational

and professional development of medical physicists.

The POMP's journey was started in 2010. We moved a little step ahead and are leading towards POMP's recognition as a professional body. We are pleased that the country's Medical Physicists are supportive and hope that with their guidance and help, we'll got the formal recognition. And this is important for our members as it will open many avenues for professional development and growth. While POMP is striving for its recognition, we encourage our members to explore the opportunities for their personal memberships in organizations like AAPM & IOPM. Since last year several Medical Physics colleagues strove for the IMPCB Exam and passed. Currently we have 50 members.

**POMP's History**

POMP was founded in the year 2010. The formation of POMP was sparked by confluence of two forces: internal and external. The internal force was the frustration experienced by physicists in biological /medical pursuits; in essence, we are not being recognized as competent professionals. External force was a strong need and a proposal to form international organization related to medical physics.

**POMP's Vision, Mission and Goals:**

**Vision:**

The Pakistan Organization of Medical Physicist is a scientific based and professional discipline encompassing physics principles and applications in biology and medicine

**Mission:**

To advance medical physics in Pakistan by disseminating scientific and technical information; fostering educational and professional development of medical physicists

**Goals:**

- Foster communication and cooperation amongst medical physicists in Pakistan
- Contribute to the advancement of medical physics in all its aspects, especially in Pakistan
- Disseminate scientific and technical information in the discipline Foster the education and
- professional development of medical physicists
- Encourage research and development to advance the discipline
- Promote the highest quality medical physics services for patients and workers
- Organize and/or sponsor conferences, regional meetings and Education & Training workshops/courses, in collaboration with other appropriate organizations
- Issue a newsletter leading to a scientific journal----- *POMP Voice*

**POMP'S Achievements**

- Yearly celebration of Medical Physics Day in November
- Organized a 5-day training course Current Trends of Technologies in Medical Physics incollaboration with AAPM at JPMC in January 2018
- Regularly participate in national and international events including conferences, workshopsand seminars since its inception to date
- POMP's first executive committee established in January 2013
- Anatomy Review Course held at AKUH in December 2012
- 2ndMedical Physics Session held in International Conference Physics and the World of

Today 2011 at University of Karachi.

- Post Conference seminar of Radiation Protection held in University of Karachi with collaboration of PNRA at International Conference Physics and the World of Today 2011 atUniversity of Karachi
- 1stMedical Physics Session “Modern Trends in the emerging field of Medical Physics”held under the umbrella of Pakistan Society of clinical oncology Annual Conference 2011,Karachi. Also the Launching of Pakistan Organization of Medical Physics at national level atthe same event.
- Multiple MP colleagues are sponsored on POMP recommendation to participate in international events

# Society of Medical Physicists in the Republic of the Philippines

Delmar R. Arzabal, MSc

President, Society of Medical Physicists in the Republic of the Philippines
Radiation Oncology Department, Rizal Medical Center, Pasig, NCR, Philippines

The Philippine Organization of Medical Physicists (POMP) was founded in 1986. For more than three (3) decades, this professional organization has nurtured and shaped the medical physics landscape in the country. It was not an easy feat considering that the medical physics graduate program is only being offered by one (1) institution. Amidst the challenges, the pioneer educators and early batches of the program excellently delivered to guide and encourage more students, bringing the organization where it is now.

In 2017, the POMP was changed to the Society of Medical Physicists in the Republic of the Philippines (SMPRP). While there may have been major changes in the organizational structure, the alignment of the purpose and objective of SMPRP with that of AFOMP is being maintained. Along with AFOMP, SMPRP aims to advance and safeguard the profession of Medical Physics in all its aspects, unite and promote cooperation and understanding among medical physicists and workers in the medical allied professions, and promote the welfare and professional development of medical physicists in the Philippines.

The University of Santo Tomas remains the single university to offer the graduate degree in Medical Physics, which to date has produced a total of 164 Medical Physics graduates. There is a noted significant increase from year 2000 onwards considering that there was less than 20 graduates since 1980s. There are now active preparations to put up the medical physics graduate program in two leading universities in the country.

The structured clinical training residency program in ROMP started in January 2009 while that of DRMP started in July 2010, both as pilot implementation of the IAEA RCA RAS 6038 project. The third batch of ROMP residents is expected to complete their training in the second semester of 2020, while the second batch of DRMP residents and the first batch of nuclear medicine medical physics (NMMP) residents are expected to complete their training early next year. The first Certifying Board Examination in Radiation Oncology Medical Physics (ROMP) was held in February 2010 and a total of three such exams have been given as of March 2020. There are now 19 certified ROMPs in the country. The first Certifying Board Examination in Diagnostic Radiology Medical Physics (DRMP) was held in July 2019. There are now 13 certified DRMPs in the country.

Medical Physicists in the Philippines' hospital setting are starting to gain further recognition and heavier demand. Eleven (11) tertiary hospitals employ three or more medical physicists, while thirty-six (36) hospitals employ one or two medical physicists each.

The SMPRP has been continually coordinated and consulted by radiation regulatory bodies, the Philippine Nuclear Research Institute (PNRI) and the Center for Device Regulation, Radiation Health, and Research – Food and Drug Administration (CDRRHR-FDA), in strengthening and developing the medical physics field in the Philippines. Various technical cooperation and working groups in regulatory research and development involves the expertise of the members of the society in imparting valuable inputs from research and experience in the field. Most notably, the drafting and successful implementation of rules and regulations in the conduct of the practice of diagnostic radiology, radiation oncology, nuclear medicine, radiation protection, and the use of non-ionizing radiation devices and facilities across different industries.

In support of the Department of Health (DOH), the SMPRP is one of the key implementor and coordinator of the medical physics residency and training program of the Philippines through the International Atomic Energy Agency's (IAEA) RAS 6077 project entitled "Strengthening the Effectiveness and Extent of Medical Physics Education and Training". The 2019 revised constitution of the society paved the way to the establishment of the Philippine Board of Medical Physics (PBMP) in alignment to the government's efforts to institutionalize the medical physics profession and qualification in the country.

Various events and annual projects in the culmination, development, and awareness of the medical physics field pioneered by SMPRP has always been endorsed and supported by the government. The Philippines has been fostering collaborative work to share knowledge and expand the medical physics network through hosting of the South-East Asian Congress of Medical Physics (SEACOMP). SEACOMP has been hosted by the country several times. Locally, the society has been annually participating in the celebration of the International Day of Medical Physics. In 2019, the SMPRP launched its Medical Physics Scientific Conference (MPSC) where residents and other allied sciences present their research. In 2020, the first Philippine Congress of Medical Physics (PCMP) was conducted.

Currently, SMPRP continues to provide its support and expertise to the government by actively participating with initiatives in rationalizing the radiation regulatory regime of the country. It is through the proactive and dynamic approach of the society, through the coordination with national government agencies, that the country has laid firm foundations for the exponential growth of the medical physics field in the Philippines.

# Society of Medical Physicists of Singapore - SMPS

Dr. Shaun Baggarley
President

The Society of Medical Physicists Singapore (SMPS) was founded in August 1998 with the objective to foster closer relationship among professionals working in the various fields of medical physics. It serves to promote the interests and views of local members in international organisations such as the International Organisation of Medical Physics (IOMP) of which SMPS is a National member. SMPS also belongs to two IOMP Regional subgroups, namely the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) and Southeast Asian Federation for Medical Physics (SEAFOMP).

Since the early 1990s there was a growth in the number of Medical Physicists in the radiotherapy centres in both the government and private hospitals and institutions. Some of the pioneer physicists saw a need to have a forum for communication among Medical Physicists in Singapore. After some effort to garner support, the Society was formed and registered with the following objectives:

1. Foster a closer working relationship among those working in the various fields of Medical Physics.
2. Create public awareness of the medical physics profession in Singapore and to project and maintain the image of Medical Physics professionals.
3. Represent and promote the interests and views of members in the local Medical Physics profession in international organisations.
4. Promote research, training and education in medical physics.

Today, our membership has grown from an initial 10 founding members in 1998 to 43 members in 2020. We have diverse representations from various sub-fields, majority of whom are from Radiotherapy Physics and the others from Nuclear Medicine, Diagnostic Imaging and Health Physics.

Some of the activities and contributions of SMPS are:

1. Symposiums on advances in Medical Physics.
2. Promoting members to participate in regional congresses, SEACOMP and AOCMP
3. Represented in the committee of the Singapore Accreditation Council on establishing standards for Medical Imaging.
4. Organising the AOCMP/SEACOMP in December 2013
5. Organising the World Congress on Medical Physics and Biomedical Engineering 2021, Singapore

# Taiwan

## The Chinese Society of Medical Physics, Taipei (CSMPT)

Dr. Wei-Ta Tsai
Chairman, Public Relations Committee
Chinese Society of Medical Physics, Taipei (CSMPT)

The Chinese Society of Medical Physics, Taipei (CSMPT) was founded in 1996. The CSMPT held its first general assembly on August 24 and registered with the Ministry of the Interior, Taiwan in December 1996. The mission of CSMPT is to advance the scientific, educational and professional practice of medical physics, improving patient care and the quality of academic research, and increasing communication with associated domestic and overseas academic groups. At present, we have more than 350 members.

The CSMPT has four committees which are the Academic and Professional Committee, the Education and Training Committee, the Regulation and Rules Committee and the Public Relations Committee. The CSMPT has an independent qualification board which certifies diagnostic medical physicists, oncology medical physicists, and medical dosimetrists. The qualification board was founded in 1999 and has qualified 203 oncology medical physicists, 9 diagnostic medical physicists, and 45 dosimetrists. To develop members' professional and clinical knowledge, academic seminars were held in different cities each month. One- and two-day special education courses in a variety of fields were held quarterly. In addition, an academic conference, including the Young Investigator Competition is held on a yearly basis.

2018 Annual conference for Asian proton therapy experience exchange.

There are more than 200 radiation treatment devices which include linear accelerators, Tomotherapy, Cyberknife, Gamma knife, Brachytherapy, proton therapy, and a carbon ion therapy center under construction in Taiwan. There are 8.9 therapy devices per million people which is quite a high number relative to other countries.

As a member of AFOMP, the CSMPT would like to co-operate with other AFOMP members. The CSMPT not only organized the 10th AOCMP conference but also joined the AFOMP committee to share the region's medical physics profession development responsibilities.

## History of Medical Physics in Thailand

Anchali Krisanachinda
Chulalongkorn University, Bangkok, Thailand President, Thai Medical Physicist Society

Medical Physics started in Thailand in 1959 in radiotherapy and followed by nuclear medicine in 1960s at Siriraj Hospital. The first and second medical physicist ladies worked at radiotherapy and nuclear medicine at Siriraj Hospital. The education and training of medical physicists began in 1971 at Ramathibodi Hospital under the support of World Health Organization. The medical physics curriculum followedthe 'Radiation Physics' curriculum taught at The Middlesex Hospital Medical School and St. Bartholomew's Hospital, University of London, U.K. The program was collaborated between Faculty of Science, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, the Office of Atomic Energy Agency of Thailand and the Department of Medical Science, Ministry of Public Health. A two year program consisted of lectures, laboratory,On-The-Job Training in radiotherapy and nuclear medicine at Department of Radiology and research. There were about 6-8 graduate students per year.The medical physics curricula are similar among the first 3 programs in Table 1 with the stress on radiation therapy and nuclear medicine physics. In 2002, Chulalongkorn University established 'Medical Imaging' program to extend the medical physics education and clinical training in Diagnostic Radiology and stress on imaging dosimetry. The extended role of medical physicist, initiated by the author, was quality control of diagnostic imaging equipment in the hospitaland the patient dose measurement in CT and interventional radiology. The number of medical physicist was increasing after the establishment of medical imaging/medical physics education program.

As the technology of medical physics has developed rapidly, there are needs for medical physicists in several centers in Thailand such as university hospitals, cancer centers, and major hospitals of the Ministry of Public Health, Ministry of Defense and private hospitals. The education and training of medical physicists is increasing from one to six programs in Thailand, there are 475 graduates from these programs as shown in Table 1..

Table 1: 6 Medical Physics Education Programs: two year program in Thailand

| University | Hospital | Year established | Number of Graduates |
|---|---|---|---|
| | RamathibodiHospital | 1971 | 200 |
| Faculty of Medicine, Mahidol University | SirirajHospital | 1991 | 124 |
| Faculty of Medicine Chiang Mai University | SuanDok Hospital | 2001 | 50 |
| Faculty of Medicine ChulalongkornUniversity | King Chulalongkorn Memorial Hospital | 2002 | 86 |
| Naresuan University | Faculty of Allied Health Science | 2014 | 15 |
| HRH Princess Chulabhon College of Medical Science, Chulabhon Royal Academy | Chulabhon Hospital | 2019 | N/A |
| Total number of graduates | | | 475 |

After graduation, medical physicist tried to get the position in the hospital with radiation oncology

and nuclear medicine. The problem occurred at new hospital or cancer center with advanced equipment which the graduates who lacked of clinical experience and could not cover the medical physics work without supervision. Thailand proposed IAEA to arrange the structured clinical training program for medical physicists after M.Sc. degree.

The clinical training of medical physics in radiotherapy(ROMP), diagnostic radiology(DRMP) and nuclear medicine (NMMP) started in 2006, 2009 and 2011 respectively using the IAEA curriculum for training under supervision and assessment. Thailand was a Pilot country for clinical training in medical physics, a 2 year program. In 2015 IAEA developed AMPLE (Advanced Medical Physics Learning Environment). Thailand had the opportunity to pilot this On Line program and be able to train Myanmar Vietnam Bhutan Laos and Nepal medical physics residents at their own department.

From 2006 to 2020, there were 5 classes in medical physics clinical training as detail in Table 2. IAEA Experts made the visits for the orientation and final assessment of oral and practical for all residents at their own departments or at major department of similar type of equipment

Table 2. Five Clinical Training of medical physicists in Radiation Oncology (ROMP) Diagnostic Radiology (DRMP) and Nuclear Medicine (NMMP) in Thailand from 2006 to 2020

| No. | Training Centers | Program | Year established | Graduates |
|---|---|---|---|---|
| 1 | King Chulalongkorn Memorial Hospital | ROMP | 2006-2008 | 10 |
| | Siriraj Hospital | ROMP | | |
| | Ramathibodi Hospital | ROMP | | |
| | Chiang Mai Hospital | ROMP | | |
| 2 | King Chulalongkorn Memorial Hospital | DRMP | 2008-2010 | 5 |
| | Bumrungrad International Hospital | DRMP | | |
| 3 | King Chulalongkorn Memorial Hospital | NMMP | 2011-2015 | 12 |
| | Siriraj Hospital | NMMP | | |
| | Ramathibodi Hospital | NMMP | | |
| | Chiang Mai Hospital | NMMP | | |
| 4 | King Chulalongkorn Memorial Hospital | ROMP/DRMP | 2016-2018 | ROMP19<br>DRMP 4<br>NMMP 3 |
| | Siriraj Hospital | ROMP/NMMP | | |
| | Ramathibodi Hospital | ROMP/DRMP | | |
| | Chiang Mai Hospital | ROMP/NMMP | | |
| | Prince of Songkla University | ROMP | | |
| | Chulabhon Hospital | ROMP | | |
| | Pinlon Hospital Myanmar | ROMP/NMMP | | |
| 5 | King Chulalongkorn Memorial Hospital | ROMP/DRMP | 2018-2020 | |
| | Siriraj Hospital | ROMP/DRMP | | |
| | Ramathibodi Hospital | ROMP | | |
| | Chiang Mai Hospital | ROMP | | |
| | Prince of Songkla University | ROMP/DRMP/NMMP | | |
| | Chulabhon Hospital | ROMP | | ROMP14 |
| | National Cancer Institute | ROMP | | DRMP5 |
| | Udonthani Cancer Center | ROMP | | NMMP3 |
| | Sawanpracharak Hospital | ROMP | | |
| | Suratthani Cancer Center | ROMP | | |
| | Pinlon Hospital Myanmar | ROMP | | |
| | Mittaphap Hospital, Laos | ROMP | | |

The success of the clinical training can solve the problem of the lack of clinically qualified medical physicists at the university hospitals, at major centers equipped with advanced facilities in radiology. Furthermore the private centers which need the certification on standard operating practice require medical physicists with enough experience in medical imaging. The clinical training can solve such the problems in this area.As theclinical training of medical physicists covered all three fields in radiology, this result in the development of medical physics work in radiation medicine with the advanced technology to be more benefit to patients. As most medical physics work relates to very high accuracy and safety in radiation medicine, Thai medical physicist-the author, had requested IAEA for the support on quality standards,quality management in diagnostic radiology, **QUAADRIL**, radiation oncology, **QUATRO** and in nuclear medicine **QUANUM** since 2012. Those programs had been successful audited at several centers in 2015, 2016 and 2017 respectively. In 2018, the author with the **SSDL**,Bureau of Radiation Medical Devices at Department of Medical Science arranged the lectures on DRL, and then the patient radiation doses had been collectedall over the country to establish the National Diagnostic Reference Level **(NDRLs)** in CT, digital mammogram and Interventional Radiology. The **NDRLs** were announced in 2019.It is realized that medical physicist in Thailand had leaded many activities in radiation medicine. One of the most important work of the author is the establishment of **UNSCEAR** in Thailand in order to collect all data obtain in radiation medicine. As the number of General Practitioners in Thailand was 58025 and Thai population was 66,413,979, one clinician would take care of 1,144 Thai. Healthcare level of Thailand is at level II and close to Level I if one clinician in 1000 people or less. Many **UNSCEAR** data are very important especially on the exposure of patients and workers on national level.

**Establishment of professional society.** In 1978, the faculty and graduates from Medical Physics program at Ramathibodi Hospital set up 'Medical Physics Club of Thailand' with 25 members. The number of members increased every year but did not organize any big meeting. In 2000, the author had the opportunity to visit Medical Imaging at Northwestern University, Evanston, Illinois, USA. During that time, the author represented medical physicist of Thailand to attend the World Congress of Medical Physics and Bio Medical Engineering at Conventional Hall near Navy Pier, Lake Michigan, Illinois USA. The author met Professor Kin Yin Cheung from Hong Kong, Prof. Barry Allen from Australia Prof Kiyonari Inamura from Osaka Japan, Prof. KH Ng from Malaysia and Ms. Agnette Peralta from Philippines. Those persons were Founders of AFOMP. Prof.KY Cheung received the popular vote and become the first AFOMP President while the author got the position of AFOMP Treasurer. She proposed hosting the First AFOMP Congress in Bangkok, Thailand in 2001

In 2001, Thai Medical Physicist Society (TMPS) was established at King Chulalongkorn Memorial Hospital. The author was elected as Presidentof TMPS.She and her team ran the first AOCMP at

the Royal JubileeBuilding (50th year Royal Coronation). The first Congress was quite successful on medical physics meeting in Bangkok Thailand. The author had hosted 9th AOCMP in 2009 in Chiang Mai Thailand, 12thAOCMP in Chiang Mai Thailand and in 2016 which were, International Congress on Medical Physics (ICMP 2016), 22nd IOMP Congress, 16thAOCMP and 14th SEACOMP in Bangkok, Thailand. (Figure 1)The 20th AOCMP and 18th SEACOMP will be organized on 8-10 October 2020 in Phuket Thailand.

Even though the number of graduates is 475, only 201medical physicists in all over Thailandbecome members of TMPS. After graduation, some medical physicists work in private hospitals, some works as the specialist at the company with advanced product in radiotherapy and dosimetry and involve in business rather than in medical physics field..

Medical physicists play an important role in healthcare services, research and development of healthcare technologies, clinical techniques, teaching and training of healthcare professionals.

It is very important for AFOMP and SEAFOMP members to raise the awareness of our profession to the history day of November 7, the birthday of Marie Curie in Poland, to announce to the public the major role of medical physics in the healthcare service on this day every year.


**Figure 1.** AFOMP Committee at the International Conference on Medical Physics (ICMP 2016) Shangri La Hotel, Bangkok Thailand

# Brief History Of Vietnam Society Of Medical Physics

Dr. TRAN NGOC TOAN
President

1. Association name: Vietnam Society of Medical Physics (VSMP)
2. Foundation Day: June 10, 2008.
3. Logo
4. Website: www.vsmp.vn
5. Current Executive Committee of VSMP

| CURRENT EXECUTIVE COMMITTEE OF VSMP (PERIOD FROM 2014-2019) | | | |
|---|---|---|---|
| **IT.** | **NAME** | **POSITION** | **EMAIL** |
| 1 | Mr. TRAN NGOC TOAN, PhD.<br>Vice President of Vietnam Atomic Energy Institute (VINATOM) | President | tntoanvn@gmail.com |
| 2 | Mr. NGUYEN TRUNG HIEU, BSc.<br>Chief of Radiation Technology | Vice President<br>Secretary General | trunghieuktpx@yahoo.com |
| 3 | Mr. Nguyen Tan Chau, MSc.<br>Chief of Radiation Health Physics Unit, Choray Hospital | Vice President<br>Vice Secretary General | ntanchau@live.com |
| 4 | Mr. Nguyen Xuan Ku, MSc.<br>Former Chief of Radiation Physics Department, K- Hospital, Hanoi | Vice President | ngxuanku@gmail.com |
| 5 | Mrs. Trinh Thi Minh Chau, MD.<br>Head of Nuclear Medicine Department. University of Medicine and Pharmacy, HCMC | Treasurer | minhchautrinhthi@gmail.com |

6. Member:

VSMP has totally around 154 members as shown in following table.

Table 1: Number of Radiotherapy, Nuclear Medicine center and Medical Physicists by region, last updated 10, 2018.

| Region | No. of Hospitals | No. of Radiotherapy centers | No. of Nuclear Medicine centers | No. of Medical Physicists |
|---|---|---|---|---|
| Ha Noi | 12 | 11 | 8 | 46 |
| North | 6 | 6 | 5 | 15 |
| Middle and Highland | 4 | 4 | 4 | 15 |
| South | 6 | 3 | 3 | 21 |
| Ho Chi Minh city | 9 | 7 | 6 | 57 |
| **Total** | **37** | **31** | **26** | **154**<br>Male 77%<br>Female 23% |

7. Facilities:

**Table 2:** Number of Radiotherapy and Nuclear Medicine equipment in Vietnam, last updated 2019

| Irradiation equipment | Number of units | Note |
|---|---|---|
| Brachytherapy | 17 | HDR 15, LDR 2 |
| Tele Cobalt-60 | 2 | |
| Linac | 58 | |
| Gamma knife | 4 | |
| Cyberknife | 1 | |
| Cyclotron | 6 | |
| PET/CT | 12 | |
| SPECT and SPECT/CT | 50 | |

8. International cooperation:
VSMP is formal member of:

- IOMP (International Organization for Medical Physics)
- AFOMP (Asia-Oceania of Federation Organization for Medical Physics)

- SEAFOMP (South East Asia Organization for Medical Physics)

9. Achievement:

| Year | Major Event |
|---|---|
| 2008 | Organized the $^{6th}$AOCMP/$^{8th}$SEACOMP congress in conjunction with Choray Hospital, Ho Chi Minh City. |
| 2014 | Organized the $^{12th}$AOCMP/$^{14th}$SEACOMP congress in conjunction with Choray Hospital, Ho Chi Minh City. |
| 2015 | The first Vietnam Conference on Medical Physics in conjunction with Hochiminh city Oncology Hospital. |
| 2016 | The second Vietnam Conference on Medical Physics in conjunction with Military 108 Hospital, Ha Noi. |
| 2018 | The third Vietnam Conference on Medical Physics in conjunction with |

**10. Current challenges and future plans of VSMP:**

**Challenges:**

Medical physics in Vietnam is facing many challenges, such as:

- There is no Academic Education/Clinical Training Certification as IAEA's recommendation.
- There is no Professional Accreditation by the Ministry of Health.
- The National Certification Board has not established yet.

**Future plans:**

- The medical physics profession is being highly concerned by Government including Ministry of Health, Ministry of Science and Technology and Ministry of Education and Training. They are working together for pressing the authority to recognize medical physics as an official occupation soon.
- The universities and major hospitals should work together to build a high quality graduate programme that can satisfy the Certified Medical Physics requirements of the National/International Medical Physics Certification Board.
- Vietnam Society of Medical Physics will regularly organize the national congress of medical physics and specific workshop to update and exchange knowledge and experience among the medical physicist community.
- Cooperation with international organizations such as IAEA, IOMP, AFOMP, SEAFOMP, JSMP, and AAPM, etc. will be enhanced and enlisted the support of these organizations for upgrading clinical skill and knowledge for the medical physicists.

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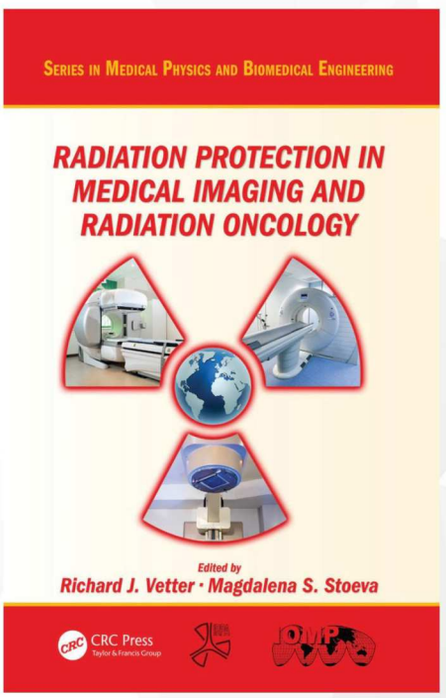


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