International Organization for Medical Physics





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# **1UPESM 2025**

World Congress on Medical Physics and Biomedical Engineering

29 September – 4 October 2025 Adelaide Convention Centre, Australia





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Australasian College of Physical

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#### **Contents**

Editorial	3
IOMP ExCom Reports:	
President's Message (John Damilakis)	6
IOMP Past President and IUPESM President's Report (Madan Rehani)	10
Treasurer's Report (Ibrahim Duhaini)	13
Scientific Committee's Report (M Mahesh)	16
Education and Training Committee's Report (Arun Chougule)	18
Awards & Honours Committee's Report (Kwan Hoong Ng)	21
Professional Relation Committee's Report (Simone Kudlovic Renha)	23
Medical Physics World Board (MPWB) Committee's Report (Chai Hong Yeong)	26
Publication Committee's Report (Francis Hasford)	29
History Sub-Committee's Report (Slavik Tabakov)	32
IOMP Women Sub-Committee's Report (Loredana Marcu)	34
Awards & Honours Celebration:	
IUPESM Award of Merit in Medical Physics 2025 – Prof Dr John Boone	37
EFOMP Medal in Medical Physics – Prof Dr Slavik Tabakov	38
IOMP Accreditation Report:	
IOMP Accreditation of Radiation Oncology Medical Physics program at Warith International Cancer Institute [WICI] Karbala, Iraq (by Prof Arun Chougule)	40
Conference / Event Reports:	
23 <sup>rd</sup> SEACOMP & 16 <sup>th</sup> TMPS: Celebrating the 25th Anniversary of SEAFOMP, January 24-26, 2025 <i>(by Anchali Krisanachinda)</i>	45
ALFIM 2025: Highlights from the 10th Latin American Congress of Medical Physics, March 9-12, 2025 (by Patricia Mora, Erick Hernández and Adlin López)	54
JRC & JSMP 2025: Report on the 129th Annual Meeting of the Japan Society of Medical Physics Era (by Tomonori Isobe, Yutaro Mori, Chie Kurokawa, Shigekazu Fukuda, Naoki Hayashi)	62
Invited Articles:	
Building and Maintaining Health Professional Competence in Radiation Protection – Role of Medical Physicists (by Arun Chougule)	67
Calendar of Events (June – December 2025)	73

#### **Editorial**

#### Chai Hong Yeong, PhD

Editor-in-Chief of IOMP e-Medical Physics World (eMPW)



**CHAI HONG YEONG** 

Editor of IOMP eMPW yeongchaihong@gmail.com

"As we reflect on the year, we are reminded of the continued progress we are making as a global medical physics community, driven by innovation, collaboration, and a shared commitment to improving patient care."

Dear Colleagues,

It's a pleasure to welcome you to **Volume 41, Issue 1 of eMPW** – our first issue for 2025. In this issue, you'll find compelling highlights, updates, and reflections that capture the global momentum and collective dedication driving medical physics forward.

A key feature of this issue is the **IOMP Executive Committee (ExCom) Reports** covering the period from January to June 2025, providing comprehensive insights into the progress of IOMP's strategic activities and global initiatives.

In the first quarter of 2025, the Awards and Honours Committee launched Calls for Nominations for several prestigious IOMP awards, including the Marie Sklodowska-Curie Award, Harold Johns Medal, John Mallard Award, IUPAP Early Career Scientist Prize in Medical Physics, IUPESM Award of Merit (IOMP), and IOMP Fellowships and Honorary Memberships. The evaluation process is currently underway, with results to be announced soon via official IOMP channels.

We warmly congratulate **Professor John Boone** of UC Davis Health on receiving the **2025 IUPESM Award of Merit in Medical Physics**. Prof. Boone is globally recognized for his outstanding contributions to clinical service, education, research, and professional development in medical physics. He is also well known as the co-author of The Essential Physics of Medical Imaging, a core reference for medical physicists in diagnostic imaging.

Another notable honor goes to **Professor Slavik Tabakov**, Past President of IOMP (2015–2018), who was awarded the **EFOMP Medal in Medical Physics** in recognition for his lifelong, selfless contributions to advancing medical physics worldwide. Prof. Tabakov has been instrumental in the development of 18 MSc programs in medical physics worldwide and continues to serve as Co-Director of the ICTP College on Medical Physics since 2002.

#### **Editorial**

#### Chai Hong Yeong, PhD

Editor-in-Chief of IOMP e-Medical Physics World (eMPW)

As we approach International Day of Medical Physics (IDMP) on 7 November 2025, themed "Inspiring the Next Generations of Medical Physicists," I would like to take this opportunity to invite all of you to join in the celebration. The poster competition has concluded, and the winning design will be announced soon.

This issue also includes an **accreditation report** from the IOMP Accreditation Board, led by Prof. Arun Chougule, on the **Radiation Oncology Medical Physics Residency Program at Warith International Cancer Institute (WICI), Karbala, Iraq.** The report also emphasizes the benefits of IOMP accreditation in upholding high standards of medical physics education and clinical training internationally.

We are also pleased to feature highlights from three regional/national conferences:

- 23rd Southeast Asian Congress of Medical Physics (SEACOMP 2025) (January 23–26, 2025)
- 10th Latin American Congress of Medical Physics (March 9-12, 2025)
- 129th Annual Meeting of the Japan Society of Medical Physics (April 10-13, 2025)

Our sincere thanks go to the contributing authors for their excellent coverage of these events.

Finally, we are grateful to **Prof. Arun Chougule**, Chair of the IOMP Education and Training Committee, for his thought-provoking article on "Building and Maintaining Health Professional Competence in Radiation Protection – The Role of Medical Physicists."

We hope you enjoy this issue and find it both informative and inspiring. We look forward to meeting many of you at the IUPESM World Congress of Medical Physics and Biomedical Engineering in Adelaide, Australia, from September 28 to October 4, 2025.

#### **Editorial Board**

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#### 6

#### **President's Message**

#### John Damilakis, PhD

**President of IOMP** 



**JOHN DAMILAKIS** 

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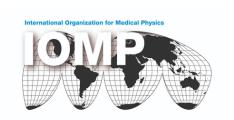
"This report highlights some key initiatives, achievements, and milestones of the IOMP over the past three years (June 2022–June 2025)"

Dear Colleagues,

This report highlights some key initiatives, achievements, and milestones of the IOMP over the past three years (**June 2022–June 2025**). It offers a summary of major activities and does not encompass every project undertaken during this period. For a more detailed account, you are encouraged to explore the in-depth articles authored by Executive Committee (ExCom) members in previous editions of the eMPW.

During this term IOMP worked on improving its governance. Several suggestions were made to update the **Statutes and Bylaws**, for example, to add details on the **Women's Subcommittee terms** and on the **Medical Physics International journal** with the aim of enhancing transparency and accessibility. The Executive Committee reviewed and endorsed these proposed amendments, which were forwarded to the Council for final approval. These changes formalized and clarified procedures, reflecting IOMP's evolving structure.

IOMP continued its awards and honors program to recognize excellence in medical physics. IOMP announced calls for nominations for multiple awards (Honorary Membership, Fellow of IOMP, the Harold Johns Medal, John Mallard Award, and Marie Sklodowska-Curie Award) and international prizes (the IUPAP Early Career Scientist Prize in Medical Physics and the IUPESM Awards of Merit). Each award celebrates achievements at different career (from educational impact and stages research breakthroughs to lifetime contributions) and is intended to inspire the global community. These awards raise public and professional awareness of the vital role medical physicists play in healthcare.



#### **President's Message**

#### John Damilakis, PhD

**President of IOMP** 

The annual International Day of Medical Physics (IDMP) on November 7 was celebrated enthusiastically each year. In 2022, the theme was "Medical Physics for Sustainable Healthcare". National and regional bodies organized outreach activities worldwide (conferences, lectures, exhibitions) to explain medical physics to the public, and IOMP hosted a global webinar on 7 November where the 2022 IDMP awards were announced. For 2023, celebrating IOMP's 60th anniversary, the theme was "Standing on the Shoulders of Giants". IOMP ran a poster design contest (the winner's design became the official IDMP 2023 poster) and held a special anniversary webinar: "The 60th Anniversary of IOMP - Personal Memories and Thoughts on the Future of Medical Physics". This event both educated attendees and honored IOMP's history. In 2024, the theme was "Inspiring the Next Generation of Medical Physicists." A global poster contest illustrated this theme. IOMP organized a 24-hour worldwide online event on November 7, 2024 -"Around the World in 24 Hours: Celebrating Medical Physics" - in which regional and national organizations presented strategies for engaging young scientists. For 2025, the theme was announced as "Medical Physics and Emerging Technologies: Shaping the Next Decade." This theme emphasizes the role of medical physics in driving technological innovation (from AI to advanced imaging) and calls for investment in education and interdisciplinary collaboration.

The International Medical Physics Week (IMPW) is a week-long global celebration. In 2023, IMPW (24–28 April) featured daily webinars on diverse topics organized by IOMP and its regional organizations. The week was a "resounding success" with excellent attendance worldwide; expert speakers from academia and clinics delivered engaging talks, and active audience participation created a vibrant, collaborative atmosphere. In 2024, IMPW took place 22–26 April with a series of webinars hosted by each regional organization. These webinars were very well attended, providing a platform for sharing cutting-edge science and demonstrating the strength of international cooperation in facing medical physics challenges. For 2025, IOMP designated 5–9 May as IMPW. The theme focused entirely on Artificial Intelligence in Medical Physics. Each day was dedicated to an AI topic. These five webinars, featuring panel debates and expert presentations, highlighted how AI is reshaping clinical practice, research and training.

The International Conference on Medical Physics (ICMP) is IOMP's triennial congress. The 2023 ICMP was held 6–9 December in Mumbai, India. Over 1400 attendees from around the world registered, making it a vibrant forum for learning and networking. Looking ahead, the 28th ICMP is planned for 28–31 March 2027 in Abu Dhabi, UAE. Announcements on the ICMP 2027 themes and arrangements will be published in due course.

IOMP actively sponsors and endorses medical physics education activities. We reviewed requests from our members for support. In recent years IOMP has endorsed or sponsored many national/regional courses, workshops and conferences. These activities reflect IOMP's role in strengthening training programs worldwide.

#### 3

#### **President's Message**

#### John Damilakis, PhD

**President of IOMP** 

The IOMP Accreditation Board received multiple applications to accredit medical physics training events. For example, a site visit was completed for the ICTP-Medical Physics (ICTP-MMP) master's program, and the reaccreditation certificate was issued soon after. Three South Korean universities (Catholic University of Korea, KAIST, and Yonsei University) applied for program reaccreditation. All accredited programs are listed on the IOMP website. These initiatives demonstrate the Board's role in ensuring programs meet IOMP-defined quality benchmarks. By upholding rigorous standards, the Board enhances the global quality of medical physics education.

The IOMP School provides continuing education through webinars and on site courses. In 2022–2025, numerous live online webinars were organized. Webinar recordings can be found on IOMP's website. IOMP also started organizing workshops. A workshop on advanced radiotherapy techniques was organized in Malaysia in 2024. Moreover, the "Advances in CT Dosimetry and Machine Learning" workshop was held in 2025 in Kuwait. Organized jointly by the IOMP School and the Middle East Federation (MEFOMP), this workshop combined lectures and hands-on sessions to introduce AI to medical physicists. The curriculum covered CT dosimetry practices and AI techniques to enhance patient safety. This exemplifies the School's move beyond webinars to in-person training. Recognizing high demand, IOMP also plans a new workshop series on cuttingedge subjects. All IOMP School events are free, aligning with the School's mission to expand access to quality medical physics education worldwide.

International collaboration is a strategic priority for IOMP. During 2022–2025, IOMP signed or renewed agreements and co-sponsored activities with major bodies. IOMP continued close cooperation with WHO and the IAEA, both of which recognize IOMP as an official partner in health and safety initiatives. For instance, in 2024, IOMP participated in a WHO webinar on World Patient Safety Day emphasizing safe diagnoses; this underscores IOMP's role in the global safety dialogue. The IOMP is officially affiliated with the International Union of Pure and Applied Physics (IUPAP) through the Affiliated Commission AC4 (International Commission on Medical Physics). We signed a new Memorandum of Understanding with IRPA in 2023 and strengthened ties with the International Commission on Radiological Protection (ICRP) and the International Society of Radiology (ISR). IOMP co-authored (with WHO, IAEA, and IRPA) a consensus document "Enhancing Radiation Safety Culture in Health Care" published in 2024. Such collaborative works highlight IOMP's commitment to patient safety and radiation protection. Through these interactions, IOMP helps integrate medical physics perspectives into broader health and physics agendas.

#### **President's Message**

#### John Damilakis, PhD

**President of IOMP** 

IOMP continued to expand its publishing and communication network: Medical Physics International (MPI), Medical Physics World (eMPW) and the electronic Newsletter. MPI introduced a new feature to publish conference abstracts, making research from meetings more accessible globally. This innovation helps medical physicists share findings widely and supports IOMP's education mission. IOMP newsletters reach about 30,000 subscribers with short news updates. Social media channels and the IOMP website's News page also amplify these updates. Overall, these publications ensure wide dissemination of IOMP news and support member engagement. To increase the impact of IOMP's publications and further develop publishing portfolio, a task group was created to explore the possibility of launching a new journal. Communication with publishers and the review of the submitted proposals revealed that two publishers align with the IOMP strategy. This initiative is currently underway, with the new journal expected to launch in early 2026.

The elections for the new Executive Committee (2025-2028) were conducted in strict accordance with the procedures outlined in the IOMP Statutes and Bylaws and were completed in a timely manner. We are fortunate to have a team of highly skilled officers and committee chairs, and I am confident that IOMP will continue to advance its mission, serving both its members and the broader medical physics profession with excellence. I extend my sincere gratitude to the Nominating Committee for their work, as well as to all candidates.

The upcoming WC2025 is a major focus. Scheduled for September 29-October 4, 2025 in Adelaide, Australia, the IOMP (with IFMBE and IUPESM) will host the global World Congress. Preparations are underway for a diverse scientific program (keynotes, symposia, and workshops) on topics like AI in healthcare, precision medicine, and patient safety. The Congress will be the largest gathering of medical physicists this term, continuing IOMP's tradition of World Congresses every three years.

I extend my heartfelt thanks to all IOMP Executive Committee members for their dedicated service. In particular, I gratefully acknowledge Secretary General Magdalena Stoeva for her tireless efforts over this term. A highly experienced colleague, Prof. Eva Bezak, will take over as the next IOMP President during the World Congress in Adelaide and I look forward to her leadership. I wish the entire new IOMP team every success in advancing our profession worldwide and building on the progress of the last three years.



### IOMP Past President and IUPESM President's Report

#### Madan Rehani, PhD

Past President of IOMP and President of IUPESM



#### **MADAN REHANI**

President, IUPESM Past President, IOMP madan.rehani@gmail.com mrehani@mgh.havard.edu

"By turning outward and focusing on the grassroots, we have transformed IOMP into a truly global force — one that is more inclusive, more resilient, and more responsive to the evolving needs of medical physics professionals everywhere"

#### Empowering the Grassroots: Transforming IOMP into a Global Force

As I close my term in IOMP, I am so delighted to look back at what we built in IOMP in 2019 - a **newsletter of IOMP** and then a vibrant **training hub** in 2020 that attracts thousands across the globe. During my tenure as President of IOMP from 2018 to 2022, I recognized a crucial need: to transform IOMP from a largely leadership-focused entity into a vibrant, grassroots-driven organization. At that time, the IOMP mailing list was limited to about 250–300 individuals, primarily official leaders of national societies. While expertise and dedication of ExCom of IOMP along with leadership of national member societies (NMOs) formed the backbone of IOMP, it was clear that reaching directly to the broader community of medical physicists would energize the field and amplify IOMP's global role.

Typically, the model of international professional societies and organizations operating through structured hierarchies, engaging primarily with the heads of national societies ensures coordinated decision-making at a high level, but it can limit direct interactions with the broader professional community. As a result, valuable voices, especially those of early-career professionals, educators, and practicing medical physicists often remain on the periphery. I recall being at the booth of IOMP at conferences like Annual meeting of AAPM, where medical physicists would come and ask how they can become members of IOMP. The usual response I had was you are already a member of IOMP if you are member of a national medical physics society recognized by IOMP. But in my own self I would think how come members do not hear from the society they are members of. My vision for IOMP was to break down these barriers, ensuring that every medical physicist, regardless of career stage or geographic location, could feel connected to IOMP, hear periodically from IOMP and feel represented within the international community.

### IOMP Past President and IUPESM President's Report

#### Madan Rehani, PhD

Past President of IOMP and President of IUPESM

We initiated a deliberate strategy to broaden engagement beyond leadership circles, actively engaging with early-career professionals, educators, and clinical physicists across the globe. I had a mailing list of about 5,000 professionals that we created with our efforts in my previous job. We started sending IOMP Newsletter to those 5,000 which was growly slowly with subscription of Newsletter. The momentum came when we launched webinars and that too during pandemic when staying home was giving more time to professional colleagues to attend webinars that one could do without stepping out of home. Through direct outreach, personal connections, and innovative digital platforms, we redefined how IOMP interacted with its members not only NMOs. This grassroots approach allowed us to identify and empower local champions in medical physics, giving them opportunity to write in newsletter or be speakers in webinars, fostering a sense of ownership and shared purpose that transcended national boundaries.

A cornerstone of this transformation was the dramatic expansion of the **IOMP mailing list**, which now includes nearly **60,000 individuals**. Organizing joint webinars with other professional societies and organizations helped to bring in interdisciplinary audience, not just medical physicists. This exponential growth has thus been achieved through inclusive communication strategies, including leveraging social media, building direct contact networks with medical physicist groups, and encouraging grassroots leaders to share IOMP information through their networks. By creating a more direct and transparent link between IOMP and the broader medical community, we ensured that information, opportunities, and resources reached those who needed them most.

Parallel to this outreach effort, I recognized the need to provide substantive value to this rapidly expanding community. Working closely with colleagues, we developed an international accreditation system for webinars and continuing education initiatives that later became the **Continuous Education Accreditation Board (CEAB)**. This system, which ties high-quality educational content to recognized **continuing medical education (CME)** credits, has proven to be a powerful tool for professional development with extensive outreach through recorded presentations. It has also driven a surge in participation, with **IOMP webinars** now typically attracting more than 1,000 attendees from around the world.

This grassroots-driven growth has not only strengthened IOMP's organizational reach but also elevated its voice as a **leader in global medical physics**. By democratizing access to knowledge, fostering an inclusive and collaborative culture, and ensuring that every medical physicist feels connected to the international community, we have laid the foundation for IOMP to continue to thrive in the years ahead.

### IOMP Past President and IUPESM President's Report

#### Madan Rehani, PhD

Past President of IOMP and President of IUPESM

My experience at IOMP underscores a fundamental lesson: real progress comes from engaging and empowering the people who do the work, every day, in clinics, hospitals, and labs. By turning outward and focusing on the grassroots, we have transformed IOMP into a truly global force — one that is **more inclusive, more resilient, and more responsive** to the evolving needs of medical physics professionals everywhere.

When I close this chapter of **16 years** as a member of ExCom of IOMP in different capacities, I am grateful to so many of our colleagues who contributed immensely in this journey. Starting with those who brought me into IOMP through a kind email to be a candidate for Secretary General, those who voted for me for different positions in IOMP, helped me discharge my duties, and who became a source of support and encouragement to move forward through obstacles which are natural on any path. I hold them with great respect in my heart even though I may not be able to list them here.

I am sure future leaders of IOMP will have more ideas and utilize newer upcoming technologies including artificial intelligence to strengthen the organization and individuals. I am happy to end with a quote of Mahatam Gandhi that I have adored for many years. "In a gentle way, you can shake the world."



Memory~ Delivering IDMP Speech as the President of IOMP in 2018

#### **Treasurer's Report**

#### Ibrahim Duhaini, PhD

**Treasurer of IOMP** 



**IBRAHIM DUHAINI** 

Treasurer, IOMP duhaini@yahoo.com

"The period from
January to June 2025
was dedicated to
launching the fiscal
year with strong
governance, timely
budget implementation,
and foundational work
for long-term
sustainability."

#### A. Finance Subcommittee members:

- 1. Ibrahim Duhaini, Chair
- 2. Shigekazu Fukuda, Asia
- 3. Sanchez Palmer, Africa
- 4. Ana Maria Marques da Silva, Latin America *Ex-Officio*:
- 5. John Damilakis, President, Europe
- 6. Eva Bezak, Vice President, Australia

#### **B. Activities Performed (January-June 2025):**

#### 1. Financial Oversight and Expense Management:

- Continued review and approval of Executive Committee (ExCom) expenses, vendor payments, and operational costs, ensuring full compliance with IOMP's financial protocols.
- Regularly monitored the IOMP Company Account, reconciled bank statements, and resolved discrepancies efficiently to maintain fiscal accuracy.

#### 2. Membership Dues Collection:

- Sent out annual invoices and follow-up reminders to National Member Organizations (NMOs) for 2025 membership dues.
- Successfully processed a significant number of payments early in the year, increasing on-time compliance and engagement.

#### 3. Budgeting and Financial Planning:

- Finalized the 2025 annual budget and shared it with ExCom for review and implementation.
- Allocated funds to ongoing and upcoming IOMP initiatives, including educational webinars, IDMP planning, and regional outreach.
- Initiated mid-year financial tracking to assess expenditure trends against the approved budget.

#### **Treasurer's Report**

#### Ibrahim Duhaini, PhD

**Treasurer of IOMP** 

#### 4. Collaboration with Key Stakeholders:

- Worked closely with the IOMP Accountant, ExCom, and Administrative Office to ensure accurate fund allocation and reporting.
- o Supported financial planning for upcoming conferences and global events through coordination with regional organizations.

#### 5. Risk Mitigation and Audit Preparation:

- Maintained internal controls on fund disbursements and compliance reviews in anticipation of the 2025 mid-year audit process.
- Responded to auditor recommendations from the 2024 report by implementing policy updates and process improvements.

#### 6. Fundraising and Revenue Diversification:

- Initiated early discussions with industry partners regarding sponsorship opportunities for key IOMP events in 2025 and 2026.
- Contributed to the planning of diversified revenue initiatives, including e-learning modules and grant-funded projects.

#### C. Goals for Remainder of 2025:

#### 1. Strengthen Financial Oversight:

- Implement a streamlined digital financial tracking and reporting tool to enhance transparency and ExCom oversight.
- Introduce quarterly financial reporting for clearer budget-to-actual comparisons.

#### 2. Enhance Revenue Streams:

- Finalize and promote tiered sponsorship packages aligned with IOMP's 60th anniversary and other global initiatives.
- Continue developing philanthropic partnerships to support training programs, fellowships, and global access to educational content.

#### 3. Support Membership Growth:

- Launch a centralized digital payment portal to improve the efficiency of membership fee collection.
- Engage NMOs through targeted communication campaigns that highlight IOMP's services and value proposition.

#### **Treasurer's Report**

#### Ibrahim Duhaini, PhD

**Treasurer of IOMP** 

#### 4. Educational and Research Funding:

- Allocate additional funds to support high-impact webinars and encourage regional collaboration on research.
- Develop a grant program to provide small funding awards to early-career professionals, particularly from low- and middle-income countries.

#### 5. Ensure Financial Sustainability:

- Continue building IOMP's financial reserve to ensure long-term operational security.
- Evaluate and update IOMP's financial and operational policies in line with international nonprofit finance standards.

#### 6. Audit and Compliance:

- Prepare thoroughly for the 2025 year-end audit with accurate, transparent documentation.
- Establish a periodic internal review process to detect and correct discrepancies proactively.

#### 7. Long-Term Strategic Planning:

- Partner with IOMP leadership to align financial operations with the organization's long-term global strategy.
- Reassess multi-year funding models and strategic reserves in response to evolving global needs.

#### D. Conclusion:

The period from January to June 2025 was dedicated to launching the fiscal year with strong governance, timely budget implementation, and foundational work for long-term sustainability. With continued focus on transparency, stakeholder engagement, and innovative funding strategies, IOMP remains well-positioned to support the global advancement of medical physics through sound financial stewardship.



#### 16

#### **Scientific Committee's Report**

#### M Mahesh, PhD

**Chair of IOMP Scientific Committee** 



M. MAHESH

IOMP Science Committee
Chair
MMAHESH@jhmi.edu

"From April onwards, the program committee has been meeting every other week, initially finalizing the abstract scoring system, assigning, reviewing and finalizing the abstracts and is currently working on finalizing the entire program for the World Congress."

The IOMP Science Committee is responsible for disseminating current information to medical physicists; assisting in the planning and conduct of regional meetings on medical physics; contributing to and reviewing scientific documents prepared by organizations such as the ICRP, the WHO, and the IAEA, and participating in various forums for the generation of scientific information in medical physics.

The first part of the year 2025 went very fast. The science committee was active in terms of reviewing and endorsing requests on programs hosted by member societies. In addition, the science committee reviewed documents/reports from external bodies that requested endorsement from the IOMP.

As the science committee chair, I was invited to speak during the opening ceremony of the Middle East Conference on Medical Physics on the topic 'Emerging Trends in Medical Physics' and was invited to give plenary lecture on 'Pros and Cons of Cumulative Radiation Dose in Patients' organized by the Middle East Federation of Organizations of Medical Physics (MEFOMP) in Kuwait City, Kuwait. Also at the conference, IOMP President and I organized, 'Advancement in CT Dosimetry and Machine Learning Workshop' which included didactic lectures and practical sessions on Al. Also, at the conference I was invited to participate in a podcast hosted by Dr. Sheaka Alobaidli discussing the Role of Professional Societies and medical physics (https://www.youtube.com/watch? v=qn2YU97Qy28&t=691s).

During the IMPW week (May 5-9, 2025), Science Committee chair was invited to participate in a debate, namely, "Al vs Human Expertise in X-ray Dosimetry". The webinar was moderated by the IOMP President Prof John Damilakis and included IOMP past president Prof Madan Rehani as the other panel member. The webinar was attended by more than 1800 across the globe (https://www.youtube.com/watch?v=PeYhSI99sdc).

#### **Scientific Committee's Report**

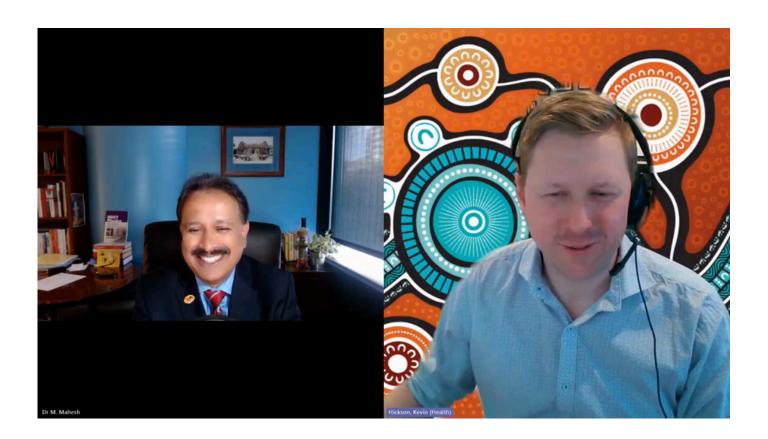
#### M Mahesh, PhD

**Chair of IOMP Scientific Committee** 

As the science committee chair, I was invited to serve as the International Scientific Chair and serve on the program scientific committee, for the upcoming World Congress on Medical Physics & Biomedical Engineering in Adelaide, Australia from Sept 29 – Oct 4, 2025 (<a href="https://wc2025.org">https://wc2025.org</a>). From April onwards, the program committee has been meeting every other week, initially finalizing the abstract scoring system, assigning, reviewing and finalizing the abstracts and is currently working on finalizing the entire program for the World Congress. In addition, I am also working with IOMP Vice-President Eva Bezak on organizing the IOMP school during the World Congress. As of now we are planning to have eight sessions on different fundamental topics, and each session will have two invited lecturers with the goal of providing certificate to anyone who attends more than 6 sessions. More details will be available soon.

At the request of WC2025 organizers, I gave a short interview why a medical physicist should attend the world congress and the link is at <a href="https://www.youtube.com/watch?v=1yGsyrd5rly">https://www.youtube.com/watch?v=1yGsyrd5rly</a>.

The chair is immensely grateful to the members of the Science Committee for their responsiveness and thoughtful reviews of the applications and documents received by the committee.



### **Education and Training Committee's Report**

#### Arun Chougule, PhD, FIOMP, FAMS

**Chair of IOMP Education and Training Committee** 



**ARUN CHOUGULE** 

IOMP Education & Training
Committee Chair
arunchougule11@gmail.com

"To date, the IOMP AB
has provided CPD
accreditation to 28
educational/training
programs, and
accredited 7 medical
physics education
programs and 5 medical
physics residency
programs globally."

The Education and Training Committee (ETC) of IOMP is entrusted with the development and promotion of education and training programs in medical physics. Its include facilitating responsibilities internationally sponsored training initiatives, reviewing applications from national and regional organizations for IOMP endorsement and/or funding, harmonizing and standardizing medical physics education globally, and supporting accreditation of educational, residency, and CPD programs. The members of the ETC and Accreditation Board (AB) have worked diligently to fulfill these objectives and continue to make significant contributions to the advancement of medical physics education and training across IOMP member countries. The 2022-2025 term has particularly fruitful, marked by substantial progress. Notably, the IOMP accreditation program is now well recognized and has become a valuable source of revenue for the organization.

- 1. The ETC reviewed five applications submitted by conference organizers or scientific activities requesting **IOMP endorsement and/or funding**. A comprehensive report was submitted to the IOMP ExCom.
- 2. The IOMP AB has updated and reformatted the **accreditation manuals and application forms**. Templates for documenting site visits for accreditation of Master's in Medical Physics programs and residency programs have been developed and are now available on the IOMP website: <a href="https://www.iomp.org/accreditation/">https://www.iomp.org/accreditation/</a>.
- 3. A follow-up site visit was conducted by the IOMP AB to Warith International Cancer Institute (WICI), Karbala, Iraq, to assess the implementation of corrective actions following the initial accreditation visit of the Radiation Oncology Medical Physics Residency Program, jointly organized by the Iraq Medical Physics Society and WICI. The program has since been granted a three-year accreditation, and IOMP has received USD 3,000 in accreditation fees.

### **Education and Training Committee's Report**

#### Arun Chougule, PhD

**Chair of IOMP Education and Training Committee** 

- 4. The IOMP AB has undertaken the evaluation of a postgraduate medical physics education program submitted by the **Balseiro Institute**, **National University of Cuyo**, **Bariloche**, **Argentina**. The evaluation has been completed by the IOMP AB Accreditation Team (AT), and a site visit is currently being planned. The IOMP accreditation fee of USD 3,000 has been credited to IOMP.
- 5. The IOMP AB has also evaluated the application for accreditation of a residency program in diagnostic and interventional radiology submitted by the **Instituto Nacional de Cancerología**, **Mexico City, Mexico**. The evaluation has been completed by the IOMP AB AT, and a site visit is being planned. The accreditation fee of USD 3,000 has been credited to IOMP.
- 6. The IOMP AB has received an application from **AAPM-FAMPO** (FAMPO region) for CPD accreditation of the Global Medical Physics Continuing Education Course, an educational training program supported by AAPM and endorsed by IOMP. The application is currently under evaluation. IOMP will receive an accreditation fee of USD 300.
- 7. The IOMP AB has received and evaluated an application from MEFOMP for CPD accreditation of the **MEFOMP 2025 Conference and Workshop**. It has been recommended to award 20 CPD points for the conference and 16 CPD points for the workshop. IOMP has received an accreditation fee of USD 300.
- 8. The IOMP AB has received an application for CPD accreditation of the **ALFIM 2025 Pre-Congress Course titled "Update on Reference and Relative Dosimetry with Application in E2E Testing"**, to be held at Radioterapia Los Altos, Carretera Salcajá, Zona O, Las Rosas, Salcajá, Quetzaltenango, Guatemala, on 7–8 March 2025. IOMP has received an accreditation fee of USD 300.
- 9. The IOMP AB has accredited the **Hybrid Teaching Course on Particle Therapy 2025** submitted by the German Cancer Research Center (DKFZ). IOMP has received an accreditation fee of USD 150.
- 10. The IOMP AB is currently providing guidance and support for the establishment of a **residency program in Cali, Colombia**, and is assisting in the formalization and improvement of a residency program in **Karbala, Iraq**.
- 11. The ETC has encouraged medical physicists in Colombia to participate in the **IMPCB** certification examinations, with over 50 candidates currently undertaking the process.
- 12. The ETC has also provided guidance and support for the establishment of a **National Certification Board in Colombia**, which is expected to be launched soon.

### **Education and Training Committee's Report**

#### Arun Chougule, PhD

**Chair of IOMP Education and Training Committee** 

- 13. I am currently in communication with another university in **Bogotá**, **Colombia** regarding IOMP accreditation of their Medical Physics Education (MPE) program, and I am hopeful for a positive outcome soon. Discussions are also ongoing with several other programs.
- 14. The ETC has actively participated in various IOMP activities, including support for **IMPW 2025** and **IOMP-organized webinars**.
- 15. A proposal on medical physics education submitted for the **IOMP-AAPM joint session at AAPM 2025** has been accepted, and I will be participating in the session.
- 16. The ETC is actively involved in the preparation of the scientific program for the upcoming **World Congress 2025 (WC2025)** to be held in Adelaide, Australia.
- 17. The ETC has reviewed and provided input on the updated IAEA draft document titled "IAEA Safety Report on Education and Training for Building and Maintaining Competence in Radiation Protection in Medicine." The final version has now been completed and will be published by the IAEA soon.
- 18. To date, the IOMP AB has provided CPD accreditation to **28 educational/training programs**, and accredited **7 medical physics education programs** and **5 medical physics residency programs** globally.

Comprehensive details regarding the activities of the Accreditation Board—including relevant manuals, application forms, and a list of accredited education programs, CPD activities, and residency programs—are available at: <a href="https://www.iomp.org/accreditation/">https://www.iomp.org/accreditation/</a>

I encourage all member organizations to take full advantage of the IOMP accreditation framework to have their medical physics education programs, residency programs, and CPD activities (including conferences, workshops, and training programs) officially recognized and awarded CME/CPD points.



#### **Awards & Honours Committee's Report**

#### Kwan Hoong Ng, PhD

**Chair of IOMP Awards & Honours Committee** 



**KWAN HOONG NG** 

IOMP Awards & Honours Committee Chair

kwanhoong.ng@gmail.com

"The Committee will initiate a review of the current award guidelines and scoring rubrics to ensure relevance, fairness, and alignment with IOMP's vision."

The committee is composed of:

Name	Position	Country	email
Kwan Hoong Ng (Chair)	Emeritus Professor	Malaysia	ngkh@ummc. edu.my
Erato Stylianou Markidou (Vice Chair)	Medical Physics Expert – Radiotherapy	Cyprus	eratostylmark @gmail.com
Jeannie Wong (Secretary)	Associate Professor	Malaysia	jeannie.wong @ummc.edu. my
Meshari Al Nuaimi	Radiation Physicist	Kuwait	Mesh.Alnuaim i@gmail.com
Wayne Beckham	Provincial Medical Physics Leader & Adjunct Professor	Canada	WBeckham@ bccancer.bc.c a
Cynthia McCollough	Professor of Medical Physics & BME	USA	McCollough.C ynthia@mayo .edu
C Barbara M'Ule	Radiation Therapy Physicist	Zambia	chandamule@ gmail.com
Jose Luis Rodriguez	Medical Physicist	Chile	fmjlrp@yahoo .com

#### **Awards & Honours Committee's Report**

#### Kwan Hoong Ng, PhD

**Chair of IOMP Awards & Honours Committee** 

The IOMP Awards and Honours Committee is entrusted with the important task of recognizing excellence and outstanding contributions in the field of medical physics.

Since February 2025, the committee has issued a **global call for nominations for the various IOMP awards**, including: The **Marie Sklodowska-Curie Award**, The **Harold Johns Medal**, The **John Mallard Award**, **IUPAP Early Career Scientist Prize in Medical Physics**, **IUPESM Awards of Merit (IOMP)**, and **IOMP Fellowships** and **Honorary Memberships**.

By May 2025, the Committee completed the selection process and submitted its recommendations to the IOMP ExCom for consideration and decision.

The Committee will initiate a review of the current award guidelines and scoring rubrics to ensure relevance, fairness, and alignment with IOMP's vision.

I thank all the Committee members: Jeannie Hsiu Ding Wong (secretary), Wayne Beckham, Jose Luis Rodriguez, Cynthia McCollough, Erato Stylianou Markidour, Chanda Barbara M'ule and Meshari Al Nuaimi for their diligent work, integrity and collaborative spirit. I also acknowledge the support from the IOMP Secretariat and Executive Committee in facilitating the functioning of our activities.

The Committee remains committed to upholding the standards of excellence and recognition that our profession deserves.





#### **Professional Relation Committee's Report**

#### Simone K Renha, PhD

Chair of IOMP Professional Relation Committee



#### SIMONE K RENHA

**IOMP** Professional Relation Committee Chair

"It is important to highlight that many of these countries already possess advanced technologies in diagnostic radiology, nuclear medicine, and radiotherapy, which involvement of qualified medical physicists."

#### **IOMP PRC MEMBERS (2022-25):**



Simone K Renha (Brazil)



Ishmael Parsai (USA)



Stephanie Parker (USA)



Cecilia Haddad (Brazil)



Huda AlNaemi (Qatar)



Jacob Van Dvk (Canada)



Nathaly Barbosa (Colombia)



Taofeeq Ige (Nigeria)



Sotiris Economides (Greece)



Tomas Kron (Australia)



Michelle Wells (USA)



Vijitha Ramanathan Alexandre Bacelar (Sri Lanka)



(Brazil)



Freddy Haryanto (Indonesia)



Weigang Hu (China)

In early 2025, the Professional Relations Committee (PRC) began implementing a strategic plan aimed at increasing the number of medical physics associations and National Member Organizations (NMOs). The current focus is on Africa, Latin America, and the Caribbean.

develop a comprehensive understanding of the challenges in these regions, the committee initiated an assessment of key issues, including the number of medical physicists, the status of education and training, and the availability of supporting infrastructure. In Latin America and the Caribbean, data from a survey conducted under the IAEA project 6091 - "Enhancing Capacity Building of Medical Physicists to Improve Quality and Safety in **Medical Practices**" - revealed that the number of medical physicists remains limited, with the majority working primarily in radiotherapy.

Education and training were identified as major areas of concern. Many countries in the region lack structured and supervised clinical training programs. In countries where

#### **Professional Relation Committee's Report**

#### Simone K Renha, PhD

Chair of IOMP Professional Relation Committee

such programs exist, they are often of short and inconsistent duration—typically one year or less, and in some cases as brief as six months. These programs tend to focus mainly on radiotherapy, with limited coverage of other essential areas of medical physics. Clearly, these programs do not meet international recommendations, but they must be seen as transitional steps toward fully compliant training. IOMP will need to develop procedures to support and guide this transition. One of the most pronounced issues identified in the study is the lack of prioritization in critical fields such as nuclear medicine and diagnostic radiology.

It is important to highlight that many of these countries already possess advanced technologies in diagnostic radiology, nuclear medicine, and radiotherapy, which necessitate the involvement of qualified medical physicists. However, the number of health professionals, particularly radiologists, remains insufficient to meet the growing demand.

The PRC is working closely with **ALFIM** to address these challenges. During a recent meeting, the ALFIM President reported ongoing efforts to update information on national medical physics associations, including key details such as association websites and the names of current presidents, vice presidents, secretaries, and treasurers.

A recent survey across 17 ALFIM member countries revealed that five have well-established medical physics associations. Two countries reported the presence of multiple associations, while another two operate a medical physics commission within a broader professional body, such as a college of physicists or a college of engineers. Additionally, several countries face barriers due to sociopolitical instability, which hinder the establishment and sustainability of professional associations.

As a next step, the PRC is preparing a **comprehensive survey** to assess the membership size and professional distribution within the current medical physics associations, as well as to gather other relevant data. Alongside this effort, strategies are being developed to support and stabilize existing associations, and to assist emerging associations in newly engaged countries. The PRC remains fully committed to these initiatives by offering contact networks, assistance in data collection, and all necessary guidance to strengthen medical physics in the region.

We are also preparing a similar survey for the **African region**, with support from the FAMPO President. While we anticipate identifying similar challenges, the PRC remains optimistic about the potential for meaningful progress in both regions.

The PRC recognizes the importance of establishing strong partnerships with regional IOMP organizations and other global entities aligned with our mission, such as **Medical Physics for World Benefit (MPWB)** and the **Global Representatives Subcommittee (GRSC) of the AAPM**. Formal collaboration has already been proposed, and we hope to finalize these partnerships soon.

#### **Professional Relation Committee's Report**

#### Simone K Renha, PhD

**Chair of IOMP Professional Relation Committee** 

Education and training remain a top priority. The PRC is actively involved in establishing new clinical training programs, in cooperation with the **IAEA** and **regional partners**. This initiative was originally launched under IAEA Project 6091, and we are confident that these collaborative efforts will continue even after the conclusion of the project.

In parallel, the PRC is preparing a series of webinars to engage and inform the global medical physics community. Our most recent webinar, held on May 30th, featured an outstanding session titled "Inspiring and Energizing the Next Generations of Medical Physicists – Why Medicine (Still) Needs Physics." Dr. Ehsan Samei delivered a holistic and inspiring presentation on the enduring role of physics in medicine. He highlighted the evolving frontiers of the medical physics profession—spanning science, clinical practice, education, and professional development—and showcased groundbreaking research and innovations. The event was a resounding success, drawing over 900 medical physicists from around the world.

Encouraged by this response, the PRC is already planning a series of additional webinars to ensure medical physicists remain updated on the latest scientific advancements and professional developments.

We are excited to share these plans with you. However, we also welcome your suggestions, insights, and concerns. This communication channel is open to everyone, as your active participation is vital to the continued advancement of medical physics worldwide.



### Medical Physics World Board (MPWB) Committee's Report

#### Chai Hong Yeong, PhD

Chair of IOMP Medical Physics World Board (MPWB)



**CHAI HONG YEONG** 

IOMP MPWB Committee
Chair

yeongchaihong@gmail.com

"From January to
June 2025, the IOMP
website recorded over
671,000 page views
from approximately
61,000 unique visitors
across more than 120
countries"

The Medical Physics World Board (MPWB) committee plays a vital role in advancing the medical physics profession globally. Our primary terms of reference include:

- Contributing to the Advancement of Medical Physics: By producing the Medical Physics World Bulletin (eMPW), we disseminate timely updates on IOMP activities and other relevant global developments in medical physics.
- Promoting Communication and Information Sharing: We ensure access to essential information across all regions, especially targeting developing countries.
- **Gathering and Sharing Information:** We collaborate with IOMP Officers, Committee Chairs, Congress Presidents, Regional Meeting Organizers, and representatives to source and share valuable content.
- Enhancing Communication: The MPWB works with IOMP leadership to improve internal communication and develop proposals that advance the objectives of Medical Physics World).

#### **Committee Activities (January - June 2025)**

Over the period from January to June 2025, the committee successfully released three issues of the **IOMP Newsletter**:

- IOMP Newsletter, Vol. 7, No. 3, June 2025
- IOMP Newsletter, Vol. 7, No. 2, April 2025
- IOMP Newsletter, Vol. 7, No. 1, February 2025

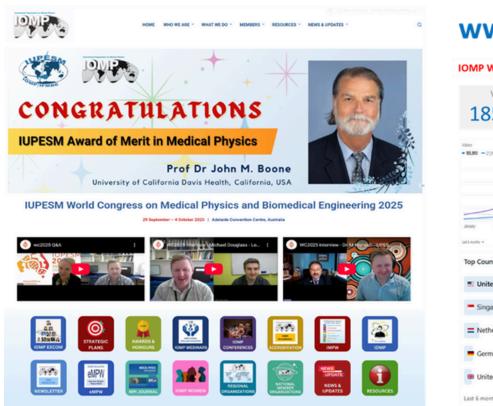
Each issue delivered rich content on global IOMP initiatives, clinical guidelines, educational resources, and featured articles from member countries. As of June 2025, our readership has grown to over **57,000** subscribers, reflecting strong engagement from the international community.

To join our mailing list, visit: https://www.iomp.org

### Medical Physics World Board (MPWB) Committee's Report

#### Chai Hong Yeong, PhD

Chair of IOMP Medical Physics World Board (MPWB)





#### **Website and Web Traffic**

The IOMP website (<u>www.iomp.org</u>) continues to serve as an essential platform for information and engagement. From January to June 2025, the site recorded over **671,000 page views** from approximately **61,000 unique visitors** across more than **120 countries**. Key content includes event announcements, committee reports, publications, webinars, and educational opportunities.

#### Social Media and Outreach

Our social media presence continues to grow, enabling wider outreach and engagement. We actively maintain the following platforms:

- LinkedIn: linkedin.com/in/iomp-international-organization-for-medical-physics-a402b824b
- YouTube: https://www.youtube.com/@IOMPOfficial
- Twitter/X: https://twitter.com/IOMP\_Official
- Facebook: https://www.facebook.com/InternationalOrganizationforMedicalPhysics
- Instagram: https://www.instagram.com/iomp.official/



#### Medical Physics World Board (MPWB) **Committee's Report**

#### Chai Hong Yeong, PhD

Chair of IOMP Medical Physics World Board (MPWB)

#### **Closing Remarks**

The MPWB Committee remains committed to advancing communication, engagement, and knowledge sharing within the global medical physics community. We thank all contributors, authors, and supporters for their valuable input and collaboration. We welcome your continued support as we work together to promote excellence and inclusivity in medical physics worldwide.

For suggestions or contributions to future issues of eMPW, please contact us through the IOMP website. We look forward to continuing this momentum in the second half of 2025.

#### **IOMP MPWB COMMITTEE MEMBERS** (2022-25):

- 1. Chai Hong Yeong, Malaysia Chair
- 2. Rosana Pirchio, Argentina Secretary
- 3. Afua Yorke, United States
- 4. Cheryl Lian, Singapore
- 5. Habib Ashoor, Bahrain
- 6. Ismail Zergoug, Algeria
- 7. Joerg Lehmann, Australia
- 8. Milton Estuardo Ixquiac Cabrera, Guatemala
- 9. Niki Fitousi, Belgium
- 10. Safayet Zaman, Bangladesh

#### **IOMP WEB SUB-COMMITTEE MEMBERS** (2022-25):

- 1. Chai Hong Yeong, Malaysia Chair
- 2. Cinthia Kotzian Pereira Benavides, Brazil
- 3. Eleftherios Tzanis, Greece
- 4. Leyla Moghaddasi, Australia
- 5. Li Kuo Tan, Malaysia
- 6. Mark Pokoo-Aikins, Ghana
- 7. Nabil Igeilan, Qatar
- 8. Santiago Girola, Argentina
- 9. Yiwen Xu, Canada

#### www.iomp.org











#### **Publications Committee's Report**

#### Francis Hasford, PhD

**Chair of IOMP Publications Committee** 



#### FRANCIS HASFORD

IOMP Publications Committee
Chair

haspee@yahoo.co.uk

"The Publications
Committee continues to
make good progress
towards its mandates of
disseminating knowledge
and documentation to
enhance the
Organizations visibility
and impact as well as
contribute to medical
physics professional
growth."

#### **IOMP PUBLICATIONS COMMITTEE 2022-2025:**

- Francis Hasford, Ghana Chair
- Hassan Kharita, Syria Vice Chair
- Marina Sala, USA Secretary
- Lorenzo Brualla, Germany
- Mohamed Metwaly, UK
- · Michael Lee, Hong Kong
- Gustavo Daniel Sanchez, Argentina
- Hafiz Mohd Zin, Malaysia
- Bamidele Awojoyogbe, Nigeria
- Magdalena Stoeva, Bulgaria Ex-Officio:
- John Damilakis (IOMP President)
- Eva Bezak (IOMP Vice President)
- Slavik Tabakov (MPI History Edition)
- Perry Sprawls (MPI History Edition)
- Sameer Tipnis (Medical Physics International)
- Chai Hong Yeong (e-Medical Physics World)
- Iuliana Toma-Dasu (Physica Medica)
- Kang-Ping Lin (Health and Technology)
- Jamie Trapp (Physical and Engineering Sciences in Medicine)
- Jong Min Park (Progress in Medical Physics)
- Ambika Pradhan (Journal of Medical Physics)
- Ishmael Parsai (e-Medical Physics World)
- John M. Boone (Medical Physics)
- Katia Parodi (Physics in Medicine and Biology)
- Michael David Mills (Journal of Applied Clinical Medical Physics)
- Simone Renha (Revista Latinoamericana de Física Médica)
- Nobuyuki Kanematsu (Radiological Physics and Technology)

#### Introduction

Among others, the Publications Committee (PC) of IOMP is mandated to improve medical physics worldwide by providing or supporting appropriate publications or knowledge generated as a result of research, education and professional programs, making nominations of editorial board members and other such appointments as necessary to the IOMP ExCom, etc. The PC undertook three main activities within the period January–June 2025. Below are highlights:

#### **Publication Committee's Report**

#### Francis Hasford, PhD

**Chair of IOMP Publication Committee** 

#### 1. Distribution of Books to LMICs

The Publications Committee (PC) has continued with its facilitation of the distribution of print copy books from CRC Press/Taylor & Francis to medical physicists and students in low- and middle-income countries (LMICs). The IOMP, through the PC, remains committed to capacity building and education by making resources such as the Book Series on Medical Physics and Biomedical Engineering accessible to medical physicists in resource-scarce regions in the world.

#### 2. Establishment of a New Peer-Reviewed Journal

The Publications Committee has submitted its report and recommendations on the establishment of a new peer-reviewed journal (MPI-Experiences), following its engagement with potential publishers. The PC contacted several publishers, for which four showed interest in the project. The PC took a transparent approach by engaging each of the interested publishers on key aspects such as:

- Royalty on revenue of the journal distribution and adverts
- Subscription module system set up
- Subscription form content creation and design
- Subscriber information and help webpage
- Advertisement in the Journal
- Journal legacy transfer process
- Contract termination

#### 3. Nomination of Editorial Board Members for Radiological Physics and Technology

The Editor-in-Chief for the Radiological Physics and Technology Journal, an IOMP affiliated journal, has made request to the PC for nomination of international editorial board members to the journal. The appointment term is 3 years, and the nominees are expected to handle a few new submissions per year and to promote the journal in their regions. The PC is currently working towards nominating some candidates and seeking the approval of the committee and ExCom.

#### 4. Publication of the June 2025 Issue of Medical Physics International (MPI)

The June 2025 issue of Medical Physics International (Vol. 13, No. 1) is currently under preparation and planned to be released by mid-July. This edition has many high-profile articles that make interesting read. Patrons are encouraged to look out for the upcoming issue.

#### Conclusion

The Publications Committee of IOMP continues to make good progress towards its mandates of disseminating knowledge and documentation to enhance the Organizations visibility and impact as well as contribute to medical physics professional growth.

#### **History Sub-Committee's Report**

#### Slavik Tabakov, PhD

**Chair of IOMP History Sub-Committee, IOMP Past President** 



SLAVIK TABAKOV

IOMP History Sub-Committee
Chair

slavik.tabakov@emerald2.co.uk

"The new MPI History Edition (June
2025) – the 11<sup>th</sup> MPIHE is now online:
<a href="http://www.mpijourn">http://www.mpijourn</a>
al.org/pdf/2025-HE11/MPI-2025-HE11.pdf"

History Sub-Committee (HSC) has been created as part of the IOMP Publication Committee. The HSC does not take part in the ExCom (it reports to PC). Its Charges include: To recognize the IOMP members who have made major contribution(s) to the IOMP; To acknowledge the contributions of EXCOM Committees and other activities, etc – activities aiming to keep the history of IOMP.

HSC was established in 2008 and started its activities in the following year with a number of interviews of active IOMP members. Currently HSC is preparing a sequence of video interviews. The History Sub-Committee also updates regularly the IOMP History Tables.

The current members of the HSC are:

- Slavik Tabakov, (UK)
- · Azam Niroomand-Rad, USA
- · Geoffrey Ibbott, USA
- KY Cheung, Hong Kong
- Perry Sprawls, USA
- John Damilakis, Greece (Ex-Officio)
- Eva Bezak, Australia (Ex-Officio)
- Francis Hasford, Ghana (Ex-Officio)

HSC continues to work on the long-term project History of Medical Physics (History of Medical Physics – A Brief Project Description, Journal Medical Physics International, 2017, v.5, p 68-70). The project publishes many of its articles in the specially formed sub-Journal of MPI Journal: "Medical Physics International – History Edition" (MPI-HE) with Founding Co-editors S Tabakov, P Sprawls and G Ibbott.

The **new MPI - History Edition (June 2025) – the 11<sup>th</sup> MPI-HE** is now online: <a href="http://www.mpijournal.org/pdf/2025-HE-11/MPI-2025-HE-11.pdf">http://www.mpijournal.org/pdf/2025-HE-11/MPI-2025-HE-11.pdf</a>

The issue includes three large papers related to the history of Neutron Therapy.

#### **History Sub-Committee's Report**

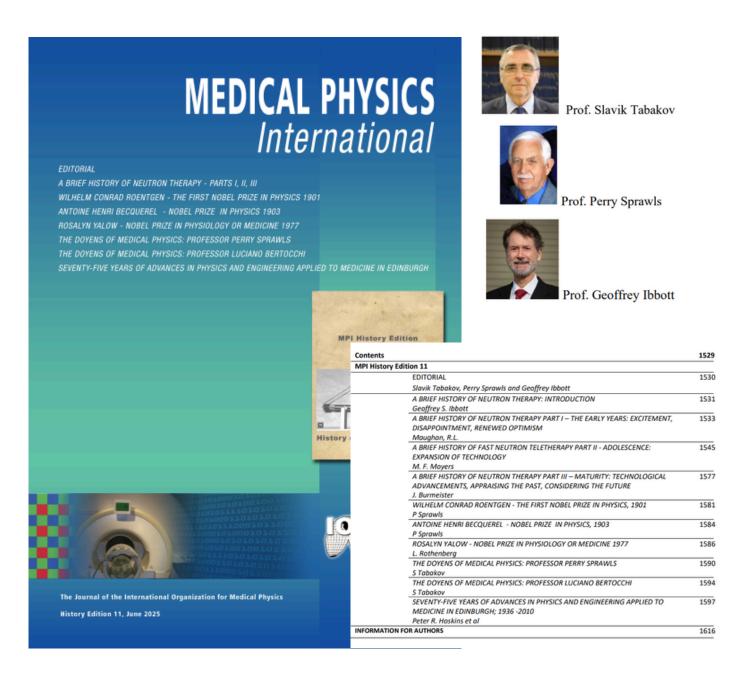
#### Slavik Tabakov, PhD

Chair of IOMP History Sub-Committee, IOMP Past President

The new issue also initiated papers related to the **Nobel Awardees** related to medical physics. The articles comment on **Wilhelm Roentgen**, **Henry Becquerel and Rosalyn Yalow**.

Also, a new sequel of papers is related to the Doyens of medical physics. This time MPI-HE presents Perry Sprawls and Luciano Bertocchi, as well a paper about the history of one of the large UK Departments related to medical physics.

MPI-HE welcomes history contributions from all IOMP member-societies



#### **IOMP Women Sub-Committee's Report**

#### Loredana Marcu, PhD

**Chair of IOMP Women Sub-Committee** 



LOREDANA MARCU

IOMP Women Sub-Committee
Chair

loredana@marcunet.com

"The IOMP Women
Subcommittee is
actively engaged in a
range of initiatives
aimed at attracting
more women to the
field of medical
physics and
supporting their
ongoing professional
development."

#### **IOMP Women Subcommittee 2022-2025 members:**

- Loredana Marcu, Romania Chair
- Huda Al-Naemi, Qatar
- Zakiya Al-Rahbi, Oman
- Hanan Aldousari, Kuwait
- Hasin Anupama Azhari, Bangladesh
- Laurentcia Arlany, Singapore
- Eva Bezak, Australia
- Kathleen Hintenlang, USA
- Simone Kodlulovich, Brazil
- Anchali Krisanachinda, Thailand
- Savanna Nyarko, Ghana
- Nadia Octave, Canada
- Elina Samara, Switzerland
- Magdalena Stoeva, Bulgaria
- Rajni Verma, India
- Rafidah Zainon, Malaysia
- Iyobosa B. Uwadiae, Nigeria

The objective of the IOMP Women Subcommittee is aligned with the key IOMP mission, namely, to advance medical physics practice worldwide by disseminating scientific and technical information, fostering the educational and professional development of medical physicists, and promoting the highest quality medical services for patients.

In light of the above, the IOMP Women Subcommittee is actively engaged in a range of initiatives aimed at attracting more women to the field of medical physics and supporting their ongoing professional development.

#### To fulfil the aforementioned goals, the IOMP Women subcommittee has set a number of action plans:

- To develop, implement and coordinate activities and projects related to the role of females in the scientific and professional advancement of medical physics.
- To promote the role of women in medical physics and encourage female medical physicists to advance in the profession.

#### **IOMP Women Sub-Committee's Report**

#### Loredana Marcu, PhD

**Chair of IOMP Women Sub-Committee** 

- To support the contribution of female medical physicists at major scientific conferences and congresses.
- To disseminate the work undertaken by the subcommittee through scientific publications and conference presentations.
- To provide regular status/progress updates to the IOMP on all tasks and projects related to the IOMP Women subcommittee.

#### IOMP Women subcommittee main activities / events during 2025:

During 2025 the IOMP Women Subcommittee was involved in a number of tasks/ activities:

- (1) This year's **International Women's Day (8th March 2025)**, was marked by a joint IOMP-W & AHC webinar to promote Women in Medical Physics. The three speakers represented three different continents: Europe, North America and Asia, respectively. The topics covered various aspects pertaining to women in medical physics, and were presented by the following invited speakers:
- **Jennifer Pursley** (Mayo Clinic Department of Radiation Oncology) talking on the "Status of women medical physicists in the US and the AAPM"
- Chai Hong Yeong (School of Medicine, Faculty of Health and Medical Sciences, Taylor's University, Malaysia) talking on the topic of "Empowering Women's Leadership in Medical Physics: Challenges and Opportunities in Asia"
- Oleksandra Ivashchenko (University Medical Center Groningen, The Netherlands) delivering a talk on "Leading with Purpose: Navigating Challenges and Embracing Opportunities as a Young-Career Medical Physicist in Europe".
- (2) Collaboration with **IUPESM WiMPBME group:** a new paper was written reporting the quantitative data resulting from the international survey developed by the group with the title: A gender breakdown of unexpected benefits generated by work from home in STEM fields a qualitative analysis of the WiMPBME Task Group survey.

The paper has been published in the journal Physica Medica 130:104897 and can be found at: <a href="https://www.sciencedirect.com/science/article/pii/S1120179725000079">https://www.sciencedirect.com/science/article/pii/S1120179725000079</a>.

(3) IOMP-W has been active in organizing special scientific sessions within the forthcoming **World Congress in Medical Physics and Biomedical Engineering** (Adelaide, 29 Sept - 4 Oct, 2025). A number of sessions have been proposed by the track chairs within the scientific track titled "Women, Diversity and Inclusivity in Medical Physics and Biomedical Engineering". Next to dedicated sessions, there will be also a number of special symposia covering various topics, from publishing issues to diversity and sustainability through science diplomacy.

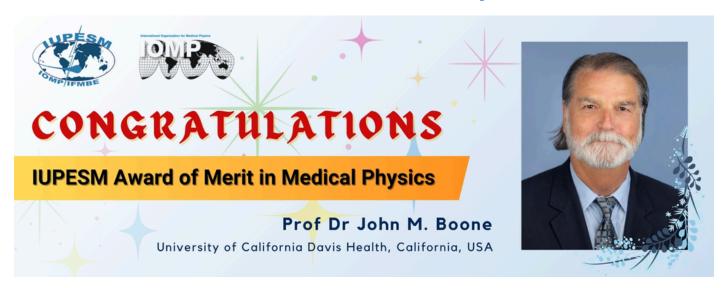


# CELEBRATING

## \*AWARDS & HONOURS



#### **IUPESM Award of Merit in Medical Physics 2025**



John M. Boone received his undergraduate degree in Biophysics from the University of California at Berkeley and went on to earn the Ph.D. at University of California Irvine in Medical Physics in 1985. He is now Distinguished Professor of Radiology at the University of California, Davis, and holds an appointment with the same title in Biomedical Engineering.

**CLINICAL PHYSICS:** He was boarded certified by the American Board of Radiology in 1988 in Diagnostic Medical Physics and in his first two faculty appointments, he developed the first diagnostic quality assurance programs at the University of Missouri and Thomas Jefferson University. At UC Davis, with colleagues, he has participated in the clinical physics program in diagnostic radiology for over 30 years.

RESEARCH: His research has focused on a range of topics in medical physics: He has published extensively on Monte Carlo based radiation dosimetry in breast imaging and computed tomography, quantitative metrics for image quality assessment, and mathematical models for x-ray spectra with applications from mammography to orthovoltage therapy. His team designed, built and tested four dedicated breast CT scanners, with 467 women imaged in various clinical trials, showing that breast CT has excellent potential for screening and diagnostic imaging. Dr. Boone led projects in the American Association of Physicists in Medicine (AAPM) that developed the Size Specific Dose Estimate (SSDE) metric. Cited 1690 times, this metric has been adopted by the International Electrotechnical Commission, and soon will be deployed on all new CT scanners worldwide. He is currently working with colleagues on developing multiple thermionic x-ray source arrays for breast tomosynthesis and whole body computed tomography. Boone has published >260 peer reviewed papers, has 21 issued patents, and has been awarded over \$25 million in external research grants. His H-index is 78 and Google Scholar reports over 28,000 citations of his work. He is ranked by ScholarGPS to be in the top 0.05% of medical physicists worldwide and across generations.

**EDUCATOR:** As an educator Dr. Boone has mentored 9 master's and 12 Ph.D. students mostly through BME at UC Davis. He is co-author of a 4-Edition textbook widely used for teaching radiologists and medical physicists (Essential Physics of Medical Imaging). He has presented >200 invited lectures worldwide on six continents.

**SERVICE:** Dr. Boone served 8 years on two NIH study sections. He served 6 years on the Research committee of the Radiological Society of North America and was 3rd vice president of the RSNA in 2016. He was invited speaker at 5 IUPESM World Congress meetings and organized the imaging track at the Munich meeting (2009) with Willi Kalender. He currently sits on the publication committee of the IOMP. He chaired the AAPM Science Council for 4 terms and served as AAPM president (2015) and chair of the board (2016). He was awarded the AAPM's William D. Coolidge Gold Medal in 2019 and was awarded the Butterfly Award by the Image Gently organization that same year. He is currently Editor-in-Chief of the scientific journal MEDICAL PHYSICS.

### **EFOMP Medal in Medical Physics Slavik Tabakov** Past President of the IOMP (2)

#### Slavik Tabakov, Past President of the IOMP (2015-2018)

#### Honorary EFOMP Medal Awarded to Prof. Slavik Tabakov

During the Alpe-Adria European Conference on Medical Physics held at the ICTP in Trieste, Italy (22–24 May 2025), Dr. Efi Koutsouveli, President of the European Federation of Organisations for Medical Physics (EFOMP), presented the Honorary EFOMP Medal to Prof. Slavik Tabakov, FIPEM, FIOMP, FIUPESM. This prestigious award recognises individuals who have made outstanding and internationally acknowledged contributions to the advancement of medical physics.

Prof. Tabakov has served as Co-Director of the ICTP College on Medical Physics since 2002, guiding students from 82 developing countries through this unique programme. He is also the academic advisor to the MSc in Advanced Medical Physics jointly offered by the ICTP and the University of Trieste.



(Source: EFOMP Facebook)

Born in Plovdiv, Bulgaria, Prof. Tabakov graduated from the Technical University of Sofia and began his academic career at the Medical University of Plovdiv. From 1991 until his retirement in 2023, he worked at King's College Hospital and King's College London. As the Founding Director of the MSc in Clinical Sciences (Medical Physics and Clinical Engineering) at King's College London, he expanded the programme into one of the largest of its kind globally.

Between 2015 and 2018, Prof. Tabakov served as President of the International Organisation for Medical Physics (IOMP). He played a pivotal role in establishing the IOMP journal Medical Physics International (MPI) and was instrumental in formalising the legal status of both IOMP and IUPESM. Alongside Prof. Perry Sprawls, he serves as a Founding Editor-in-Chief of the MPI journal. Prof. Tabakov has contributed to the development of 18 MSc programmes worldwide and has been a tireless advocate for medical physics education in low- and middle-income countries.

At the Alpe-Adria Conference, Prof. Tabakov also presented the second update of the Encyclopaedia of Medical Physics, including a multilingual scientific dictionary in 31 languages. This monumental project—developed in 2005 and still led by him—now involves over 400 experts from 36 countries. The platform, <a href="www.emitel2.eu">www.emitel2.eu</a>, is a global educational resource for medical physics. He expressed his heartfelt thanks to the many colleagues involved and emphasised the ongoing need for more textbooks and teaching materials to support the global development of the profession and healthcare.

An interview with Prof. Tabakov was featured in the EFOMP Newsletter, Winter 2024 edition: EFOMP Newsletter Winter 2024



# IDMP 2025 Poster Design

The International Organization for Medical Physics (IOMP) invites submissions for a poster design to commemorate the International Day of Medical Physics (IDMP) 2025.

This year's theme is:

#### "Medical Physics and Emerging Technologies: Shaping the Next Decade"

We are looking for a creative, visually compelling design that reflects this forward-looking theme and highlights the critical role of medical physics in advancing healthcare through innovation.

#### **Submission Guidelines:**

Format: One-page poster Language: English

Theme: Must clearly represent "Medical Physics and Emerging

Technologies: Shaping the Next Decade"

Limit: One submission per person

Submission Deadline: Monday, June 2, 2025

Send your design to: <u>duhaini@yahoo.com</u> (Dr. Ibrahim Duhaini, IDMP

Coordinator)

To view previous IDMP posters for inspiration, please visit: <a href="https://www.iomp.org/idmp/">https://www.iomp.org/idmp/</a>

The winning design will be selected by the IOMP Executive Committee through a voting process. The selected designer will be officially recognized and acknowledged by IOMP.

We look forward to your contributions in making IDMP 2025 a globally celebrated event.

eMPW 40

## IOMP Accreditation of Radiation Oncology Medical Physics program at Warith International Cancer Institute [WICI] Karbala, Iraq

#### Prof Arun Chougule, PhD, FIOMP, FAMS

Chair ETC IOMP and Chairman IOMP Accreditation Board

#### The Importance of Training and Accreditation for Medical Physicists in Radiation Oncology

The critical role of properly trained medical physicists in radiation oncology has been globally recognized, particularly due to the complexity and potential risks associated with the use of ionizing radiation in cancer treatment. To address the global need for standardization and quality in medical physics education and clinical training, two leading international organizations—the International Atomic Energy Agency (IAEA) and the International Organization for Medical Physics (IOMP)—have developed comprehensive guidelines for defining, training, and certifying Clinically Qualified Medical Physicists (CQMPs).

The IOMP plays a pivotal role in promoting high standards in the education, training, and professional practice of medical physicists worldwide, aligning closely with the IAEA's recommendations. According to IOMP, a CQMP is a medical physicist who has:

- Completed formal academic education in medical physics;
- Undergone structured clinical training under supervision, ideally through a recognized full-time residency program;
- Obtained certification or licensure from a professional body or national authority.

To uphold global standards, IOMP actively supports the development of national education and training infrastructures and the accreditation of residency programs. The IOMP accreditation process ensures that medical physics programs meet internationally recognized benchmarks, producing competent, clinically qualified medical physicists.

#### **Purpose of IOMP Accreditation**

The IOMP accreditation initiative aims to:

- Promote global harmonization of medical physics education and clinical training;
- Ensure consistency and quality across academic and residency programs;
- Support national and regional authorities in the recognition of CQMPs;
- Encourage institutions to adopt best practices in teaching, clinical training, and professional development;
- Enhance patient safety and treatment outcomes by ensuring the clinical competency of practicing medical physicists.

eMPW

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**Chair ETC IOMP and Chairman IOMP Accreditation Board** 

#### Radiation Oncology Medical Physics Residency Program at Warith International Cancer Institute (WICI), Iraq

The Radiation Oncology Medical Physics Residency Program is a structured postgraduate training initiative aimed at preparing individuals with a solid academic foundation in medical physics for clinical practice in radiation oncology. This program bridges the gap between theoretical knowledge and hands-on clinical experience, ensuring residents acquire the skills and competencies necessary to function independently as qualified medical physicists. It serves as a cornerstone in upholding high standards in the clinical application of radiation for cancer treatment, while cultivating a new generation of competent, ethical, and forward-thinking professionals.

Recognizing the need for such a structured program in Iraq to produce Clinically Qualified Medical Physicists (CQMPs), the Warith International Cancer Institute (WICI), in collaboration with the Iraq Medical Physics Society (IMPS), successfully planned and implemented the country's first medical physics residency program. WICI possesses the necessary equipment, infrastructure, faculty, and —most importantly—the enthusiasm and commitment to sustain such a program. The residency follows the IOMP guidelines and the IAEA TCS-37 framework.

WICI is one of Iraq's largest comprehensive oncology centers and offers integrated cancer care supported by the Holy Hussain Shrine under the Fayd Al-Imam Al-Hussein Medical University initiative. The center currently treats approximately 250 radiotherapy patients daily across three linear accelerators, with two additional units under installation. WICI is equipped with state-of-theart technology, including two TrueBeam linear accelerators, a CT simulator, an MRI scanner, an HDR afterloader, a PET-CT scanner, and an on-site cyclotron for F-18 FDG production. A significant expansion is underway, with the construction of four additional radiotherapy bunkers.

The institution employs eleven full-time medical physicists and launched the first officially recognized residency program in the country in February 2022, through a joint agreement with IMPS. With its advanced infrastructure and growing capacity, WICI is poised to serve as a national and regional hub for medical physics training.

#### Program Objective of the Radiation Oncology Medical Physics Residency Program at WICI

The objective of the clinical training programme for medical physicists specializing in radiation oncology is to produce independent practitioners who are lifelong learners, capable of working unsupervised at a safe and highly professional standard.

eMPW 42

## IOMP Accreditation of Radiation Oncology Medical Physics program at Warith International Cancer Institute [WICI] Karbala, Iraq

#### Prof Arun Chougule, PhD, FIOMP, FAMS

Chair ETC IOMP and Chairman IOMP Accreditation Board

This objective is supported through:

- Provision of a comprehensive clinical training guide
- Development of an implementation strategy to enable effective training and form the foundation for national or regional standards in education and clinical training
- Support for national bodies and departments in delivering the program through a pilot initiative
- · Promotion of continuous quality improvement
- Strengthening national capacity to sustain the clinical training programme beyond initial implementation

The Radiation Oncology Medical Physics Residency Program at Warith International Cancer Institute (WICI), Karbala, Iraq, was provisionally accredited by IOMP for one year effective 1 November 2023, subject to the fulfillment of recommendations outlined by the Accreditation Team (AT) during their site visit on 14–15 November 2023. The AT had issued a 12-point action plan for compliance. A follow-up assessment was conducted by Prof. Arun Chougule, Lead Assessor and Chairman of the Accreditation Board (AB), on 23 April 2025.

The applicant institution has successfully implemented all recommended actions and demonstrated strong commitment to running the residency programme in alignment with IOMP/IAEA standards. With well-established facilities and a team of 11 qualified medical physicists, the IOMP AB is satisfied with the progress made. A full accreditation for three years, effective 1 May 2025, is therefore recommended.

#### **Benefits of IOMP Accreditation:**

- · National and international recognition of quality and credibility
- Facilitated mobility of medical physicists across borders and healthcare systems
- Enhanced ability to attract trainees and professionals by demonstrating excellence
- Encouragement of continuous improvement in training and education
- Support for the development of national certification and licensing bodies

#### PW 43

## IOMP Accreditation of Radiation Oncology Medical Physics program at Warith International Cancer Institute [WICI] Karbala, Iraq

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Chair ETC IOMP and Chairman IOMP Accreditation Board

#### Conclusion

The guidelines established by the IAEA and IOMP affirm that a structured, full-time clinical residency program is essential—not optional—for producing competent, safe, and clinically effective medical physicists. These programs ensure that Clinically Qualified Medical Physicists (CQMPs) are fully prepared to meet the complexities of modern radiation oncology while upholding the highest standards of patient care and safety.

As cancer treatment technologies evolve, the need for standardized clinical training becomes increasingly urgent. The IOMP Accreditation Program is a vital initiative in raising global standards in medical physics education and clinical training. It promotes harmonization, quality assurance, and accountability—contributing significantly to the development of ethical and competent professionals. Accreditation by IOMP is not only a mark of distinction but also a critical step toward achieving safe and high-quality patient care in radiotherapy and diagnostic imaging.











Medical Physicists Team at WICI

Discusions with course Director and resident



### Conference Report

### 23<sup>rd</sup> SEACOMP & 16<sup>th</sup> TMPS

#### Anchali Krisanachinda, Ph.D., FIOMP, FIUPESM

President, Thai Medical Physicist Society, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

**SEAFOMP** has been organizing a series of congresses to promote scientific exchange and mutual support. The Southeast Asian Congress of Medical Physics (SEACOMP) has been held in the following locations: 1. Kuala Lumpur, Malaysia (2001), 2. Bangkok, Thailand (2003), 3. Kuala Lumpur, Malaysia (2004), 4. Jakarta, Indonesia (2006), 5. Manila, Philippines (2007), 6. Ho Chi Minh City, Vietnam (2008), 7. Chiang Mai, Thailand (2009), 8. Bandung, Indonesia (2010), 9. Bohol, Philippines (2011), 10. Chiang Mai, Thailand (2012), 11. Singapore (2013), 12. Ho Chi Minh City, Vietnam (2014), 13. Yogyakarta, Indonesia (2015), 14. Bangkok, Thailand (2016), 15. Iloilo, Philippines (2017), 16. Kuala Lumpur, Malaysia (2018), 17. Bali, Indonesia (2019), 18. Phuket, Thailand (2020), 19. Bangkok, Thailand (2021), 20. Singapore (2022), 21. Lombok, Indonesia (2023), 22. Penang, Malaysia (2024), and 23. Chiang Rai, Thailand (2025).

The 23rd SEACOMP, in conjunction with the 16th TMPS Annual Meeting, was hosted by SEAFOMP, TMPS, and Mae Fah Luang University at the Heritage Chiang Rai Hotel and Exhibition from January 23 to 26, 2025, in Chiang Rai, Thailand. The congress theme, created by the IOMP-IDMP 2024, is "Inspiring the Next Generation of Medical Physicists."

The Pre-Congress program on January 23, 2025, included the following topics: the IAEA Regional Project on Integrating AI-Driven Approaches in Postgraduate Medical Physics Education and Training, a CT Workshop on Performance Evaluation and Emerging Research Trends, ACOMP-ASEAN Diagnostic Reference Levels, Women in Medical Physics, Automation in Medical Physics, and a Point of Care Ultrasound (POCUS) Workshop. A Presidential Dinner, sponsored by United Imaging, was held from 6:00 to 9:00 p.m. in Room Heritage 1, attended by over 100 participants, including invited speakers, guests, and members of the Congress organizing committee.

**The Opening Ceremony** on January 24, 2025, at 8:30 a.m. addressed by Professor Dr. Vanchai Sirichana, Chairman of the Mae Fah Luang University Council; Professor Chai Hong Yeong, SEAFOMP President; and Dr. Anchali Krisanachinda, TMPS President, as shown in Figure 1, featuring a traditional Thai drum ceremony celebrating success.

#### 20th John Cameron Memorial Lecture

The Memorial Lecture, the SEAFOMP tradition of honoring the memory of Professor John Cameron, an eminent medical physicist at the University of Wisconsin, USA, took place after the opening of the Congress.

The 20<sup>th</sup> John Cameron Memorial Lecture was titled "Smart Ideas Are Not Enough: The Role of Technological Innovations in Physics Applications for Medicine," presented by Prof. Martin Grossmann, Ph.D., from the Paul Scherrer Institute (PSI) in Switzerland. The lecture emphasized the critical role of technology in the application of physics to medicine. Implementing a promising idea often requires time and the right technological advancements; for instance, magnets may lack sufficient strength, electronics may not operate quickly enough and computers may not possess the necessary processing power. The successful realization of an idea depends on the availability of appropriate technology.

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President, Thai Medical Physicist Society, King Chulalongkorn Memorial Hospital, Bangkok, Thailand



Figure 1: Congress opening ceremony

#### Anchali Krisanachinda, Ph.D., FIOMP, FIUPESM

President, Thai Medical Physicist Society, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

One notable advancement in radiation therapy is the use of particle beams. Shortly after the discovery of radioactivity, sources were utilized to treat cancer patients. However, a significant breakthrough occurred in the 1950s when particle accelerators began to replace traditional sources. In a landmark paper published in 1946, Robert Wilson proposed the therapeutic application of proton beams (https://doi.org/10.1148/47.5.487). Proton therapy gained significant traction in the 1980s, as the technology developed for nuclear and particle physics matured. Particle physics laboratories played a crucial role in pioneering this innovative treatment modality, leveraging their expertise in accelerator technology, beamline design, fast magnets, and radiation detection. Equally important was the adaptation of software tools originally created for highenergy physics; these tools were essential for the commissioning and debugging of the first treatment units.

Medical imaging is another field where advancements in radiation detection technology have significantly enhanced the capabilities of clinical systems. A prominent example is positron emission tomography (PET) imaging, which relies on established nuclear techniques such as scintillators and coincidence electronics. It has benefited from improvements in brighter and faster scintillators, silicon photomultipliers, enhanced electronics, and increased computing power. These advancements have resulted in considerably shorter acquisition times, providing a direct benefit to patients.

It must be acknowledged that while technology plays a crucial role, the individuals utilizing it may be even more significant. Historical examples demonstrate that progress occurs when specialists from diverse backgrounds—such as medical doctors, physicists, and engineers—collaborate on a foundation of mutual respect. Given the interdisciplinary nature of Medical Physics, this is our message to inspire the next generation.

#### **Congress Program: Pradub Atthakorn Memorial Lecture**

Associate Professor Pradub Atthakorn is the first medical physicist in the Division of Radiotherapy, Department of Radiology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok, Thailand. She has trained numerous young medical physicists in the principles of radiotherapy, radiation, and clinical dosimetry. The field of medical physics in Thailand would not have been established without her pioneering contributions to radiotherapy at Siriraj Hospital.

Prof. Allan Wilkinson, a senior medical physicist at the Cleveland Clinic Foundation in Cleveland, Ohio, USA, delivered the Pradub Atthakorn Memorial Lecture titled Your High Dose Rate Brachytherapy Quality Assurance Program: Back to the Basics.

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Figure 2: Left: Prof. Martin Grossmann and Prof. Kwan Hoong Ng, Right: Prof. Allan Wilkinson and Prof. Krisanachinda

**The scientific program** consists of two ASEAN Colleges of Medical Physics (ACOMP). 2 Symposia, 2 Workshops, 46 Lectures, and 3 Vendor Talks: **Total of 55 Events** 

**Proffered Paper** – Radiotherapy: 43, Diagnostic Radiology: 18, Nuclear Medicine: 9, Total: 70. (www.seacomp2025.com/download/Proceedings.pdf).

**SEAFOMP Travel Awards:** Three SEAFOMP Members Andrea Alipio (The Philippines) - USD 150 Akbar Azzi (Indonesia) - USD 150 Wuri Handayani (Thailand) - USD 50

Anchali Krisanachinda - SEAFOMP Quiz: Three Awards

First Winner - Thailand (US\$150)
Second Place Winner - The Philippines (US\$ 100)
Third Place Winner - Malaysia (US\$ 50)

**Best Oral Presentation** – Eleven awards were allocated for Radiotherapy (6), Diagnostic Radiology (3), and Nuclear Medicine (2), as shown in Table 1. A group photo of the recipients of the Best Oral Presentation awards is displayed in Figure 3.

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Field/ Rank	First	Second	Third
Radiotherapy Non Al	Penpisuth Suksawang MedPark Hospital Thailand	Cruzet Rhodesa University of San Carlos, Cebu, The Philippines	May Thu Htet (Myanmar) Chulalongkorn University Thailand
Radiotherapy Al	Nipon Saiyo (Thailand) (Kanazawa University, Japan)	Kiattiyot Chantarak Chulabhorn Royal Academy, Thailand	Thanakorn Sukha Ramathibodi Hospital, Thailand
Diagnostic Radiology	Yanika Swaengdee Chulalongkorn University, Thailand	Thanakrit Chanchayanon Prince of Songkhla	Andrea Alipio University of Santo Tomas, Manila,
Nuclear Medicine	Khajonsak Tantiwetchayanon (Kanazawa University,	Rangsee Songprakhon Surin Hospital, Thailand	



Figure 3: Awards for Best Oral Presentation for Graduate Students and young Medical Physicists

#### 23rd SEACOMP, 16th TMPS Congress Participants

The Congress attracted 475 participants, including 50 local and international invited speakers, and the commercial exhibitors from 22 countries, as in Table 2 and the pie charts in Figure 4.

#### Anchali Krisanachinda, Ph.D., FIOMP, FIUPESM

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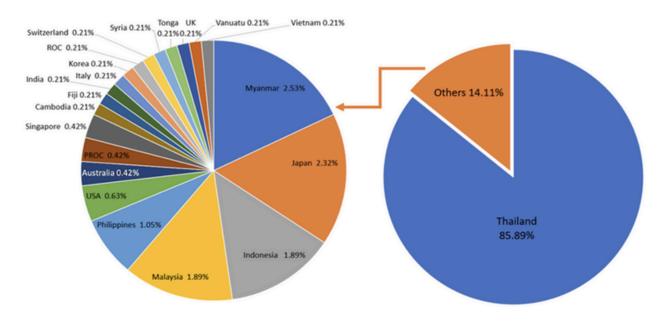


Figure 4: Pie chart - Country distribution of participants

Table 2: SEACOMP 2025 country distribution

Country	Number	Percent
1. Australia	2	0.42
2. Cambodia	1	0.21
3. Fiji	1	0.21
4. India	1	0.21
5. Indonesia	9	1.89
6. Italy	1	0.21
7. Japan	11	2.31
8. Korea	1	0.21
9. Malaysia	9	1.89
10. Myanmar	12	2.52
11. The Philippines	5	1.05
12. PROC	2	0.42
13. ROC	1	0.21
14. Singapore	2	0.42
15. Switzerland	1	0.21
16. Syria	1	0.21
17. Thailand	408	85.89
18. Tonga	1	0.21
19. UK	1	0.21
20. USA	3	0.63
21. Vanuatu	1	0.21
22. Vietnam	1	0.21
Total	475	100.00

#### Anchali Krisanachinda, Ph.D., FIOMP, FIUPESM

President, Thai Medical Physicist Society, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

#### **Commercial Exhibitions:**

It is really a privilege to have 16 industry partners and one non-government organization (NGO), Thailand Institution of Nuclear Technology (TINT), for the commercial exhibition.

Table 3: List of commercial exhibitions

1.	Guangzhou Raydose	2.	TINT
3.	Brainlab	4.	Transmedic
5.	PT Healthcare	6.	Abex
7.	Saint Med.	8.	Elekta
9.	Dispomed.	10.	PBI
11.	Siemens	12.	Med-I
13.	Business Alignment	14.	Nagase
15.	Sukosol	16.	Bizline

#### **Lunch Symposium:**

- 1. GE: Imaging in Radiotherapy
- 2. Saint Med: On-line Adaptive RT based on CT-linac

#### Vendor talk:

- 1. Siemens: Optimizing Radiotherapy Outcomes with PET/CT and Artificial Intelligence
- 2. Business Alignment: RapidArc Dynamic A Turning Point of Arc Therapy
- 3. Med-I: Unlocking the Potential of Astatine-211 as a Promising Alternative to Actinium-225 in Theranostics

**Gala Dinner** was partially supported by Med-I. The dinner was set up with local Lanna cuisine and Thai food stalls. During the dinner, there were several announcements of Awards, Certifications:

#### **SEAFOMP Life Time Achievement Awards:**

Professor Dr. Kwan Hoong Ng Professor Dr. Anchali Krisanachinda Professor Agnette Paralta Professor Dr. Djarwani Soeharso Soejoko Mr. Toh-Jui Wong

#### Anchali Krisanachinda, Ph.D., FIOMP, FIUPESM

President, Thai Medical Physicist Society, King Chulalongkorn Memorial Hospital, Bangkok, Thailand

#### Certification of Clinically Qualified Medical Physicists: DRMP

King Chulalongkorn Memorial Hospital: 1. Ms. Apawadee Chakrapong

2. Ms. Kornkamol Prajamchuea

3. Ms. Sakultala Ruenjit

4. Ms. Sa-angtip Netprasert

5. Ms. Thanatchaya Lowong

Phya Thai 2 Hospital: 6. Ms. Kannikar Kanyakham

#### Certification of Clinically Qualified Medical Physicists: NMMP

Yangon General Hospital: 1. Ms. Thinn Thinn Myint

Maha Vajiralongkorn, Thanyaburi Hospital 2. Ms. Pattaravarin Rattanamongkonkul

Surin Hospital 3. Mr. Rangsee Songprakhon

#### Celebration 25th SEAFOMP Anniversary

It was the surprised event of 25th SEAFOMP Anniversary with birthday cake cut by SEAFOMP Founders as shown in Figure 5.

The closing ceremony was held on 26<sup>th</sup> January 2025, during which 11 best oral presentation awards were presented. (Table 1). The SEAFOMP Travel Awards, Anchali Krisanachinda SEAFOMP Quiz were also presented.

#### **24<sup>th</sup> SEACOMP** will be held at **The Philippines** in 2026.





Figure 5: (Left) Founders of SEAFOMP with 25th Anniversary cake (Right) SEACOMP Committee and Invited Speakers



### Conference Report

**ALFIM 2025** 

Patricia Mora, Erick Hernández and Adlin López

#### **Conquering the Future of Medical Physics**



From March 9 to 12, 2025, the historic city of Antigua Guatemala hosted a landmark event for the Latin American regional medical physics community: the **10th Latin American Congress of Medical Physics**, jointly organized with the 2nd Ibero-Latin American and Caribbean Congress of Medical Physics and the 4th International Symposium on Radiation Protection in Medicine. The event took place in the inspiring setting of Hotel Museo Casa Santo Domingo, complemented by activities held at the Hospital de Obras Sociales del Hermano Pedro.

Over 300 participants from across Latin America and the Caribbean came together to share knowledge, scientific advances, and clinical experience. The Congress showcased the richness and diversity of the region's scientific production and underscored ALFIM's commitment to growth, education, and collaboration.

#### Patricia Mora, Erick Hernández and Adlin López

#### A Stellar Opening with a Cosmic Perspective

The Congress was inaugurated by ALFIM President MSc. Patricia Mora and incoming President MSc. Erick Hernández. The opening plenary lecture was delivered by Dr. Ramona Gaza (NASA Johnson Space Center), who presented "From LEO to Moon to Mars: Radiation Protection for Astronauts". Her presentation highlighted the challenges and innovations in space radiation protection, bridging space exploration and medical physics.

In her welcome remarks, Patricia Mora emphasized the strategic importance of the event, the strength of regional collaboration, and ALFIM's achievements during the 2022–2025 term—including its educational programs, international outreach, and the celebrated "This Is How We Do It" competition. The vibrant city of Antigua Guatemala, rich in history and culture, provided the perfect backdrop for scientific and human connection.

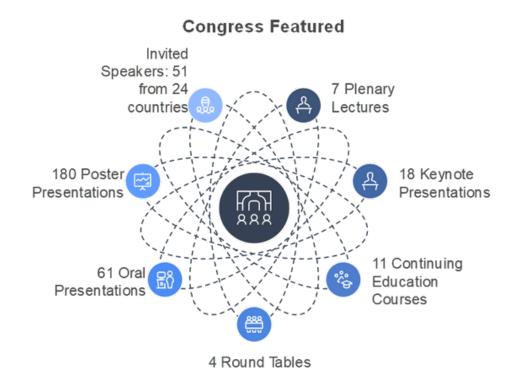


#### Robust Scientific Program and Regional Leadership

The Congress featured: 7 plenary lectures, 18 keynote presentations, 11 continuing education courses, 4 round tables, 61 oral presentations, 180 Poster presentations and the articipation from 51 invited speakers from 24 countries. Four major thematic areas were covered: Radiotherapy, Radiology and Interventional Procedures, Nuclear Medicine and Radiotheranostics and Radiation Protection and Innovations.

The Program Committee was co-chaired by Dr. Cari Borrás and Dr. Ana Maria Marques da Silva, with international experts ensuring a high scientific standard. The Congress received 265 abstracts, with significant contributions from Latin America, reflecting the region's active research environment.

#### Patricia Mora, Erick Hernández and Adlin López



#### **High-Impact Pre-Congress Courses**

Three outstanding pre-congress activities enriched the educational offering:

- 1. Update on Reference and Relative Dosimetry with Application in End-to-End Testing
  Organized with PTW, this course gathered 24 participants from eight countries and awarded 34
  CPD credits from IOMP. The hands-on component allowed participants to apply concepts in
  practice and present their results during the Congress.
- **2.** Automated and Remote Quality Control in Radiography and Mammography using ATIA This workshop introduced the IAEA's ATIA system, training over 15 professionals from 11 countries in low-resource quality control methods, software installation, and image quality evaluation. 9 CPD credits were awarded by IOMP.
- 3. Patient-Specific Quality Assurance (PSQA) in SRS/SBRT

  Held at the National Cancer Institute (INCAN), this course highlighted CMOS detector technology and End-to-End testing for high-precision radiotherapy. Sponsored by IBA, it served as a platform for professionals from seven countries to exchange experiences and improve QA strategies.

#### Patricia Mora, Erick Hernández and Adlin López

#### **Strengthening Regional Ties in Radiation Protection**

The 4th International Symposium on Radiation Protection in Medicine (IV SIPRAME), co-organized with AGPR and the LAPRAM Network, gathered over 50 professionals to assess the state of radiation protection in the region. Key contributions came from the IAEA, PAHO, FORO, and ALFIM. Strategic agreements were signed between:

- ALFIM and the Federation of Radiation Protection of Latin America and the Caribbean (FRALC)
- AGPR and the Peruvian Society of Radiological Protection

These efforts emphasized academic exchange, training, and policy advocacy in radiation protection.







PTW course

Remote QC

IBA Course

#### Networking, Recognition, and a Strong Assembly

The Welcome Reception at the National Museum of Antigua Guatemala (MUNAG) and the Closing Cocktail at Casa Santo Domingo fostered camaraderie among colleagues and created spaces for informal exchange.





The Welcome Reception at the National Museum of Antigua Guatemala (MUNAG)

#### Patricia Mora, Erick Hernández and Adlin López

The ALFIM General Assembly, held on March 11, marked a key milestone:

- Election of the 2025–2028 Executive Council:
  - o President: Erick Hernández, Guatemala
  - o Vice President: Diego Mauricio Orejuela, Colombia
  - o Secretary: Julieta Robledo, Argentina
- El Salvador was approved as ALFIM's 17th member society.
- Outgoing President Patricia Mora presented a comprehensive report highlighting advances in membership, identity, communication, and education.

The Municipality of Antigua Guatemala also honored **Patricia Mora, Erick Hernández,** and **Cari Borrás** with the title of "Distinguished Visitors".



ALFIM's General Asembly

#### Patricia Mora, Erick Hernández and Adlin López



Distinguished Visitors of Antigua: Erick Hernández, Patricia Mora and Cari Borrás

#### Voices from Around the World

ALFIM 2025 welcomed delegations from major societies, including:

- AAPM, whose members participated in sessions and roundtables.
- Spanish Society of Medical Physics (SEFM), whose 10-member delegation gave lectures, participated in symposia, and contributed to the General Assembly. SEFM announced a forthcoming AI course for ALFIM members and reaffirmed their commitment to ongoing collaboration.

#### The Role of Sponsors and Industry Partners

The Congress featured an integrated exhibition area where sponsors engaged directly with attendees. Sponsors such as Varian, IBA, Elekta, PTW, Colé SA, CONPRO, SIFEMCARE, RADFORMATION, TEMA Sinergie, PROX PRAD, SUNNUCLEAR, LAP, MIM Software, RaySafe, BrainLab and others expressed enthusiasm for the level of scientific interaction and acknowledged ALFIM's role as a strategic partner in advancing medical technology and safety.

Sponsors also participated in Coffee Breaks, creating informal but meaningful spaces for networking and collaboration.

#### Patricia Mora, Erick Hernández and Adlin López

#### A Congress to Remember—and to Build Upon

ALFIM 2025 concluded with a deep sense of satisfaction and collective achievement. The organizers highlighted the outstanding quality of the scientific content, the diversity of participation, and the strong foundations built for future cooperation. Awards were presented for the best oral and poster presentations, recognizing scientific excellence.

Under the motto "Together We Are Stronger", ALFIM 2025 left a lasting impression—not only for its scientific and academic impact but also for the shared spirit of unity, friendship, and purpose that resonated across borders.

As the region continues to strengthen its position in global medical physics, ALFIM looks forward to building on this momentum—with eyes firmly set on the future.



Medical physicists from all Latin American and the Caribbean





### Conference Report

JRC 2025 & 129<sup>th</sup> JSMP

### Tomonori ISOBE<sup>1</sup>, Yutaro MORI<sup>2</sup>, Chie KUROKAWA<sup>3</sup>, Shigekazu FUKUDA<sup>4</sup>, Naoki HAYASHI<sup>5</sup>

- 1.President of the  $129^{th}$  scientific meeting of JSMP
- 2.Executive committee chair of the 129<sup>th</sup> scientific meeting of JSMP
- 3. Program committee chair of the 129<sup>th</sup> scientific meeting of JSMP
- 4.President of JSMP
- 5.International affairs committee chair of JSMP

The 129th Annual Meeting of the Japan Society of Medical Physics (JSMP 129) was held on-site from Thursday, April 10 to Sunday, April 13, 2025, followed by an online session from Monday, April 14 to Thursday, May 15. The meeting was chaired by Professor Tomonori Isobe, Chair of the Master's Program in Medical Sciences, University of Tsukuba (Fig.1).

Together with the 84th Annual Meeting of the Japan Radiological Society, the 81st Annual Meeting of the Japanese Society of Radiological Technology, and the International Technical Exhibition of Medical Imaging 2025 (ITEM 2025), which was organized by the Japan Industries Association of Radiological Systems (JIRA), JSMP 129 formed part of the Japan Radiology Congress 2025 (JRC 2025), a comprehensive academic and technical event in the field of radiology. The number of participants was 925 for JSMP 129 alone, while JRC 2025 as a whole attracted 13,968 participants.



Fig. 1. JSMP 129 Congress President (second from right) and a panel featuring the JSMP mascot character "MedP". The IOMP logo is displayed at the bottom of the left panel.

### Tomonori ISOBE<sup>1</sup>, Yutaro MORI<sup>2</sup>, Chie KUROKAWA<sup>3</sup>, Shigekazu FUKUDA<sup>4</sup>, Naoki HAYASHI<sup>5</sup>

The program for general scientific presentations commenced on Thursday, April 10, the opening day of the convention (Fig. 2). A total of 78 abstracts were presented in the general sessions as part of the JSMP program. In addition, 128 research presentations were delivered at the 4th International Conference on Radiological Physics and Technology (ICRPT), which was held jointly with the Japanese Society of Radiological Technology (JSRT).



Fig. 2. Scenes from the general research presentation sessions.

The opening ceremony was held on the second day of the conference and featured a performance by the Maritime Self-Defense Force as well as a karate demonstration by a Tokyo Olympic medalist. One of the highlights was the roundtable discussion titled "Leaning Mind," in which the Congress Presidents of JSMP, JRS, and JSRT, the President of JIRA, and Ryojun Shionuma Dai-ajari engaged in an insightful dialogue on the role of radiation technology in the age of AI and the importance of human connection (Fig. 3).



Fig. 3. Presidents of the four organizations (JSMP, JRS, JSRT, and JIRA) with Ryojun Shionuma Dai-ajari.

### Tomonori ISOBE<sup>1</sup>, Yutaro MORI<sup>2</sup>, Chie KUROKAWA<sup>3</sup>, Shigekazu FUKUDA<sup>4</sup>, Naoki HAYASHI<sup>5</sup>

On the third day of the conference, a variety of programs were held, but of particular note was the symposium addressing the main theme of JSMP 129: "Contribution of Medical Physics to Society 5.0." Society 5.0 is a new socio-economic vision that aims to create a human-centered, ultra-smart society by integrating advanced technologies such as AI and IoT, in a way that balances economic development with the resolution of social challenges. In the medical field, it specifically seeks to achieve efficient and highly personalized healthcare by leveraging AI and big data to optimize prevention, diagnosis, and treatment for each individual. The symposium sparked a lively discussion on how medical physics can contribute to realizing this next-generation social concept (Fig. 4).



Fig. 4. Speakers and chairs of the symposium on the main theme of JSMP 129.

On Sunday, April 13, the final day of the on-site event, the JRC 2025 Joint Award Ceremony and Joint Closing Ceremony were held, beginning with a spectacular performance by the JRC 2025 Festival Orchestra. The Festival Orchestra, a special ensemble organized for JRC, first performed at JRC 2014 and returned in 2024 after the COVID-19 pandemic, marking its eighth appearance. This year's orchestra comprised 68 members, including radiologists, radiological technologists, and staff from ITEM-participating companies. The program featured the prelude to Act III of Wagner's opera Lohengrin and Elgar's Pomp and Circumstance March No. 1 (Fig. 5).

At the Joint Award Ceremony, awardees selected from each of the constituent congresses were honored. Fig. 6 shows a commemorative photo of the recipients of the JSMP Congress President's Award together with the Congress President.

Tomonori ISOBE<sup>1</sup>, Yutaro MORI<sup>2</sup>, Chie KUROKAWA<sup>3</sup>, Shigekazu FUKUDA<sup>4</sup>, Naoki HAYASHI<sup>5</sup>



Fig. 5. The JRC 2025 Festival Orchestra performing at the Joint Award and Closing Ceremony.



Fig. 6. Recipients of the JSMP Congress President's Award with Congress President Professor Isobe (far right).

### Tomonori ISOBE<sup>1</sup>, Yutaro MORI<sup>2</sup>, Chie KUROKAWA<sup>3</sup>, Shigekazu FUKUDA<sup>4</sup>, Naoki HAYASHI<sup>5</sup>

Following the on-site congress, the online portion of the meeting was conducted from Monday, April 14 to Thursday, May 15. It featured on-demand distribution of recorded videos from the on-site sessions, access to JSMP general abstracts and CyPos from the 4th ICRPT, as well as the 4th ICRPT Award Ceremony, which was streamed via JRC Tube—a dedicated YouTube channel for the conference. Conference-related information was actively disseminated through the official website, where it was also noted that the meeting was endorsed by the International Organization for Medical Physics (IOMP), with this endorsement prominently displayed both on the website and in the abstract book.



Fig. 7. Screenshot of the conference website during the online period, showing the IOMP endorsement.

#### Acknowledgement:

The 129<sup>th</sup> scientific meeting in conjunction with JRC2025 was successfully concluded under the endorsement of the IOMP. We would like to express our deep appreciation to both IOMP and the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) for their kind support and understanding. We also extend our heartfelt gratitude to all those who contributed to the success of the event, including the members of the organizing committee, the invited speakers, and the registered participants.

#### **Arun Chougule**

Chair, IOMP Education and Training Committee Chairman, IOMP Accreditation Board Member, IMPCB Board of Directors

#### Introduction

The number of diagnostic and interventional medical procedures involving ionising radiation is steadily increasing, with higher-dose procedures being performed more frequently. This growing use underscores the urgent need for all medical and healthcare professionals to receive proper education and training in radiological protection (RP). Competence in radiation protection is essential for ensuring the safety of both patients and healthcare staff during medical applications of ionising radiation.

A significant portion of radiological procedures is carried out by non-radiologist specialists—such as cardiologists, vascular surgeons, neurosurgeons, urologists, orthopaedic surgeons, and gastroenterologists—who often lack formal training in radiation safety within their standard curricula. Without adequate knowledge, medical professionals may unnecessarily request imaging tests involving ionising radiation when non-radiation alternatives or lower-dose imaging techniques could suffice. This concern is particularly relevant for CT scans, which expose patients to relatively high radiation doses.

Physicians involved in the medical use of ionising radiation can be grouped into three categories:

- 1. Those formally trained in radiation-related specialties (e.g., radiologists, nuclear medicine physicians, radiation oncologists);
- 2. Those who use ionising radiation in their clinical practice (e.g., interventional cardiologists, surgeons);
- 3. Those who refer patients for radiological investigations.

Physicians in radiation specialties should receive comprehensive education in radiation protection from the beginning of their careers and maintain it through continuous professional development. Additionally, nurses and other healthcare professionals involved in fluoroscopic procedures must be adequately trained to work safely in radiation environments.

The global need to enhance radiation protection education for all health professionals, including those in dental and medical disciplines, was highlighted in the Bonn Call for Action—a joint initiative by the IAEA and WHO in 2012 <u>source</u>. This call to action emphasizes the importance of sustained, structured training to protect healthcare workers and improve patient safety worldwide.

#### **Arun Chougule**

#### 10 Points of the Bonn Call for Action -2012 are:

Action 1: Enhance the implementation of the principle of justification

Action 2: Enhance the implementation of the principle of optimization of protection and safety

Action 3: Strengthen manufacturers' role in contributing to the overall safety regime

Action 4: Strengthen radiation protection education and training of health professionals

Action 5: Shape and promote a strategic research agenda for radiation protection in medicine

Action 6: Increase availability of improved global information on medical exposures and occupational exposures in medicine

Action 7: Improve prevention of medical radiation incidents and accidents

Action 8: Strengthen radiation safety culture in health care

Action 9: Foster an improved radiation benefit-risk-dialogue

Action 10: Strengthen the implementation of safety requirements globally

The WHO Global Patient Safety Action Plan 2021-2030 includes health workers education, skills, and safety as a core component for reducing harm and improving patient care, with implementation initiatives such as inclusion of patient safety in professional education and training and the patient safety competences as regulatory requirements. [https://www.who.int/activities/enhancing-radiation-safety-in-health-care]

The key messages of the enhancing radiation in health care publication of WHO 2024 are as follows: [https://www.who.int/publications/i/item/9789240091115]

- 1. Actions taken to enhance the protection and safety of patients and personnel involved in medical use of radiation represent radiation safety. These actions lead to radiation safety culture when organizational and individual characteristics and attitudes that determine how everyone practices radiation safety are considered and embedded within an organization (e.g., ideas, values, behaviours, and customs)
- 2. Anyone with a safety concern or perceived safety concern should be empowered to raise awareness and resolve the issue before commencing activities
- 3. Leadership, management, and personal accountability are critical factors in enhancing radiation safety culture, and those involved in radiation safety should prioritize them as such
- 4. Understanding the errors affecting patient safety has developed from a simple causal model to one that considers a complex mix of behaviours and interactions influencing the environment and outcome
- 5. Implementing the principles of justification and optimization is essential to ensure that radiation used in health care is managed safely
- 6. Engagement strategies must be tailored to the diverse groups of stakeholders contributing to radiation safety culture

#### **Arun Chougule**

- 7. Everyone in the diverse groups of stakeholders is responsible for assuring a strong radiation safety culture in health care aiming that patients are imaged and treated correctly
- 8. Communication, education, and training are considered essential for establishing and maintaining radiation safety culture
- 9. There needs to be consistent and coordinated understanding of radiation safety culture among the many stakeholders within health care, which acknowledges the varying perceptions
- 10. Everyone can participate in strengthening safety culture. There are international, national, and local initiatives to help health care providers improve radiation safety
- 11. A combination of optimal tools is required to establish and maintain radiation safety culture. This includes standards and regulations, policies and procedures, education and training, audit activities, communication strategies, reporting and learning systems, checklists, verification procedures, time-out procedures as well as technical developments
- 12. A positive safety culture can be defined by ten traits: leadership responsibility, individual responsibility, continuous learning, effective safety communication, respectful work environment, problem identification and resolution, environment for raising concerns, decision-making, questioning attitude and work processes
- 13. Good practices to improve safety culture shared by radiation health care providers can be adopted/adapted around the world
- 14. Existing frameworks proposing assessment tools and performance indicators can be adopted and adapted to the local context to assess level and quality of radiation safety culture

Furthermore, IAEA recognizes that radiation protection is a multidisciplinary responsibility but underscores the unique position of medical physicists as both technical experts and educators. Medical physicists contribute significantly to the implementation of radiation safety protocols, the development of quality assurance (QA) programs, and the establishment of a safety culture in radiological practices. Their expertise is critical in bridging the gap between complex radiation technologies and clinical application, ensuring patient and staff safety while supporting clinical efficacy. In this context, medical physicists play a pivotal role in ensuring radiation safety and optimization practices across clinical settings.

To support competence development, the IAEA promotes a structured approach that includes formal education, clinical training, and continuing professional development (CPD). This involves establishing competency frameworks, defining minimum requirements for education and training, and facilitating harmonization of curricula internationally. The IAEA's initiatives such as the "Safety Guide on Radiation Protection and Safety in Medical Uses of Ionizing Radiation (GSG-3.1)" and its training resources (e.g., IAEA e-learning platforms, train-the-trainer programs) provide comprehensive guidance to national regulatory authorities and professional institutions. IAEA encourages Member States to integrate radiation protection into undergraduate and postgraduate health science curricula and supports the development of national strategies for building capacity

#### **Arun Chougule**

in medical physics. Medical physicists are also seen as key actors in mentoring, auditing, and continuous improvement processes within healthcare facilities, contributing to both compliance and excellence in radiation safety practices. From the IAEA's perspective, sustaining health professional competence in radiation protection requires a lifelong learning approach underpinned by the leadership and technical proficiency of medical physicists. Their role extends beyond clinical responsibilities to encompass education, regulatory compliance, innovation, and advocacy, making them essential stakeholders in achieving the goals of safe and effective use of radiation in medicine.

#### IAEA Initiatives for Competence Building

IAEA advocates for international guidance and minimum competency standards to harmonize radiation protection education globally. This includes:

- Developing structured curricula covering emerging technologies, ethical considerations, and dose-optimization software
- Promoting blended learning models that combine online modules with hands-on, facility-based training to enhance practical skills
- Implementing "train-the-trainer" programs and accreditation systems to ensure high-quality instruction

For sustaining competence IAEA stresses ongoing education to address evolving challenges:

- Mandatory refresher courses on new modalities like hybrid imaging and Al-driven treatment planning
- Integration of radiation protection into undergraduate medical curricula to build foundational knowledge
- Collaboration with organizations like WHO and IOMP to align competencies with international safety standards

#### **Role of Medical Physicists**

Medical physicists are recognized as essential health professionals responsible for:

- Radiation safety oversight: Managing equipment calibration, contamination control, and staff/patient dose monitoring
- Clinical optimization: Advising on justification of procedures and dose reduction strategies in diagnostic and therapeutic settings
- Emergency preparedness: Leading dose assessment and medical triage during nuclear/radiological incidents through specialized IAEA-IOMP training initiatives

#### **Arun Chougule**

IAEA emphasizes the pivotal role of medical physicists in advancing radiation safety through education, standardized training, and continuous professional development. However, there are challenges and the key barriers in maintaining health professional competence in radiation protection. Many systemic and practical challenges which include gaps in standardized training, uneven access to training resources, evolving technological demands and variable national regulations and these needs to be addressed. High patient volumes and staffing shortages lead to rushed procedures in addition to poor collaboration between radiologists, physicists, and administrators limits systemic safety improvements. Addressing these challenges demands sustained investment in education, infrastructure, and cross-sector collaboration to ensure radiation safety keeps pace with medical advancements. The legal recognition of medical physicists as independent safety practitioners in healthcare systems by the national governments/competent authorities will facilitate the enhanced role of medical physicists as crusader for radiation safety, awareness, and training. To facilitate the harmonization of education and training in radiation protection among education institutions in the Member States and help ensure that all professionals involved in medical uses of ionizing radiation have access to proper education and training to acquire and maintain needed qualification and competence in radiation protection as per international standards and recommendations, IAEA is bringing out safety report series- education and training for building and maintaining competence in radiation protection in medicine. The report will provide international guidance on the qualification and competence in radiation protection for relevant groups of professionals involved in medical uses of ionizing radiation, and the application of the systematic approach to education and training to build and maintain these qualification and competence.

#### Contributions of Medical Physicists in Radiation Protection Education

Medical physicists play a vital role in radiation protection education and training by leveraging their expertise in physics, technology, and healthcare to ensure safe and effective use of ionizing radiation. Their contributions span technical, educational, and policy domains, fostering a culture of safety and continuous learning among healthcare professionals.

- Medical physicists can design and implement structured training programs that address critical
  aspects of radiation protection, such as dose optimization, equipment calibration, and quality
  assurance suiting to requirement of institution or region. These programs can include formal
  presentations, workshops, hands-on sessions, and collaborative learning opportunities tailored
  to the needs of medical professionals.
- Medical physicists can provide mentorship to students, residents, and other healthcare workers in medical physics and related fields. This fosters the transfer of specialized knowledge on radiation safety practices and emerging technologies.

#### **Arun Chougule**

- Medical Physicist can guide healthcare teams in understanding the technical capabilities of imaging equipment, appropriateness of protocols, and necessity of imaging studies to minimize unnecessary exposure
- Collaborating with regulatory bodies, medical physicists help shape national and international guidelines for radiation safety. Their input ensures that policies reflect advancements in scientific research and technological innovation.
- Medical physicists can advocate for structured clinical training programs that prepare
  professionals for independent practice. These programs emphasize practical skills that cannot
  be fully developed in academic settings alone, such as advanced methodologies in
  radiotherapy.
- Medical Physicist can promote continuous professional development (CPD) through refresher courses and advanced training on new modalities like hybrid imaging or Al-driven treatment planning.
- Through educational initiatives, medical physicists raise awareness about the risks associated with ionizing radiation. They ensure all personnel understand the significance of compliance with safety protocols and proper equipment operation.
- Medical physicists evaluate emerging challenges in radiation safety and integrate findings into training programs. Their research supports improvements in quality control processes and optimization techniques.

By combining technical expertise with educational leadership, medical physicists can be instrumental in building a robust framework for radiation protection education that aligns with global safety standards while addressing local challenges. Their efforts will ensure that healthcare professionals remain competent in managing radiation risks effectively across diagnostic and therapeutic applications.



#### **Calendar of Events (Jul - Dec 2025)**

FLASH Workshop 2025: The Role of Oxygen in FLASH

Radiation Therapy

When: Jul 1 – 3, 2025 When: Oct 4 – 8, 2025
Where: Heidelberg, Germany Where: Barcelona, Spain

Website: https://efomp.org/index.php?r=events/view&id=356 Website: https://eanm25.eanm.org/

**EFOMP - European School for Medical Physics Experts on** 

**Proton Therapy Physics** 

When: Jul 10 – 12, 2025 When: Oct 8 – 11, 2025
Where: Prague, Czech Republic Where: Marseille, France

Website: https://efomp.org/index.php?r=events/view&id=343 Website: https://www.esmrmb2025.org/

AAPM 67th Annual Meeting & Exhibition

17th International Conference & Workshop "Medical

PTCOG North America 11th Annual Meeting

41st Annual Scientific Meeting of the ESMRMB 2025

Physics in the Baltic States 2025"

**EANM 2025 Annual Congress** 

When: Jul 27 – 31, 2025 When: Nov 6 – 8, 2025
Where: Washington D.C, USA Where: Kaunas, Lithuania

Website: <a href="https://aapm2025.org/">https://aapm2025.org/</a> Website: <a href="https://efomp.org/index.php?r=events/view&id=357">https://efomp.org/index.php?r=events/view&id=357</a>

EUTEMPE – AI in Patient Dosimetry for X-ray Diagnostic

and Therapeutic Imaging

When: Sep 1 – 5, 2025 When: Nov 7 – 9, 2025

Where: Heraklion, Greece Where: Shreveport, Louisiana, USA

Website: <a href="https://efomp.org/index.php?r=events/view&id=366">https://efomp.org/index.php?r=events/view&id=366</a>
Website: <a href="https://www.ptcog-na.org/ptcog-na-11th-annual-">https://www.ptcog-na.org/ptcog-na-11th-annual-</a>

meeting

ICTP School on Medical Physics for Radiation Therapy:

Dosimetry, Treatment Planning and Delivery for

**Advanced Applications** 

When: Sep 8 – 19, 2025 Where: Trieste, Italy

Website: hhttps://indico.ictp.it/event/10864/

EFOMP - 2nd Symposium on Molecular Radiotherapy

Dosimetry: The Future of Theragnostics (SMRD 2025)

When: Nov 13 – Dec 15, 2025

Where: Athens, Greece

o.it/event/10864/ Website: https://smrd2025.efomp.org/

ASTRO's 67th Annual Meeting

When: Sep 27 – Oct 1, 2025

Where: Moscone Centre, San Franciso, USA

Website: <a href="https://www.astro.org/meetings-and-">https://www.astro.org/meetings-and-</a>

education/micro-sites/2025/annual-meeting

RSNA 2025

When: Nov 30 – Dec 4, 2025

Where: Chicago, USA

Website: https://www.rsna.org/annual-meeting

**SROA 41st Annual Meeting** 

International Conference on Radiation Protection in

Medicine: X Ray Vision

When: Sep 28 – Oct 1, 2025 When: Dec 8 – 12, 2025
Where: Hyatt Regency San Fancisco, USA Where: IAEA, Vienna, Austria

Website: <a href="https://www.sroa.org/meetings/2025-annual-">https://www.sroa.org/meetings/2025-annual-</a> Website: <a href="https://www.iaea.org/events/radprom2025">https://www.sroa.org/meetings/2025-annual-</a>

meeting/

**IUPESM World Congress on Medical Physics and** 

**Biomedical Engineering** 

When: Sep 29 – Oct 4, 2025
Where: Adelaide, Australia
Website: <a href="https://www.wc2025.org/">https://www.wc2025.org/</a>

5th Flash Radiotherapy and Particle Therapy

Conference (FRPT 2025)

When: Dec 10 – 12, 2025
Where: Prague, Czech Republic
Website: <a href="https://frpt-conference.org/">https://frpt-conference.org/</a>





# **1UPESM 2025**

World Congress on Medical Physics and Biomedical Engineering

29 September – 4 October 2025 Adelaide Convention Centre, Australia





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