

## Congress Report of the 24<sup>th</sup> AOCMP and 22<sup>nd</sup> SEACOMP (AOCMP-SEACOMP 2024)

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The 24th Asia-Oceania Congress of Medical Physics (AOCMP), in conjunction with the 22nd Southeast Asia Congress of Medical Physics (SEACOMP), was successfully held at The Wembley - A St Giles Hotel, Penang, Malaysia from 10th to 13th October 2024.

AOCMP and SEACOMP are important annual events for medical physics in the region, aiming at gathering medical physics and allied health professionals to share knowledge, expertise, and updates on medical technology while fostering cultural exchange. This marks the third time Malaysia has had the honour of hosting this event, previously held in 2004 and 2018. This year, the congress is jointly organised by three medical physics societies in Malaysia: the Malaysia Institute of Physics, Malaysian Association of Medical Physics (MAMP) and Persatuan Pegawai Sains Fizik KKM (PERFEKS).

The theme of this year's congress, "**Revolutionising Patient Care Through Medical Physics**", reflects the vital role that medical physicists and allied health professionals play in modern healthcare. We stand at the forefront of innovation, continuously advancing patient care through cutting-edge research and clinical practice across various fields, including diagnostic and interventional radiology, radiotherapy, nuclear medicine, and emerging fields like artificial intelligence (AI) and radiobiology. The rapid advancement of AI in healthcare underscores the importance of medical physicists possessing the required knowledge and skills.

The congress attracted 523 participants from 33 countries (Figure 1), including clinical medical physicists (36%), academics (24%), students (24%) and industry representatives (12%) (Figure 2).

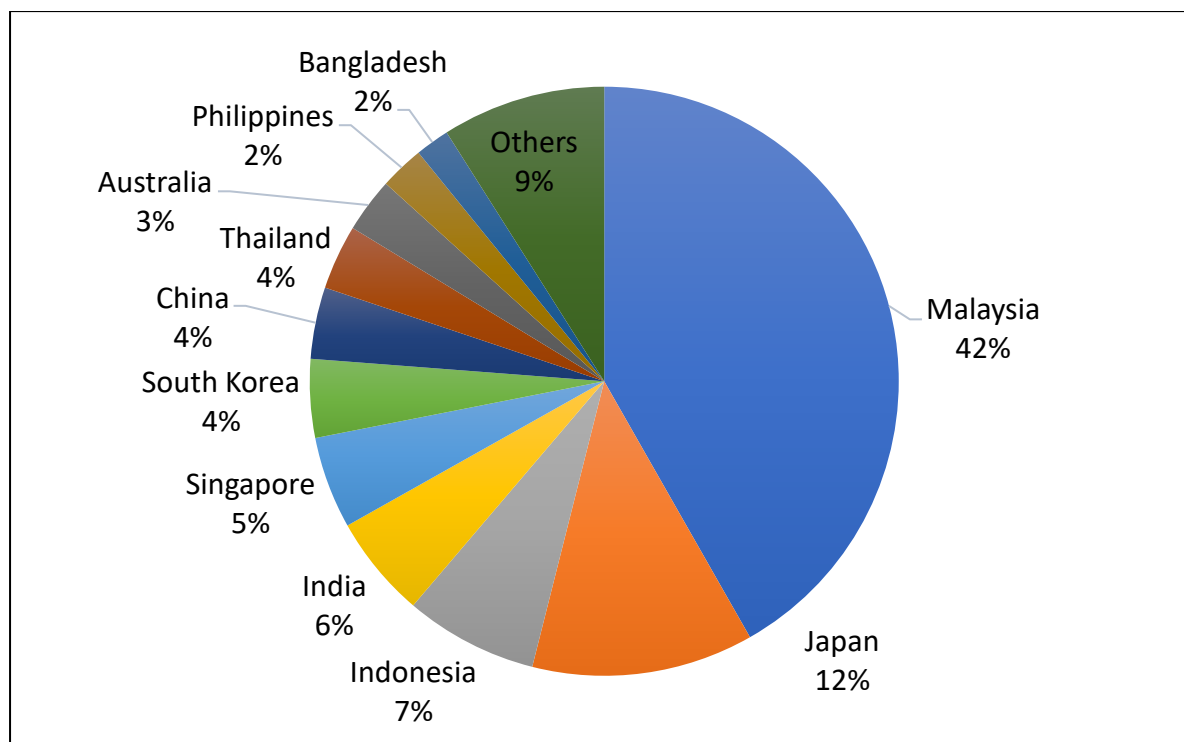


Figure 1: Country distribution of the participants.

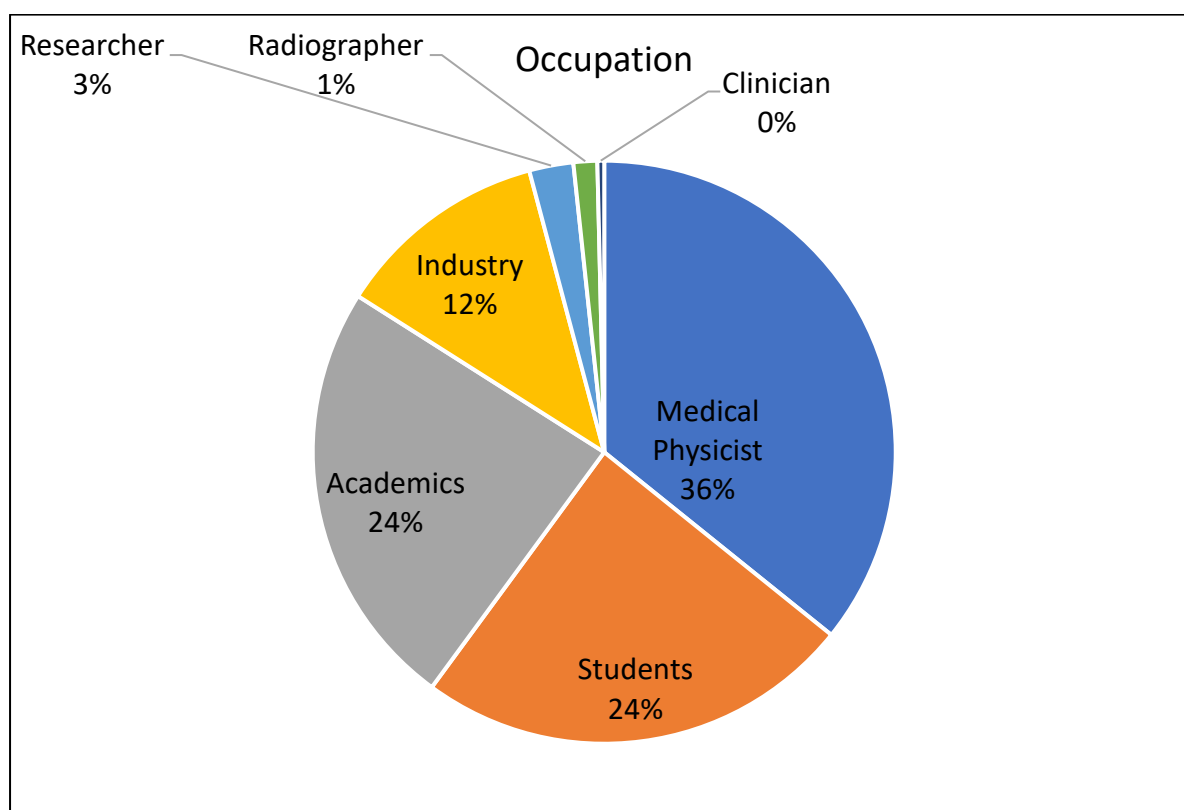


Figure 2: Distribution of participants by profession.

A whopping 62 renowned speakers from 20 countries spoke at the congress. The scientific programme comprises of 5 pre-congress workshops, 1 public lecture, 1 keynote lecture, 9 plenary sessions, 15 invited lectures, 15 proffered paper sessions, 4 sponsored tech talks, 2 special sessions, 1 John Cameron Memorial Lecture, 1 Kiyonari Inamura Memorial Oration, and 1 SEAFOMP Anchali Krisanachinda Quiz.

The Congress received 430 abstract submissions with the final listing of 151 posters and 144 oral presentations. A total of 38 travel awards were offered to support researchers and students to attend the congress (Table 1).

*Table 1: Winners of various Travel Awards.*

Travel awards	Recipients
IUPAP Travel Awards for Developing Countries	<ol style="list-style-type: none"> <li>1. Shriram Rajurkar (India)</li> <li>2. Ariij Naufal (Indonesia)</li> <li>3. Tanny Bepari (Bangladesh)</li> <li>4. Hamza Arjah (Jordan)</li> <li>5. Waritsara Kriangkraiwat (Thailand)</li> </ol>
AFOMP Travel Awards for AFOMP Members	<ol style="list-style-type: none"> <li>1. Md. Mokhlesur Rahman (Bangladesh)</li> <li>2. Sadia Afrin Sarah (Bangladesh)</li> <li>3. Yiling Wang (China)</li> <li>4. Sheeba Gunasekaran (India)</li> <li>5. Rajalakshmi K A (India)</li> <li>6. Yanurita Dwihapsari (Indonesia)</li> <li>7. Hanifa Fithraturrahma (Malaysia)</li> <li>8. Muhammad Hafiz Hanafi (Malaysia)</li> <li>9. Loja, Christine (Philippines)</li> <li>10. Magdaong, Nikkitita (Philippines)</li> <li>11. Samuel Meng-En Lian (Singapore)</li> <li>12. Urshella Hishaam (Sri Lanka)</li> <li>13. Wiroom Monkongsubsin (Thailand)</li> </ol>
SEAFOMP Travel Awards for SEAFOMP Members	<ol style="list-style-type: none"> <li>1. Stevania Fadhilah Adhillaksa (Indonesia)</li> <li>2. Zheng Hwee Koh (Malaysia)</li> <li>3. Jimnoel Quijano (The Philippines)</li> <li>4. Khanh Luan Mai (Vietnam)</li> <li>5. Lyda Pav (Cambodia)</li> </ol>

IFM AOCMP- SEACOMP 2024 Travel Awards for Malaysian Physicists	<ol style="list-style-type: none"> <li>1. Nishta Letchumanan</li> <li>2. Nashrulhaq Tagling</li> <li>3. Hui Chin Leow</li> <li>4. Norhayati Abdullah</li> <li>5. Jia Ding Wong</li> <li>6. Qing Le Keng</li> <li>7. Muhammad Hanif bin Mohd Omar</li> <li>8. Nik Mohd Amiruddeen Nik Pakheruddin</li> <li>9. Wan Nur Ain Wan Ghazali</li> <li>10. Muhammad Khalis Abdul Karim</li> </ol>
MyCEB Travel Awards	<ol style="list-style-type: none"> <li>1. Hnin Nitar (Myanmar)</li> <li>2. Christoph Trauernicht (South Africa)</li> <li>3. Md. Rustam Ali (Bangladesh)</li> </ol>

The congress is also enriched by the many organisations that have cooperated and supported this congress –

- International Atomic Energy Agency (IAEA)
- International Organization for Medical Physics (IOMP)
- International Union of Pure and Applied Physics (IUPAP)
- International Medical Physics Certification Board (IMPCB)
- Institute of Physics and Engineering in Medicine (IPEM), UK
- The American Association of Physicists in Medicine (AAPM)
- Malaysia Convention & Exhibition Bureau (MyCEB)
- Penang Convention & Exhibition Bureau (PCEB)

We are also privileged to have 17 industry partners and four non-government organisations (NGOs), including the Penan Borneo Bag, a charity that sells beautiful hand-weaved bags by the indigenous Penan women from Sarawak. 100% of the income will go back to support the livelihood of Penan families in Sarawak. The congress also supported the United Nation Sustainable and Development Goals (UNSDG) initiatives by providing a free booth for SK Chew Enterprise, a home-based industry selling recyclable handicrafts.

The Congress is CME-approved and accredited for the following CPD points:

<b>MyCPD</b>	Pre-congress: 6 points Congress: 20 points
<b>BKRP</b>	Pre-congress: Radiotherapy 7 h, Nuclear Medicine 6 h, Diagnostic 4 h Congress: Radiotherapy 12 h, Nuclear Medicine 6 h, Diagnostic 4 h
<b>MBOT</b>	Congress – 18 CPD points



The first day of the Congress (10th October 2024) was designated for Pre-Congress workshops. A total of 5 workshops were conducted (Table 2).

*Table 2: Pre-congress workshops*

Workshop	Theme
<b>GE Healthcare Nuclear Medicine Workshop</b>	Internal Dosimetry in Nuclear Medicine
<b>Monte Carlo Workshop</b>	Monte Carlo Calculation for Radiation Safety
<b>Siemens Healthineers Workshop</b>	Embracing Innovation, Enhancing Outcomes
<b>ACOMP Workshop on Women in Medical Physics</b>	Radiance in Resilience: Inspirational stories of successful women in medical physics
<b>ACOMP Workshop on Diagnostic Reference Levels</b>	ASEAN Diagnostic Reference Levels

The opening ceremony was held on 11<sup>th</sup> October 2024. It was preceded by a Public Lecture titled “*We all belong*”, by Prof Dr Eva Bezak and a keynote lecture by Prof Dato’ Dr Adeeba Kamarulzaman on “*Technology and the future of healthcare*”.





The opening ceremony started with a welcome speech by the co-chair of the congress, Prof Dr Jeannie Wong, followed by the welcome remarks by the IOMP president, Prof Dr John Damilakis, AFOMP president, Prof Dr Eva Bezak and SEAFOMP president, Prof Dr Chai Hong Yeong. Prof Yeong also launched the SEAFOMP Coffee Table Book titled “20 Years of SEAFOMP”.

The honourable YB Gooi Zi Sen, Member of the Penang State Executive Council (Youth, Sports & Health), officiated the opening ceremony by launching the gimmick (Figure 3). A video montage depicting the journey of a cancer patient through her treatment, elucidating the critical role of medical physicists in every step of patient care, was played. Then, there were the Malay, Indian and Chinese cultural dance performances, showcasing the diverse and multicultural background of Malaysia (Figure 4). A group photo was taken to commemorate the momentous event (Figure 5).



Figure 3: YB Gooi Zi Sen, member of the Penang State Executive Council (Youth, Sports & Health), officiated the opening ceremony by launching the gimmick



Figure 4: Multicultural dance at the Opening Ceremony.



Figure 5: Group photo of the participants at the AOCMP-SEACOMP 2024 Opening Ceremony

On the 2<sup>nd</sup> day (12 October 2024), the congress commenced early with the Presidents' Symposium. The presidents of the IOMP, AFOMP, SEAFOMP, AAPM and Medical Physics for World Benefit (MPWB) discussed various trends and issues related to medical physics education, training and accreditation. The panel emphasized the importance of standardization of medical physics education and training, while adapting to the local sensitivities and situations. They also highlighted the significance of communication as a crucial soft skill for medical physicists and the critical role of advocacy for medical physicists at both national and international levels.



The John Cameron Memorial Lecture was delivered by Emeritus Prof. Larry DeWerd, the 5<sup>th</sup> PhD student of Prof. John Cameron, titled “The Importance of Medical Physics in Preclinical Research.” Additionally, the Kiyonari Inamura Orator, Prof. Youngyih Han from Korea, shared her journey as a medical physicist in a talk titled “Finding Purpose in Physics: My Story as a Medical Physicist.”

On the social front, all invited faculty members were treated to a special appreciation dinner on the evening of 11<sup>th</sup> October 2024, at Nyonya Chiak Restaurant, showcasing the exquisite culinary traditions, clothing and culture of the Baba Nyonya Peranakan heritage of Penang. A Gala Dinner was held at the Jen’s Hotel on 12<sup>th</sup> October 2024, where delegates from various countries presented multicultural performances. The highlight of the night was “The MP song”, presented by the Malaysian team. This parody, set to the tune of “Country Road, Take Me Home”, resonates with the experiences of many delegates.

On the third day of the congress, the SEAFOMP Anchali Krisanachinda Quiz took place. This annual competition focuses on medical physics and SEAFOMP-related knowledge, opens to young medical physics representatives from Southeast Asian nations. A total of eight teams, comprising representatives aged 35 or younger, participated in the Quiz. Assoc Prof Dr Kitiwat Khamwan, Prof Dr Jeannie Wong, and Dr Wei Loong Jong served as the Quiz masters. The first prize went to the team from the Philippines, followed by the teams from Indonesia and Vietnam, with cash prizes of USD 150, USD100 and USD 50, respectively.

The closing ceremony was held on 13<sup>th</sup> October 2024, during which 18 best oral and poster presentation awards were presented. The lists of Best Oral and Best Poster presentations are listed in Table 3 and Table 4.

The prestigious SEAFOMP Young Leaders Awards were also presented to Mr Melvin Ming Long Chew (Singapore), Assoc Prof. Dr Rafidah Zainon (Malaysia), Mr M Roslan Abdul Ghani (Indonesia), Dr Sirinya Ruangchan (Thailand) and Ms Raquel Louise Munsayac Espiritu (Philippines) by the President of SEAFOMP, Prof Dr Chai Hong Yeong, and the Chair of the Awards and Honours Committee, Dr Aik Hao Ng, during the ceremony.

In conclusion, the AOCMP-SEACOMP 2024 concluded on a high note, with participants returning to their home countries enriched by a memorable congress experience and the beauty of Penang.





*Table 3: Winner of Best Oral Presentations.*

	<b>Diagnostic Radiology</b>	<b>Presenter</b>	<b>Country</b>
1	Exploring Hidden Dangers: Brain and Eye Exposure in Neurointerventional Radiology	Mohamed Badawy	Australia
2	Development of a CT Dose Calculation Program Reflecting Angular and Longitudinal Tube Current Modulations	Kosuke Matsubara	Japan
3	CT Warriors - Enhanced Customisation of Weight-Based Contrast Media Protocol for CT Chest-Abdomen-Pelvis Scans in Universiti Malaya Medical Centre	Sue Anne Manushya Kaur Foo	Malaysia
	<b>Radiotherapy</b>		
1	Deep learning-based tumor tracking at Elekta Unity MR-Linac	Yiling Wang	China
2	Comparative dosimetric analysis between volumetric modulated arc therapy in TrueBeam and Halcyon for craniospinal irradiation plans	Nalinpun Buranavanitvong	Thailand
3`	Three-dimensional dose evaluation for proton therapy using a polymer-gel dosimeter	Atsuki Terakawa	Japan
	<b>Nuclear Medicine, Biology, Education &amp; Radiation Safety</b>		
1	Validation of Particle and Heavy Ion Transport Code System (PHITS) in generating voxel S values for internal dosimetry calculations	Shalaine Tatu	Malaysia
2	Development of a biodegradable radioactive rod for targeted internal radiation therapy of liver tumours	Asseel Hisham	Malaysia
3`	Additive manufacturing technology towards radiological tissue equivalence for experimental radiotherapy: From dosimetry to radiobiology	John Paul Bustillo	Australia

Table 4: Winners of Best Poster presentations.

	Diagnostic Radiology	Presenter	Country
1	Photon-counting detector CT techniques for the detection of acute ischemic stroke using virtual monoenergetic images	Hidetake Hara	Japan
2	QulQCT: An Online Image Quality Analysis System for Computed Tomography Quality Assurance	Hafiz M Zin	Malaysia
3	Preliminary Study on IEC-based Exposure Index (EI) Estimation from Chest Radiographs Using Deep Learning	Jawon Jang	Korea, Republic of
	<b>Radiotherapy</b>		
1	Investigation of 2D Ionisation Chamber Detector Array Performance for VMAT Verification Using Linac Log Data	Kai Wei Chuah	Malaysia
2	Monte Carlo simulation study of dose distributions in intensity-modulated boron neutron capture therapy	Kengo Miyada	Japan
3`	Evaluation of the Raydose 2Dmap Detector Array for Intensity-Modulated Radiation Therapy (IMRT) Verification	Rosmawati Binti Remli	Malaysia
	<b>Nuclear Medicine, Biology, Education &amp; Radiation Safety</b>		
1	Determination of Voxel S-value Maps for Internal Dosimetry of [68Ga]Ga-PSMA, A Monte Carlo Study	Mehrnoosh Karimipourfard	Iran, Islamic Republic of
2	Consideration of real-time visualization of scattered rays using a high- sensitivity CMOS camera	Hyojin Lee	Japan
3`	Radiosensitization Effects of Schiff Base Iron Complexes (Fe- L4) Irradiated with Cobalt-60 Brachytherapy	Nur Afiqah Moh Chipto	Malaysia







