



IUPESM 2025

World Congress on Medical Physics
and Biomedical Engineering

IUPESM World Congress on Medical Physics and Biomedical Engineering 2025
29 September – 4 October 2025
Adelaide Convention Centre

Program current as of 17 September 2025, subject to change

Sunday 28 September 2025

14:00	Registration 2:00pm - 6:00pm	14:00
15:00		15:00
16:00		16:00
17:00		17:00
18:00		18:00
	End of Day 0	



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Monday 29 September 2025

7:30	Registration										7:30
09:30	Opening Ceremony 9:30am - 11:30am										09:30
11:30	Headlining Plenary Presentations Dr Lars Juhl Jensen, ZS Discovery, Denmark Prof Anthony Burkitt, University of Melbourne, Australia 11:30am - 13:00pm										11:30
13:00											13:00
13:30	Lunch									Sponsored Special Symposium: Elekta 13:30pm - 2:00pm	13:30
14:00	1.1 3D Printing in Radiation Oncology	11.1 Digital Health – Integrity and Security	IUPESM Awardee Presentation Session		13.8 Artificial Intelligence in Biomedical Engineering 1	16.4 Rehabilitation	10.3 Radiation Protection Communication	9.5 Dosimetry, Calibration and Computational Analysis	1.8 Patient Dosimetry, Patient-specific Quality Assurance + Techniques 1	8.5A BME Modelling and Simulation 1	14:00
14:45											14:45
15:30	Afternoon Tea										15:30
16:00	1.23 Detectors in Radiation Oncology 1	11.2 Digital Health – Clinical and Management Systems	IOMP Awardee Presentation Session	22.1 Medical Device Innovation and Regulation	13.9 Artificial Intelligence in Biomedical Engineering 2	16.5 Joint Biomechanics	2.5 Patient Dosimetry in Diagnostic Radiology	27.1 Diversity and Inclusion	3.2 Radiomics and Quantification	1.0 Patient Dosimetry, Patient-specific Quality Assurance + Techniques 1	16:00
16:45										1.10 Patient Dosimetry, Patient-specific Quality Assurance + Techniques 3	16:45
17:30	IOMP Teaching Lecture 1: Radiation Safety & Protection										17:30
18:30	Break										18:30
19:00	Welcome Reception 7:00pm - 8:00pm										19:00
20:00	End of Day 1										20:00



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Tuesday 30 September 2025													
07:00	Morning Run Club											07:00	
07:30												07:30	
08:00	Special Symposium: Bio-resilience and BME innovation		Special Symposium: Sustainability of the World Congress on Medical Physics and Biomedical Engineering		Special Symposium: Rehabilitation engineering contributions in public health: Present and future		Special Symposium: Strength in numbers: The power of global medical physics collaborations		AAPM Professional Symposium: On the global impact of the AAPM (American Association of Physicists in Medicine) Task Group reports and technical documents		IOMP Teaching Lecture 2: AI Basics	08:00	
08:30												08:30	
09:00	Plenary Presentation Dr Fiona Adshead, Sustainable Healthcare Coalition, United Kingdom Prof Ratko Magjarević, President, IFMBE 9:00am - 10:30am											09:00	
10:30	Morning Tea											10:30	
11:00	1.11 Novel Techniques in Radiation Oncology	13.7 AI/ML In Treatment Planning for Oncology	Special Symposium: Medical AI in 20XX – Messages to young investigators	Special Symposium: A Career in medical physics	IFMBE Young Investigators Award Session - Session 1	6.3 Treatment Planning and Delivery Optimisation	19.1 Micro/Nano Systems, Active Implants and Biosensors	13.3 AI Large Language Models and Workflow	1.3 Audits 1	5.4 NM: Clinical	7.1 Precision / Functional Treatment Planning and Outcome Prediction	Clinical Engineering Hackathon Session	11:00
11:45							13.1 AI in Imaging			7.2 Advanced Imaging and Biomarkers			11:45
12:30	Lunch											12:30	
13:00	Sponsored Special Symposium: Sun Nuclear 1:00pm - 1:30pm											13:00	
13:30												13:30	
14:00	10.2 System and Risk Management	13.11 AI in Biomedical Engineering 4	Presidential Symposium: AI and you: How our professional life is changing	2.4 Dose Audits in Diagnostic Imaging	IFMBE Young Investigators Award Session - Session 2	22.3 Innovative Medical Devices for Oncology	7.3 Nanotechnology and Localised Delivery	IFMBE award session: Digital Health	23.1 Clinical Engineering Practice 1				14:00
14:45												14:45	
15:30	Afternoon Tea											15:30	
16:00	1.5 Imaging in Radiation Therapy 1	1.4 Audits 2	Special Symposium: Health technology assessment in radiotheranostics: Gaps and priorities	Special Symposium: Resilience in radiation oncology: The role of medical physics in times of war and crisis	IFMBE Scientific Challenge	24.1 Education in Radiation Safety and Quality Assurance	24.5a BME Education	8.2 Advanced Beam and Particle Therapy	17.1 Endoscopy and Robotic Surgery	9.4 Radiation - Safety Policy, Risk and Health Effects	6.2 Radiobiology and Emerging Particle Models	Special Symposium: Clinical Engineering – Shaping Tomorrow's Practice Today	16:00
16:45												16:45	
17:30	IOMP Teaching Lecture 3: Dosimetry Fundamentals (Radiation Therapy)											17:30	
18:30	ICMP 2027, IUPESM 2028, IUPESM 2031 6:00pm - 7:00pm											18:30	
19:00	End of Day 2											19:00	



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Wednesday 1 October 2025													
07:00	Morning Run Club											07:00	
07:30												07:30	
07:45												07:45	
08:00	Special Symposium: Novel sensors and analysis methods for mobile electroencephalography	Special Symposium: Soft wearable robotics for rehabilitation	Special Symposium: Celebrating innovation and excellence: The CE Division Trajectory Award	Special Symposium: Global partnerships in medical physics: Driving diversity and sustainability through science diplomacy	Sponsored Special Symposium: Varian	IOMP Teaching Lecture 4: MRI Linacs - Basics - MR Safety						08:00	
08:15	08:15												
08:30	08:30												
09:00	Plenary Presentation Prof Simon Cherry, University of California, Davis, United States 9am - 10:30am												09:00
10:30	Morning Tea												10:30
11:00	4.1 MRI Technology and Safety	1.16 MR Linac	21.1 Biomaterials	Toh Siew Lok Student Design Competition	Workshop: GEANT4 bio-medical modelling	9.3 Shielding, Monitoring and Environmental Protection	13.6 AI in Radiation Oncology Dose Prediction	26.1A Sustainable and Affordable Technologies	Special Symposium: Rehabilitation robotics: What are we doing now and what will the future hold?	18.2 Diagnostic and Therapeutic Instrumentation	24.2 Curriculum Design, Accreditation and Assessment	23.2 Role of the Clinical Engineer	11:00
12:30	Lunch												12:30
13:00	Sponsored Special Symposium: GE Healthcare 1:00pm - 1:30pm												12:45
13:30													13:15
14:00	1.18 Brachytherapy 2	1.21 SABR/SRS 1	IFMBE Awards Winners Keynotes: Prof Jun Li, Prof Chwee Teck Lim, Prof Ratko Magjarevic	Special Symposium: Medical physics: Accreditation, certification, registration and continued education	Workshop: GEANT4 bio-medical modelling	26.2B Capacity and Capability for Global Health	5.3 NM: Dosimetry and Theranostics	26.2A Capacity and Capability for Global Health	16.1 Prosthetics and Assistive Tech	8.5B BME Modelling and Simulation 2	24.3 Asia Pacific Education and Training Case Studies	13.10 AI in Biomedical Engineering 3	14:00
14:45	14:45												
15:30	Afternoon Tea												15:30
16:00	9.1 Cellular Radiosensitivity and Radiological Impact	7.4 Emerging Radiation Modalities	Joint AAPM/ACPSEM Special Symposium: FLASH beam dosimetry: Challenges and opportunities	Special Symposium: Empowering young researchers, early career professionals, and students to conduct innovative, socially impactful projects using emerging technologies	Workshop: GEANT4 bio-medical modelling	13.2 AI and Image Segmentation	22.4 Innovative Medical Devices for Airways	10.1 Radiation Safety and Quality	2.2 Quality Control	8.1A Dose Calculation and Verification (A)	IFMBE General Assembly		16:00
16:45	9.2 Experimental Models and Pre-Clinical Technologies	16:45											
17:30	IOMP Teaching Lecture 5: Biostatistics – Method Comparison 5 Studies												17:30
18:30	Break												18:30
19:00	Congress Dinner												19:00
23:00	End of Day 3												23:00



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Thursday 2 October 2025												
07:30										Special Symposium: Women leaders in biomedical engineering and physics from across the world (panel discussion)	07:30	
07:45											07:45	
08:00										IOMP Teaching Lecture 6: Spectral CT Physics (DECT and PCCT)	08:00	
09:00	Plenary Presentation Dr Jitendra Sharma, Andhra Pradesh MedTech Zone (AMTZ), India 9:00am - 10:30am										09:00	
10:30	Morning Tea										10:30	
11:00	1.13 Tracking	1.19 Electrons	IUPESM General Assembly	5.5 NM: From Supply to Synthesis	Workshop: Radiation shielding for medical linear accelerators	1.17 Brachytherapy 1	Special Symposium: Full circle: The road to an effective circular economy in healthcare	12.1 3D Printing	Asia Pacific Research Networking Fellowship	2.1 Clinical Radiology	3.1 Image Quantification Using AI and Machine Learning	11:00
11:45								12.2 Virtual and Augmented Reality				11:45
12:30	Lunch										12:30	
13:00										Sponsored Special Symposium: Vision RT		
14:00	1.14 Treatment Planning and Related 1	1.20 Total Body Irradiation	Keynote Presentation: Dr Chia-Ho Hua, <i>St. Jude Children's Research Hospital, United States</i> AND Prof Marie-Catherine Vozenin, <i>Lausanne University Hospital and University of Lausanne, Switzerland</i>	5.1 NM/PET Instrumentation	Workshop: Radiation shielding for medical linear accelerators	13.5 AI Patient Prognosis Prediction in Oncology/Radiomics	22.2 Novel Medical Devices	26.1B Sustainable and Affordable Technologies	IFMBE Special Symposium: Biomedical and Clinical Engineering Education Part I: Innovative approaches and global perspectives on curriculum	8.3 Radiobiology, Radiomic and Tumour Modeling	2.3 Imaging Technology	14:00
14:45										8.4 Imaging Physics and Detector Simulations		14:45
15:30	Afternoon Tea										15:30	
16:00	1.15 Treatment Planning and Related 2	13.4 AI Patient Outcomes Prediction in Oncology	8.7 Simulation in Particle Therapy and Radiobiology	Special Symposium: Patient radiation safety: A dialogue with referring physicians	Workshop: Radiation shielding for medical linear accelerators	15.2 Biosignals - Neurological and Functional	16.2 Motion Analysis	AFOMP Awards Session	IFMBE Special Symposium: Biomedical and Clinical Engineering Education Part II: Global collaboration in education and industry	Special Symposium: Radiopharmaceutical Therapy (RPT): Personalized dosimetry-based treatment planning, is the goal in sight?		16:00
17:00												17:00
17:30	IOMP Teaching Lecture 7: Image Quality Metrics					Special Symposium: Male mentors working with women in Clinical/Biomedical Engineering	Student Town Hall Meeting					17:30
18:30											18:30	
19:00	End of Day 4										19:00	
											APSIG Trivia Night Mylk Bar 6:00pm - 10:00pm	



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Friday 3 October 2025											
07:00	Morning Run Club										07:00
07:30											07:30
08:00		Special Symposium: Medical Physics for World Benefit: Can a small organisation make a difference?	Special Symposium: Lighting the way: Novel uses of surface guidance in radiation therapy	Special Symposium: Bridging global clinical engineering expertise through collaborative working groups	Special Symposium: Digital twins for non-invasive personalized electrical stimulation	Special Symposium: The realities of scientific publishing	Special Symposium: Advanced medical science and technology in alternative medicine: Integrating green sustainability and environmental protection	Special Symposium: Early Career Medical Physics Group (ECMP) of Asia-Oceania Federation of Organizations for Medical Physics (AFOMP)	IOMP Teaching Lecture 8: Theranostics Basics - RadioPharmaceuticals		08:00
08:30	Break										08:30
09:00	Plenary Presentation Prof Maryellen Giger, University of Chicago, United States John Damilakis, University of Crete, Greece 9:00am - 10:30am										09:30
10:30	Morning Tea										10:30
11:00	AFOMP Awardee Presentation Session	IFMBE/ IAMBE Early achievers Symposium "Frontiers of BME opportunities and challenges"	1.24 Detectors in RO 2	1.7 Commissioning + Superficial	3.3 Image Analysis	15.1 Biosignals - Cardiac	3.4 Image Processing	Special Symposium: Clinical - Biomedical Engineering (CE- BME) and emerging digital health tools	Special Symposium: Ready, willing and able: Professional standards for the emerging now	Special Symposium: IAEA Special Symposium: Successes and Challenges in the Pacific Islands	11:00
11:45			1.25 Detectors in RO 3								11:45
12:30	Lunch										12:30
12:45										How to write a scientific paper	12:45
13:30											13:30
14:00	Keynote Presentation: Prof Karen Jones, University of Adelaide, Australia AND Prof Nayana Parange, University of South Australia, Australia	IOMP Best Presentation Session	23.3 Clinical Engineering Practice	16.3 Soft Tissue Biomechanics	IFMBE Awards Session	18.1 Cardiovascular Instrumentation	1.6 Imaging in Radiation Therapy 2	Special Symposium: High patient radiation doses through imaging and likelihood of new cancers	Special Symposium: SHAPES 4 LMICs (Sustainable Healthcare through Advancement of Physical and Engineering Sciences for LMICs)	24.5b BME Education	14:00
15:30	Closing Ceremony 3:30pm - 5:00pm										15:30
17:00	End of Congress										17:00



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Saturday 4 October 2025

09:00
10:30
11:00
11:45
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[Optional Technical Tours](#)
Locations: Royal Adelaide Hospital, Tonsley, SAHMRI and MITRU, Cleland National Park, Lot 14
[Click here for more details on the available tours!](#)