ASSOC. PROF. KITIWAT KHAMWAN, Ph.D.

PERSONAL INFORMATION

Date of Birth: 15 December 1980
Place of Birth: Thailand
Working Address: 7th Fl, Rattanawittayapat building, Faculty of Medicine, Chulalongkorn University 1873 Rama IV Road, Pathumwan, Bangkok 10330, Thailand
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Education and Training

2018	IAEA Nuclear Neuroimaging Fellowship Training
	Cyclotron & Radioisotope Center (CYRIC), Tohoku University, Sendai, Japan
2014-2015	Postdoctoral Fellows in Medical Imaging Physics
	Department of Radiology & Radiological Science, School of Medicine
	The Johns Hopkins University, Baltimore MD, USA
2008-2012	Ph.D., Biomedical Engineering
	Faculty of Engineering, Chulalongkorn University, Thailand
2006-2008	M.Sc., Medical Physics
	Faculty of Medicine, Chulalongkorn University, Thailand
1999-2003	B.Sc., Radiological Technology
	Faculty of Allied Health Sciences, Naresuan University, Thailand

Dr. Kitiwat Khamwan is an Associate Professor at Department of Radiology, Faculty of Medicine, Chulalongkorn University, Thailand. He has served as a medical physicist in the Nuclear Medicine Division for over 15 years. He is the lead investigator on several research projects and grants focused on theranostic dosimetry and radiopharmaceutical kinetic modeling. He initiates and leads nuclear medicine team at KCMH to standardize the personalized dosimetry and treatment planning for Lu-177, advancing clinical dosimetry practices for theranostics and integrating this into routine clinical workflows. Dr. Kitiwat played a key role as team leader for the quality assurance in nuclear medicine (QUANUM) audit at KCMH conducted by the IAEA. He has been invited as an invited speaker, delivering presentations on personalized theranostic dosimetry at both several national and international conferences. His contributions to the academic community include serving as a reviewer for prestigious journals such as EJNMMI, EJNMMI Physics, Theranostics, Medical Physics, JACMP, Annals of Nuclear Medicine, and Frontiers in Nuclear Medicine. Additionally, he serves as an editorial board member at Scientific Reports. Dr. Kitiwat has also contributed to global initiatives, serving as an IAEA expert for the TC Project INS9030, science subcommittee of the IOMP, and IAEA expert in nuclear medicine dosimetry. His expertise's are in the areas of theranostic dosimetry, PET&SPECT quantitative analysis, PET kinetic modelling and parametric imaging.

Current Appointment

- *Associate Professor & Medical Physicist*, Division of Nuclear Medicine, Department of Radiology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
- Director of BSc Program in Radiological Technology, Chulalongkorn University
- Executive Committee, South-East Asian Federation of Organization for Medical Physics
- Science Committee, International Organization in Medical Physics
- Regional Coordinator in Education for Asia/Australasia Region, International Society of Radiographers and Radiological Technologists
- Professional Relations Committee, Asia-Oceania Federation of Organizations for Medical Physics
- Chairman, Thai Radiological Technology Continuing Education, (RTCE, 2021-current)
- Committee Member, Radiation Safety Officer (RSO), Chulalongkorn University
- Committee Member, Thai Medical Physicist Society
- Committee Member, Thai Society of Radiologic Technologists
- Board Member, Thai Radiological Technologist Profession (2021-current)
- Editorial Board Member at *Scientific Reports*

HONORS AND AWARDS

2020 SEAFOMP Young Leader Award
Southeast Asian Federation of Organizations of Medical Physics (SEAFOMP)

2019 Outstanding Academic Alumni Award
Faculty of Allied Health Science, Naresuan University, Thailand

2017 Honor Alumni Award
Naresuan University, Thailand

2015 Majd-Gilday Young Investigator Award Winner in Pediatric Imaging
"*A pharmacokinetic model of ^{18}F-fluorodeoxyglucose (FDG) PET imaging for infant patients*"
62nd Society of Nuclear Medicine and Molecular Imaging (SNMMI 2015) Annual Meeting, Baltimore MD, Maryland, USA

2014 Best Poster Presentation "*Education and Clinical Training of Medical Physics in Thailand*"
College on Medical Physics, the Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy

2010 Best Oral Presentation - Diagnostic Radiology
8th Southeast Asian Congress of Medical Physics, Biophysics, Biomedical Engineering, 10-12 December 2010, Bandung, Indonesia

2010 Outstanding Alumni Award, Faculty of Allied Health Sciences, Naresuan University

2009 Best Oral Presentation - Imaging Physics
9th Asia-Oceania Congress of Medical Physics & 7th Southeast Asian Congress of Medical Physics, October 2009, Chiang Mai, Thailand

2009 Travel Awards for Young Medical Physicists
Asia-Oceania Federation of Organization for Medical Physics, AFOMP

2008 Best Oral Presentation - Medical Imaging
Thai Medical Physicist Society Annual Meeting, February 2008, Pattaya, Thailand

RESEARCH ACTIVITIES

Research Interests & Expertise

- Radiopharmaceutical dosimetry (MIRD) & PET kinetic modeling
- Radionuclide therapy dosimetry & theranostics
- PET parametric imaging
- Quantitative PET/CT & SPECT/CT
- PET&SPECT performance characteristics & NEMA testing
- Radiation protection & quality assurance in nuclear medicine
- Dual-energy CT
- Patient dose optimization
- Deep learning

Academic Journal Reviewers:

- European Journal of Nuclear Medicine and Molecular Imaging (EJNMMI) – Springer
- European Journal of Nuclear Medicine and Molecular Imaging Physics (EJNMMI Physics)
- Medical Physics (American Association of Physicist in Medicine: AAPM)
- Journal of Applied Clinical Medical Physics (JACMP, AAPM)
- Radiological Physics and Technology (RPT) – Springer
- Annals of Nuclear Medicine – Springer
- Frontiers in Oncology
- Frontiers in Nuclear Medicine
- Theranostics

Peer-review Journal Publications

1. Sadeghi MH, Sina S, Tan TH, Ong SH, Shi K, Khamwan K, Yeong CH. Current prospects and future directions of single-time point dosimetry in radiopharmaceutical therapy: a systematic review. Nucl Med Mol Imaging 2025. https://doi.org/10.1007/s13139-025-00917-1
2. A paired multi-scale attention network for liver tumor segmentation in ^{99m}Tc-MAA SPECT/CT imaging (Accepted to publish in **Scientific Reports**)
3. Ragchana P, Saengkaew P, Wetchagarun S, Tiyapun K, Dangprasert M, **Khamwan K**. Preliminary experiments to produce lutetium-177 in the TRR-1/M1 Thai research reactor. **Applied Radiation and Isotopes** 2025 Apr;218:111708. doi: 10.1016/j.apradiso.2025.111708.
4. Badawy M, **Khamwan K**, Carrion, D. A pilot study of generative AI video for patient communication in radiology and nuclear medicine. **Health and Technology** (2025). https://doi.org/10.1007/s12553-025-00945-z
5. Handayani W, Chantadisai M, Phromphao B, Noipinit N, Pasawang P, Khamwan K. Comparative post-therapeutic dosimetry between 2D planar-based and hybrid-based methods for personalized Lu-177 treatment. **Annals of Nuclear Medicine** 2024;38(11):884-893.
6. Sanoesan V, Phannajit J, Kingpetch K, Sawatnatee T, Phromphao B, Susantitaphong P, Sukprakun C, **Khamwan K***. Bone turnover prediction in patients with chronic kidney disease (CKD) undergoing hemodialysis using shortened dynamic ^{18}F-NaF PET/CT K_i-Patlak. **Scientifics Reports**. 2024 May 31;14(1):12536.

7. Burasothikul P, Navikhacheevin C, Pasawang P, Sontrapornpol T, Sukprakun C, **Khamwan K***. Dual-time-point dynamic ^{68}Ga-PSMA-11 PET/CT for parametric imaging generation in prostate cancer. **Annals of Nuclear Medicine**. 2024 May 18. doi: 10.1007/s12149-024-01939-z.
8. Ruenjit S, Siricharoen P, **Khamwan K***. Automated size-specific dose estimates framework in thoracic CT using convolutional neural network based on U-Net model. **Journal Applied Clinical in Medical Physics.** 2024 Mar;25(3):e14283.
9. Wattanachareekul P, Watcharakajorn W, Jaruratchatapan P, Iammelap N, Kompanich N, Chantadisai M, Tepmongkol S, **Khamwan K**, Siricharoen P. Enhanced - resolution epileptogenic zone detection in ^{18}F-FDG PET imaging for drug-resistant epilepsy using a Siamese network. The 21st International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON) 2024, IEEE, pp.1-6. doi:10.1109/ECTI-CON60892.2024.10594788
10. Noipinit N, Sukprakun C, Siricharoen P, **Khamwan K***. Comparison of absorbed doses to the tumoral and non-tumoral liver in HCC patients undergoing ^{99m}Tc-MAA and ^{90}Y-microspheres radioembolization. **Annals of Nuclear Medicine**. 2024 Mar;38(3):210-218.
11. Poosiri S, Krisanachinda A, **Khamwan K**. Evaluation of patient radiation dose and risk of cancer from CT examinations. **Radiological Physics & Technology**. 2024 Mar;17(1):176-185.
12. **Khamwan K**, Sukprakun C, Limotai C, Jirasakuldej S, Jantarato A, Hemachudha T and Tepmongkol S. Dynamic ^{18}F-FDG-PET kinetic parameters for epileptogenic zone localization in drug-resistant epilepsy. **Frontiers in Physics.** 2023 Oct;11:1233059.
13. S Jitsinchayakul, Humphries U, T Saleewong, **K Khamwan**. Mathematical Modeling of ^{177}Lu-DOTATATE for Neuroendocrine Tumor Treatment. **Thai Journal of Mathematics** 2022; 20(4):1621-1639
14. Sukprakun C, Limotai C, **Khamwan K**, Pasawang P, Tepmongkol S. A Novel Method of Seizure Onset Zone Localization by Serial ^{99m}Tc-ECD Brain Perfusion SPECT Clearance Patterns. **Brain Imaging and Behavior** 2022; Aug;16(4):1646-1656.
15. Saeku S, Noipinit N, **Khamwan K**, Siricharoen P. Liver and tumor segmentation in selective internal radiation therapy ^{99m}Tc-MAA SPECT/CT images using MANet and histogram adjustment. **Asia Symposium on Signal Processing (ASSP)** 2022 Dec 7 (pp. 62-66). IEEE.
16. Chansingthong U, **Khamwan K**, Varrathyaromv P, Traithepchanapai P. Age estimation using Hounsfield unit values from computed tomography of proximal femur trabecular: A validation study in the Thai population. **Journal of Medical Bioscience** 2022; July; 4(2):63-71
17. Chatachot K, Shiratori S, Chaiwatanarat T, **Khamwan K***. Patient dosimetry of ^{177}Lu-PSMA I&T in metastatic prostate cancer treatment: the experience in Thailand. **Annals of Nuclear Medicine** 2021 Nov;35(11):1193-1202.
18. Plyku D, Ghaly M, Li Y, Brown JL, O'Reilly S, **Khamwan K**, Goodkind AB, Sexton-Stallone B, Cao X, Zurakowski D, Fahey FH, Treves ST, Bolch WE, Frey EC, Sgouros G. Renal ^{99m}Tc-DMSA pharmacokinetics in pediatric patients **EJNMMI Phys** 2021 Jul 20;8(1):53.
19. Manassakorn A, **Khamwan K**, Owasirikul D, Itthipanichpong R, Sa-Ing V, Auethavekiat S. Retinal Nerve Fiber Layer Defect Detection using Machine Learning on Optic Disc Photograph. IEEE EMBS International Conference on Biomedical and Health Informatics (BHI) 2021: 1-4.
20. Buratachwatanasiri W, Chantadisai M, Onwanna J, Chongpison Y, Rakvongthai Y, **Khamwan K***. Determination of quantitative parameters for early stage detection in Parkinson's disease

based on ^{18}F-FDOPA pharmacokinetic model PET brain imaging. **Molecular Imaging and Radionuclide Therapy** 2021; 30 (June): 69-78.

21. Sanguansuttigul P, Saleewong T, **Khamwan K**, Bongsebandhu-phubhakdi S. A diffusion model of ^{18}F-FDOPA in the diagnosis of Parkinson's disease and its numerical simulation. **ScienceAsia** 2021; 47 (April): 241-250.
22. Tongkum S, Suwanpradit P, Vidhyarkorn S, Siripongsakun S, Oonsiri S, Rakvongthai Y, **Khamwan K***. Determination of radiation dose and low-dose protocol for digital chest tomosynthesis using radiophotoluminescent (RPL) glass dosimeters. **Physica Medica: European Journal of Medical Physics** 2020; 73: 13-21.
23. Kunsete C, Sivayyapram V, Traiyasut P, Thanoosing C, **Khamwan K**, Natapot Warrit. Records and redescription of a mygalomorph spider genus ignored for over 100 years with a new species: the genus Atmetochilus Simon, 1887 (Araneae, Nemesiidae) in Thailand. **Zootaxa** 2020; 4819 (3), 521-543.
24. **Khamwan K**, O'Reilly SE, Plyku D, Goodkind A, Josefsson A, Cao X, Fahey FH, Treves ST, Bolch WE, Sgouros G. Re-evaluation of pediatric ^{18}F-FDG dosimetry: Cristy-Eckerman versus UF/NCI Hybrid computational phantoms. **Physics in Medicine and Biology** 2018 ;63: 165012
25. Suwan-o-pas S, Suwanpradit P, Arjhansiri K, **Khamwan K***. Optimization of radiation dose and image quality in abdominal radiography using digital mobile x-ray system. **The Thai Journal of Radiological Technology** 2018; 43: 13-20.
26. Krisanachinda A, Suriyapee S, **Khamwan K**, Sanghangthum T. Education and clinical training of medical physics in Thailand. **MEDICAL PHYSICS INTERNATIONAL Journal**. 2017; 5: 27-29.
27. Fahey FH, Goodkind AB, Plyku D, **Khamwan K**, O'Reilly SE, Cao X, Frey EC, Li Y, Bolch WE, Sgouros G, Treves ST. Dose estimation in pediatric nuclear medicine. **Seminars in Nuclear Medicine** 2017; 47: 118-125.
28. **Khamwan K**, Plyku D, O'Reilly SE, Goodkind A, Cao X, Fahey FH, Treves ST, Bolch WE, Sgouros G. Pharmacokinetic modeling of ^{18}F-fluorodeoxyglucose (FDG) for premature infants, and newborns through 5-year-olds. **EJNMMI Research** 2016; 6: pp. 1-11.
29. Nuntue C, Krisanachinda A, **Khamwan K***. Optimization of a low-dose 320-slice multidetector computed tomography chest protocol using a phantom. **Asian Biomedicine** 2016; 10: pp. 269-276. (Correspondence)
30. **Khamwan K**, Krisanachinda A, Pluempitiwiriyawej C. Automated tumour boundary delineation on ^{18}F-FDG PET images using active contour coupled with shifted-optimal thresholding method. **Physics in Medicine and Biology** 2012; 57: pp. 5995-6005.
31. **Khamwan K***, Krisanachinda A, Pasawang P. Determination of patient dose from ^{18}F-FDG PET/CT examination. **Radiation Protection Dosimetry** 2010; 41: pp. 50-55. (Correspondence)

Book Chapter

- **Chapter 3: Medical Physics during the COVID-19 Pandemic:** Clinical Nuclear Medicine Practice: In book: Medical Physics During the COVID-19 Pandemic: Global Perspectives, Clinical Practice, Education and Research. Publisher: CRC Press, October 2020, pp 17-26
- Nuclear Medicine Neurology: Nuclear Medicine Instrumentation (Chapter 1, pp. 1-25): 1st Edition (April 2018) Chulalongkorn University Press.

Conference Proceedings

1. Wuri Handayani, Benchamat Phromphao, Nut Noipinit, Maythinee Chantadisai, Panya Pasawang, **Kitiwat Khamwan***. Comparative dosimetry between 2D planar-based and hybrid-based method for personalized ^{177}Lu-PSMA I&T and ^{177}Lu-DOTATATE therapy. The 14th Annual Scientific Meeting of Thai Medical Physicist Society, 27-29 January 2023, Nan, Thailand. pp. 190-195.
2. Chanthawan Khemkhangboon, Kampon Yuenyongsinchai, Nisanard Pisuchpen, **Kitiwat Khamwan***. Comparison of radiation dose and image quality between fast kV switching DECT and SECT for whole-abdominal CT examination. The 14th Annual Scientific Meeting of Thai Medical Physicist Society, 27-29 January 2023, Nan, Thailand. pp. 182-185.
3. Sukanya Saeku, Nut Noipinit, **Kitiwat Khamwan**, Punnarai Siricharoen. Liver and Tumor Segmentation in Selective Internal Radiation Therapy ^{99m}Tc-MAA SPECT/CT Images using MANet and Histogram Adjustment. 3rd Asia Symposium on Signal Processing (ASSP), December 7-9, 2022, Singapore. pp.62-66.
4. Nut Noipinit, Punnarai Siricharoen, **Kitiwat Khamwan***. ^{90}Y-microspheres dosimetry for hepatocellular carcinoma (HCC) treatment using ^{99m}Tc-MAA SPECT/CT images. 19th South-East Asian Congress of Medical Physics (SEACOMP), 21-23 October 2021, Bangkok, Thailand. pp. 89-92.
5. Sakultala Ruenjit, Punnarai Siricharoen, **Kitiwat Khamwan***. Automated method of corrected effective diameter for size-specific dose estimate (SSDE) in thoracic CT using convolutional neural network (CNN). 19th South-East Asian Congress of Medical Physics (SEACOMP), 21-23 October 2021, Bangkok, Thailand. pp. 105-108.
6. Apawadee Chakrapong, **Kitiwat Khamwan**, Anchali Krisanachinda, Porjai Techanitisawat, Kanlayanee Theerakul. Performance Characteristics Study of Cone-Beam Breast CT: A Phantom Study. 19th South-East Asian Congress of Medical Physics (SEACOMP), 21-23 October 2021, Bangkok, Thailand. pp. 131-134.
7. Sutasinee Mahasub, **Kitiwat Khamwan**, Anchali Krisanachinda. The Study of Local Diagnostic Reference Levels of Computed Tomography Procedures at Phramongkutklao Hospital. 19th South-East Asian Congress of Medical Physics (SEACOMP), 21-23 October 2021, Bangkok, Thailand. pp. 147-151.
8. Kotchakorn Chatachot, **Kitiwat Khammwan***. Evaluation of patient doses from ^{177}Lu-PSMA in metastases prostate cancer treatment at King Chulalongkorn Memorial Hospital. AOCMP&SEACOMP 2020, Phuket, 3-5 Dec 2020.
9. Yuparak Innan, **Kitiwat Khammwan***. Patient-specific organ dose calculated using dose tracking software based on Monte Carlo simulation in pediatric abdominal CT. AOCMP&SEACOMP 2020, Phuket, 3-5 Dec 2020.
10. Sanguansuttigul P, Saleewong T, **Khamwan K**, Bongsebandhu-phubhakdi S. "An Approximation of ^{18}F-FDOPA Diffusion in the Diagnosis of Parkinson's Disease.", Proceedings 14th South East Asian Technical University Consortium (SEATUC 2020), Bangkok, Thailand, February 27-28, 2020, pp. 191-195.
11. Yarnvitayalert P, Saleewong T, **Khamwan K**, Bongsebandhu-Phubhakdi S. A mathematical model of ^{99m}Tc-ECD diffusion in brain for epileptic patients. Proceedings: Proceedings 2019 International Conference on Engineering, Science, and Industrial Applications (ICESI), Tokyo (Japan).

12. Buratachwatanasiri W, Chantadisai M, **Khamwan K***. Pharmacokinetic modeling of ^{18}F-FDOPA PET in human brain for early Parkinson's disease. Proceedings of Thai Medical Physicists Society Annual Meeting, 2019, pp 93-96.
13. Lowong T, Prakkamakul S, **Khamwan K***. Investigation of parameters for metallic artifact reduction using 3-D space in MR lumbar spine: a phantom study. Proceedings of 11th Annual Scientific Meeting of Thai Medical Physicist Society (TMPS) 2019, pp 120-121.

Current Research Projects

Principal investigator:

- Pharmacokinetic model of ^{18}F-FDG PET imaging for epilepsy patients (The Thailand Research Fund, grant number MRG6180141)
- Integration of mathematical model in SPECT imaging for epilepsy (Government Budget Grant, Chulalongkorn University, grant number GB-A_61_006_30_02)
- Development of pharmacokinetic model based on single time-point data acquisition approach: ^{18}F-FDG PET/CT brain scan (Research Grant for New Scholar, Chulalongkorn University)

Co-investigator:

- Pharmacokinetic modeling of dimercaptosuccinic acid (DMSA) for pediatric patients: implications for pediatric dosing guidelines (NIH funding, USA)
- Machine learning classifiers on optic disc photography for glaucoma detection (Ratchadaphiseksomphot Endowment Fund, Chulalongkorn University)

Current thesis supervisor

PhD in medical physics

- Determination of kinetic parameters for bone turnover in chronic kidney disease with hemodialysis patients using dynamic ^{18}F-NaF PET/CT imaging
  Student: *Viyada Sanoesan*
- Evaluation of patient radiation dose and risk of cancer from CT examinations
  Student: *Saowapak Poosiri*
- Personalized dosimetry protocol for the optimization of ^{177} Lu radionuclide therapy
  Student: *Wuri Handayani*
- Lu-177 dosimetry prediction using deep learning
  Student: *Dimas Faisal Darmawan*

MSc in medical physics

- Dual-time-point parametric imaging of ^{68}Ga-PSMA PET/CT in prostate cancer patients
- Accuracy of quantitative ^{177}Lu SPECT for dosimetry calculation using digital CZT-detector 12-swiveling gamma camera
- Comparison of dosimetry between hybrid and planar 2D methods for ^{177}Lu-PSMA I&T and ^{177}Lu-DOTATATE using Hermes Gold Software (IAEA project)
- Validation of single-time point (STP) Hänscheid method for ^{177}Lu-PSMA for prostate cancer patients using Hermes Gold Software (IAEA project)
- Comparison of absorbed dose in tumoral and non-tumoral liver between ^{99m}Tc-MAA and Y-90 microspheres SPECT/CT for HCC liver cancer patients using MIM software

- Automated tumoral- and non-tumoral liver of Y-90 microspheres SPECT/CT for HCC liver cancer patients using deep learning
- Biokinetic model and renal dosimetry of ^{177}Lu-PSMA I&T (imaging & therapy) for metastases prostate cancer patients
- Size-specific dose estimates using corrected effective diameter in chest CT using deep learning
- Comparison of radiation dose and image quality between SECT and DECT
- Deep learning for epileptic foci localization in intractable epilepsy patients
- Impact of contrast agent administration on water equivalent diameter for SSDE calculation in chest CT angiography examination
- Effect of deep learning image reconstruction on abdominal CT image quality in patients with arms-down positions

Grants Received

- IAEA Fellowship Training, Cyclotron and Radioisotope Center (CYRIC), Tohoku University, Sendai, Japan, Sep-Oct 2018 (1 month)
- Faculty exchange program scholarship, Office of International Affairs and Global Network, Chulalongkorn University (Chulalongkorn University – Johns Hopkins University)
- Postdoctoral fellow scholarship, Faculty of Medicine, Chulalongkorn University
- ICTP-IAEA Training Scholarship: College on Medical Physics: Advances in medical imaging physics to enhance healthcare in developing country, the Abdus Salam International Centre for Theoretical Physics (ICTP), September 1-19, 2014, Trieste, Italy

Recent Research Projects	Funding Resources	Amount	Year
1. Pharmacokinetic modeling of ^{18}F-fluorodeoxyglucose (FDG) in PET/CT brain imaging based on cross-patient static acquisition	Grants for the development of new faculty staff, CU	120,000 Baht	1 yr (2016-2017)
2. Integration of mathematical model in SPECT imaging for epilepsy evaluation	Chulalongkorn University Government Budget	930,000 Baht	3 yrs (2017-2020)
3. Faculty exchange program Scholarship for short-term research	Chulalongkorn University Office of International Affairs	150,000 Baht	1 month (2017)
4. New method in epileptic foci localization in intractable epilepsy: ^{18}F-FDG- PET pharmacokinetic model approach	Thailand Research Fund (TRF)	600,000 Baht	2 yrs (2018-2020)

RECENT INVITED SPEAKER

2021

- Theranostics: Basic Concepts and Challenges for Nuclear Medicine Technologist in the Era of Precision Medicine. ISRRT webinar (representative of Asian region), 13 June 2021.
- Theranostics: a new era of personalized nuclear medicine. The 7th online conference of southeast Asia and open Asia. Vietnam Association of Radiological Technologists (VART), 27 June 2021.
- ASEAN College of Medical Physics (ACOMP) - Updates in Targeted Radionuclide Therapy: Radioimmunotherapy for Prostate Cancer (^{177}Lu-PSMA), SEACOMP 2021, 21-23 October 2021.
- Role of radiological technologists in the management of medical radiation exposure. 23rd Asia Australasia Conference of Radiological Technologists (AACRT) & 28th East Asia Conference of Radiological Technologists 2021. Tokyo, Japan.
- Nuclear Medicine Situation in Thailand. IAEA Consultancy Meeting on Preparation for National Human Resource and Knowledge Development (HRKD) Mission to Thailand, 25 -26 November 2021.
- Kinetic study in brain SPECT & PET. IAEA National Virtual Training Course on Neurology in Radiology and Nuclear Medicine, December 6-10, 2021
- Molecular therapy dosimetry using MIM SurePlan MRT. Thai Society of Radiological Technologists (TSRT) Annual Meeting, Bangkok, 19-21 Dec 2021.
- Practical method of theranostics for personalized cancer therapy. Thai Society of Radiological Technologists (TSRT) Annual Meeting, Bangkok, 19-21 Dec 2021.

2022

- Theranostics in the era of precision diagnostic and treatment in nuclear medicine. 30th Anniversary Faculty of Allied Health Science, Chulalongkorn University. 11-12 February 2022.
- Theranostics: an integrated imaging and therapies for personalized nuclear medicine. Southeast Asia Radiographers Conference (SEARC 2022). 25-27 March 2022, Singapore.
- Artificial intelligence for radiological technologist. RT research forum, 14 May 2022. (online)
- Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) School Webinar: "Targeted Radionuclide Therapy and Personalized Dosimetry" - Radioimmunotherapy for Prostate Cancer (^{177}Lu-PSMA), 21 May 2022.
- Current trends in hybrid PET imaging. IUPESM World Congress on Medical Physics and Biomedical Engineering (IUPESM WC2022), 12-17 June 2022, Sands Expo & Convention Centre, Marina Bay, Singapore.
- Revisiting the dosimetry technique using SPECT-CT in the nuclear therapeutic. The Malaysian Society of Nuclear Medicine and Molecular Imaging Annual Conference (MyNM 2022), Kuala Lumpur, 20 - 21 August 2022.
- Personalized dosimetric methods in radiopharmaceutical therapy. Pre-congress-The Malaysian Society of Nuclear Medicine and Molecular Imaging Annual Conference (MyNM 2022), Kuala Lumpur, 20 - 21 August 2022.
- Read with the expert. The World Federation of Nuclear Medicine and Biology, 7-11 September 2022, Kyoto, Japan.
- Basic principle and update PET/CT technology, Medical internal radiation dosimetry (MIRD) scheme and patient dose in NM, Personalized molecular dosimetry in theranostics and radionuclide therapy. TSRT-NM school, 8-9 October 2022

- Patient safety in therapeutic nuclear medicine, ISRRT live webinar, 6 November 2022
- Challenging of personalized molecular dosimetry for theranostics and radiopharmaceutical therapy in the era of precision medicine, ISRRT World Congress 2022, 15-17 December 2022, Bangkok, Thailand

2023

- Voxel-based dosimetry for personalized radiopharmaceutical therapy. Thai Medical Physicist Society (TMPS) Annual Meeting. 27-29 January 2023.
- PET/CT for radiotherapy treatment planning. AOCMP webinar, 2 March 2023.
- Nuclear Medicine and Radiopharmaceuticals in Thailand. IAEA Expert Mission: Strengthening Networks for Human Resource and Knowledge Development (HRKD). 21-24 March 2023.
- Dosimetry for thyroid cancer: how to calculate and pitfalls. The 31st Thai Radiological Technologists (TSRT) Annual Meeting, Pattaya, Thailand. 3-5 April 2023.
- Internal dosimetry in nuclear medicine: case study from King Chulalongkorn Memorial Hospital. IAEA workshop for internal dosimetry, 15 May 2023, Bangkok, Thailand.
- Integrating and Synchronizing Digital and Conventional PET-CT. Malaysian Nuclear Medicine and Molecular Imaging (MSNMMI) Annual Conference, MyNM 2023. 19-21 May 2023, DoubleTree by Hilton, Putrajaya. Malaysia.
- Yttrium-90 post-treatment dosimetry: voxel-based dosimetry. Malaysian Nuclear Medicine and Molecular Imaging (MSNMMI) Annual Conference, MyNM 2023. 19-21 May 2023, DoubleTree by Hilton, Putrajaya. Malaysia.
- Teamwork and collaboration are essential for radiological safety inn diagnostic & therapeutic nuclear medicine: technologist's perspective. Asia Safe AOSR-ISRRT webinar, Asia-Oceania Society of Radiology, 3 June 2023.
- Nuclear medicine: powerful molecular imaging in the era of precision medicine. Pathobiology conference, Faculty of Sciences, Mahidol University, 9 June 2023.
- Nuclear Medicine Workshop: Nuclear medicine dosimetry: experience at Chulalongkorn Hospital. 21st SEACOMP & 6th PIT-FMB, 10-13 August 2023, Lombok Raya, Mataram Indonesia.
- Kinetic modeling research in Thailand. Kinetic modeling initiative (KMI) pre-congress workshop. IEEE NSS MIC RTSD 2023, Vancouver, Canada, 4-11 November 2023.
- Latest trends of PET/CT innovation. TSRT-Siemens molecular imaging academy: advancing molecular imaging by automation and digitization. Novotel, Bangkok, 25-26 November 2023
- PET kinetic modeling & parametric imaging: fundamental to clinical applications. TSRT-Siemens molecular imaging academy: advancing molecular imaging by automation and digitization. Novotel, Bangkok, 25-26 November 2023
- Update technology in nuclear medicine instrumentation. Annual meeting of nuclear medicine society of Thailand, 13-15 December 2023.
- Towards clinical implementation for Lu-177 total-body dosimetry using ring-shaped CZT SPECT/CT system. Annual meeting nuclear medicine society of Thailand, 13-15 December 2023.
- Optimizing therapeutic outcomes with Lu-177 utilizing Hermes Hybrid dosimetry and STP Hancheid approach. Annual meeting of nuclear medicine society of Thailand, 13-15 December 2023.

2024

- *Feasibility of single-time-point (STP) dosimetry for molecular radiotherapy*. Thai Medical Physicist Society (TMPS) Annual Meeting, 1-3 March 2024. Trang, Thailand.
- *Nuclear medicine: message from EANM 2023*. RCRT-RST annual meeting, 8-10 February 2024.
- *The new era of molecular imaging through kinetic modeling*. RCRT-RST annual meeting, 8-10 February 2024.
- *Lu-177-PSMA with 12-digital CZT SPECT/CT system for dosimetry and quantification*. The 13th International Seminar on Medical Physics (ISMP 2024), the Malaysian Association of Medical Physics (MAMP), 29th April 2024.
- *Advanced technology in nuclear medicine*. Total Radiology Session, Medlab Asia & Asia Health, 11-12 July 2024.
- *IAEA expert mission* on national training course on strengthening radiation practices related to the production and utilization of radiopharmaceuticals. 2-5 September 2024, Denpasar, Bali, Indonesia
- *Revolutionizing personalized Lu-177 molecular radiotherapy dosimetry*. AOCMP & SEACOMP 2024, 10-13 October 2024, Penang, Malaysia.
- *Personalized dosimetry for Lu-177 molecular radiotherapy in the era of precision oncology*. The 44th Annual Meeting of the Japanese Society of Nuclear Medicine Technology (JSNMT). 7-9 November 2024, Pacifico Yokohama, Japan
- *Lutetium-177 voxel-based dosimetry: from the beginning-to-practice*. Thai Society of Nuclear Medicine Annual Meeting. 20-22 November 2024, Nakhon Nayok, Thailand.

2025

- *New trends for Lu-177 personalized dosimetry using a ring-shaped CZT-based camera: the game changes?* Southeast Asia Congress of Medical Physics (SEACOMP), 24-26 January 2025, Chiang Rai, Thailand
- *PET parametric imaging*, 22 March 2025, Malaysian Society of Nuclear Medicine and Molecular Imaging (MSNNMI).
- *Update technique and latest technology in nuclear medicine,* Chulalongkorn Hospital Alumni Society Annual Meeting, 2-4 April 2025, Cha-am, Thailand
- *Patient-specific dosimetry for Lu-177 molecular radiotherapy*, the 129th Scientific Meeting of the Japan Society of Medical Physics (JSMP), 10-13 April 2025, Yokohama, Japan
- *Future trends and challenges for patient-specific dosimetry in Lu-177 molecular radiotherapy*. The 5th Macau Biomedical Imaging Research Workshop and the 2025 International Symposium on Radiotheranostics Toward Practicing Personalized Medicine, May 20-21, 2025, University of Macau

EDUCATIONAL ACTIVITIES

Teaching: Classroom instruction

PhD Program in Medical Physics, Faculty of Medicine, Chulalongkorn University

- Advance Clinical Method in Medical Physics (1st semester 2016 – present)
- Advance Medical Imaging Physics (2nd semester 2016 – present)
- Advance in Nuclear Medicine

Master of Science Program in Medical Physics, Faculty of Medicine, Chulalongkorn University

- Imaging Dosimetry (2nd semester 2011 – present)
- Physics in Diagnostic Imaging (1st semester 2013 – present)
- Physics of Nuclear Medicine (1st semester 2014 – present)
- Radiological Physics & Dosimetry (1st semester 2015 – present)
- Physics of MRI (1st semester 2016 – present)
- Biomedical Instrumentation (1st semester 2016 – present)
- Non-ionizing radiation (1st semester 2016 – present)
- Principle of CT (1st semester 2019 – present)

Residency Training Program in Radiology, Faculty of Medicine, Chulalongkorn University

- Basic & Advance Ultrasound Imaging
- Basic MRI Physics
- Medical Internal Radiation Dosimetry (MIRD)

Bachelor of Science Program in Radiological Technology, Chulalongkorn University

- Imaging Informatics in Radiology (2nd Semester 2015– present)
- Radiological Equipment II (2nd Semester 2015 – present)
- Digital Medical Imaging (1st Semester 2017 – present)
- Nuclear Medicine Technology
- Advance CT & MRI
- Advance Nuclear Medicine
- Diagnostic Imaging in MRI

ORGANIZATIONAL & PROFESSION ACTIVITIES

Organizing Committee:

- International Conference in Medical Physics 2016
- Thai Medical Physicist Society Annual Meeting
- Asia-Oceania Congress of Medical Physics
- Southeast Asian Congress of Medical Physics
- Thai Society of Radiological Technologist Annual Meeting
- International Society of Radiographers and Radiological Technologists (ISRRT) World Congress 2022

Professional Societies

- Member, Society of Nuclear Medicine and Molecular Imaging (SNMMI)
- Member, IEEE and Nuclear and Plasma Sciences Society

- Member, Thai Society of Nuclear Medicine (TSNM)
- Board Member, Thai Medical Physicist Society (TMPS)
- Board Member, Thai Society of Radiologic Technologist (TSRT)
- Board Member, Thai Radiological Technologist Profession (2017-current)
- Thailand Council Member International Society of Radiographers and Radiological Technologists (ISRRT)
- Professional Relations Committee (PRC) - Asia-Oceania Federation of Organization for Medical Physics (AFOMP)