



# Thai Medical Physicist Society

The Eleventh Annual Scientific Meeting,

24-26 January 2019

Pullman Pattaya Hotel G 445/3 Moo 5 Wongamart Beach Pattaya  
Naklua Rd, Soi 16 Chonburi 20150 Thailand

## CONGRESS PROGRAM

### THURSDAY 24 JANUARY 2019

07:30 REGISTRATION

**Room** *Bua Sawan (1<sup>st</sup> floor)*

10:00-10:30 OPENING CEREMONY

**Room** *Bua Chompoo (2<sup>nd</sup> floor)*

#### *Invited Lectures*

**Room** *Bua Chompoo*

**Chair:** *Anchali Krisanachinda*

10:30-11:40 PATIENT SAFETY IN RADIOLOGY  
*Kosuke Matsubara, Kohei Hanaoka, Seiichi Ota*

11:40-12:00 IMPLEMENTATION OF THE BONN CALL FOR ACTION AFTER SIX YEARS  
*Franco Milano*

12:00-13:00 LUNCH

**Room** *Bua Chompoo*

**Chair:** *Chirapha Tannanonta*

13:00-14:00 PROTON BEAMS: NEW TREND OF CANCER PATIENT TREATMENT  
*Taweap Sanghangthum, Suphalak Khachonkham, Mintra Keawsamur*

14:00-14:30 RADIOMICS AND THE USE OF ARTIFICIAL INTELLIGENCE IN RADIOLOGY  
*Yothin Rakvongthai*

14:30-15:00 COFFEE BREAK

**Room** *Bua Chompoo (Radiotherapy)*

**Chair:** *Puangpen Tangboonduangjit*

15:00-15:40 PASSIVE DETECTORS IN RADIOTHERAPY: FILM AND RPL GLASS  
DOSIMETERS  
*Suphalak Khachonkham, Puntiva Oonsiri*

15:40-16:00 FEASIBILITY STUDY OF NOVEL TUNGSTEN SHIELDING MATERIAL FOR  
ELECTRON RADIATION THERAPY  
*Kenta Kijima*

- 16:00-16:30 A HIGH RESOLUTION OF 2D MONOLITHIC SILICON-DIODE ARRAY DETECTORS IN MV PHOTON BEAMS  
*Nualjun Stansook*
- Room** *Bua Luang, 3<sup>rd</sup> floor (Imaging & Nuclear Medicine)*
- Chair:** *Taratip Narawong*
- 15:00-15:30 CURRENT THERANOSTICS RADIOPHARMACEUTICALS AT KCMH  
*Shuichi Shiratori*
- 15:30-16:00 MANAGING PATIENT RADIATION DOSE IN DIAGNOSTIC RADIOLOGY  
*Toshio Fujibuchi*
- 16:00-16:30 RADIATION PROTECTION WITH NOVEL TUNGSTEN MATERIAL IN DIAGNOSTIC RADIOLOGY FIELD  
*Hiroyuki Kosaka*
- Room** *Bua Chompoo*
- 17:30-18:30 BUSINESS MEETING AND PRESIDENT ELECTION
- 19:00-21:00 GALA DINNER

<b>FRIDAY 25 JANUARY 2019</b>
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***Invited Lectures***

- Room** *Bua Chompoo*
- Chair:** *Surat Vinijorn*
- 08:30-09:30 INNOVATION AND TECHNOLOGIES OF CT  
*Katsumi Tsujioka*
- 09:30-10:00 RADIOBIOLOGY: AN IMPORTANT SCIENCE FOR AN ADVANCED PRECISION RADIOLOGY  
*Thititip Tippayamontri*
- 10:00-10:30 COFFEE BREAK
- 10:30-12:00 FETAL RADIATION DOSE AND SUBSEQUENCE RISK IN RADIOLOGY  
*Anchali Krisanachinda, Kritsanat Chuamsaamarkkee, Puangpen Tangboonduangjit*
- 12:00-13:00 LUNCH
- Proffered Paper in Radiotherapy***
- Room** *Bua Chompoo*
- Chair:** *Puangpen Tangboonduangjit*
- Co-Chair:** *Lakkana Apipanyasopon*
- 13:00-13:10 NEUTRON CONTAMINATION IN TRUEBEAM STX VARIAN LINAC  
*M. Arif Efendi, Amporn Funsian, Thawat Chittrakarn, Tripob Bhongsuwan*

- 13:10-13:20 ASSESSMENT OF THE ANATOMICAL POSITION OF POINT B AND THE RELATIONSHIP BETWEEN POINT B DOSE AND THE DOSE DELIVERED TO PELVIC LYMPH NODES IN CT-BASED HDR BRACHYTHERAPY FOR UTERINE CERVICAL CANCER  
*Hideaki Matsukawa, Tomonari Sasaki, Ryota Hirayama, Taka-aki Hirose, Jun-ichi Fukunaga*
- 13:20-13:30 DOSIMETRIC COMPARISON OF DOSE CALCULATION ALGORITHM NEAR THE METAL-TISSUE INTERFACE FOR STEREOTACTIC BODY RADIOTHERAPY  
*Ismaae Hanor, Puangpen Tangboonduangji, Pornpan Yongvithisatid, Pimolpun Changkaew, Kumutinee Pairat, Patchareporn Dechsupa*
- 13:30-13:40 PERFORMANCE COMPARISON OF TWO COMMERCIAL DEFORMABLE IMAGE REGISTRATION SOFTWARE IN THE HEAD AND NECK DIGITAL PHANTOM  
*Pongkachon Wariwong, Sawwanee Asavaphatiboon, Puangpen Tangboonduangjit, Chumpot Kakanaporn*
- 13:40-13:50 E2E DOSIMETRIC VERIFICATION FOR SMALL VMAT FIELD MLC-BASED STEREOTACTIC RADIOTHERAPY  
*Sanchai Lookkaew, Boonrut Vutiprasertpong, Suphalak Khachonkham, Puangpen Tangboonduangjit*
- 13:50-14:00 COMMISSIONING AND ACCEPTANCE TEST OF CYBERKNIFE M6 SERIES WITH FIXED AND INCISE™ MULTILEAF COLLIMATORS  
*Thida Niyomthai, Thanadol Chaiyasen, Ratchadaporn Prasertsom, Puangpen Tangboonduangjit*
- 14:00-14:10 NEUTRON DOSIMETRY OF TRUEBEAM LINAC USING CR-39 TRACK DETECTOR  
*Wantasa Chummi, Rungdham Takam, Apisara Charoensri, Pattarawat Junpiw*
- 14:10-14:20 DOSIMETRIC COMPARISON OF THREE DIMENSIONAL CONFORMAL RADIOTHERAPY, INTENSITY MODULATED RADIOTHERAPY AND VOLUMETRIC MODULATED ARC THERAPY TECHNIQUES IN THE TREATMENT OF LOCALLY ADVANCED NON-SMALL CELL LUNG CANCER  
*Win Ko Ko Oo, Kitwadee Saksornchai, Chonnipa Nantavithya, Taweap Sanghangthum, Buntipa Netsawang, Kanjana Shotelersuk*
- 14:20-15:00 COFFEE BREAK
- Chair:** *Chumpot Kakanaporn*  
**Co-Chair:** *Taweap Sanghangthum*
- 15:00-15:10 DOSE EVALUATION INDICES FOR TOTAL BODY IRRADIATION USING TOMODIRECT WITH DIFFERENT NUMBERS OF PORTS: A COMPARISON WITH THE TOMOHELICAL METHOD  
*Yuki Kasai, Yukihide Fukuyama, Hiromi Terashima, Tomonari Sasaki*
- 15:10-15:20 DOSIMETRIC EFFECT ON DAILY BLADDER AND RECTUM FILLINGS DURING COURSE OF PROSTATE CANCER TREATMENT IN VOLUMETRIC MODULATED ARC THERAPY TECHNIQUE  
*Julaluck Chanayota, Sivalee Suriyapee, Petch Alisanant, Taweap Sanghangthum*

15:20-15:30 THE ACCURACY OF STEREOSCOPIC IMAGE SYSTEM FOR INTRA-FRACTION VERIFICATION AT VARIOUS COUCH ROTATION ANGLES  
*Pornpirom Laojanan, Siwadol Pleanarom, Surat Vinijorn, Chumpot Kakanaporn*

15:30-15:40 PRETREATMENT QA OF MULTITARGETS SINGLE ISOCENTER VMAT STEREOTACTIC RADIOTHERAPY  
*Siwadol Pleanarom, Pornpirom Laojanan, Pornnip Iampongpaiboon, Chumpot Kakanaporn*

***Proffered Paper in Imaging & Nuclear Medicine***

***Room Bua Luang, 3<sup>rd</sup> floor***

***Chair: Anchali Krisanachinda***

***Co-Chair: Kosuke Matsubara***

13:00-13:10 ACCURACY EVALUATION OF SIMPLIFIED METHOD USING SLOPE OF MR SIGNAL IN INVERSION RECOVERY SPIN ECHO SEQUENCE FOR SPIN-LATTICE RELAXATION TIME (T<sub>1</sub>) MEASUREMENT  
*Noriyuki Tawara, Atsushi Nishiyama*

13:10-13:20 THE MEASUREMENT OF TRANSVERSE RELAXATION TIME (T<sub>2</sub>) USING HISTOGRAM FROM REGION OF INTEREST (ROI) SETTING IN MUSCLE ACTIVITY STUDY AT 1.5 TESLA MRI  
*Kannikar Kanyakham, Noriyuki Tawara, Anchali Krisanachinda*

13:20-13:30 INVESTIGATION OF PARAMETERS FOR METALLIC ARTIFACT REDUCTION USING 3-D SPACE IN MR LUMBAR SPINE AT 1.5 TESLA: A PHANTOM STUDY  
*Thanatchaya Lowong, Supada Prakkamakul, Kitiwat Khamwan*

13:30-13:40 ESTIMATION OF CROSS-SECTIONAL EFFECTIVE ENERGY IN X-RAY CT: MEASUREMENT AND SIMULATION STUDY  
*Rena Okubo, Kosuke Matsubara, Thunyarat Chusin*

13:40-13:50 ASSESSMENT OF RADIATION DOSE IN CARDIAC CT ANGIOGRAPHY USING RETROSPECTIVE ECG GATING TECHNIQUE AT RAMATHIBODI HOSPITAL  
*Saifhon Admontree, Sawwanee Asavaphatiboon, Napapong Pongnapang, Anchali Krisanachinda*

13:50-14:00 EVALUATION OF IMAGE QUALITY AND PULMONARY NODULE DETECTABILITY IN CHEST CT WITH ADDED BEAM SHAPING FILTER: PHANTOM STUDY  
*Hataipat Jantawong, Anchali Krisanachinda*

14:00-14:10 EYE LENS DOSE MEASUREMENT IN PATIENTS DURING BRAIN ARTERIOVENOUS MALFORMATION (AVM) INTERVENTIONAL NEURORADIOLOGY (INR) PROCEDURE  
*Rasalin Thana, Anchali Krisanachinda, Petcharleeya Suwanpradit, Watanyu Taksima, Romrangsri Wongsung, Jarturon Tantiwatana*

14:10-14:20 CHARACTERISTICS OF MOLYBDENUM AND RHODIUM ANODE SPECTRA SIMULATED USING PARTICLE AND HEAVY ION TRANSPORT CODE SYSTEM (PHITS)  
*Thunyarat Chusin, Kosuke Matsubara, Akihiro Takemura, Rena Okubo, Yoshinori Ogawa*

- 14:20-14:30 THE FACTORS AFFECTING AVERAGE GLANDULAR DOSE IN SCREENING DIGITAL MAMMOGRAPHY  
*Jaroonroj Wongnil, Anchali Krisanachinda*
- 14:30-14:40 A STUDY OF ENTRANCE SURFACE DOSE FOR PATIENTS UNDERGOING CHEST AND ABDOMEN FROM DIGITAL RADIOGRAPHY  
*Atchara Promduang, Napapong Pongnapang*
- 14:40-14:50 THE OPTIMIZED WHOLE-BODY LOW-DOSE COMPUTED TOMOGRAPHY PROTOCOL FOR DETECTING BONE FRACTURE IN TRAUMA PATIENTS  
*Kananuch Jatuwongwiwat, Sarita Suvira, Kewalee Sasiwimonphan, Petcharleeya Suwanpradit*
- 14:50-15:00 COFFEE BREAK
- Chair:** *Taratip Narawong*  
**Co-Chair:** *Kitiwat Khumwan*
- 15:00-15:10 PHANTOM STUDY OF TARGET VOLUMETRIC DEFINITION IN 18-FLUORINE-FLUORODEOXYGLUCOSE PET IMAGES BY FIXED THRESHOLD SUV AND ADAPTIVE THRESHOLD SUV METHODS  
*Chanapa Puntu, Molrudee Ekmahachai, Tawika Kaewchua, Supoj Ua-apisitwong*
- 15:10-15:20 EVALUATION OF LUNG SHUNT FRACTION FROM PLANAR SCINTIGRAPHY AND SPECT/CT IMAGES  
*Nucharee Poon-iad, Ajalaya Teyateeti, Pachee Chaudakshetrin*
- 15:20-15:30 DETERMINATION OF BRAIN SUV VALUES IN ONCOLOGY PATIENTS  
*Ohnmar Swe, Matthew Marzetti, Anchali Krisanachinda*
- 15:30-15:40 ESTIMATION OF RADIATION DOSE TO WORKERS IN SIRIRAJ CYCLOTRON CENTER  
*Pornpun Jiemwutthisak, Jureeporn Asawarattanapakdee, Supphalak Rassamee, Pachee Chaudakshetrin and Malulee Tuntawiroon*
- 15:40-15:50 THE STUDY OF RADIATION DOSE FROM PEM STUDY: PRELIMINARY RESULT  
*Taratip Narawong*
- 15:50-16:00 MAXIMUM A POSTERIORI APPROACH TO DUAL-TRACER PARATHYROID IMAGING  
*Thunyaluk Sawatnatee, Tawatchai Chaiwatanarat, Yothin Rakvongthai*
- 16:00-16:10 THE PHARMACOKINETIC MODEL OF <sup>18</sup>F-FDOPA IN PET BRAIN IMAGING FOR EARLY PARKINSON'S DISEASE  
*Wirunpatch Buratachwatanasiri, Maythinee Chantadisai, Kitiwat Khamwan*

**SATURADAY 26 JANUARY 2018**

**Room** *Bua Chompoo (Radiotherapy)*

**Invited Lectures**

**Chair:** *Sivalee Suriyapee*

08:30-09:30 SMALL FIELD DOSIMETRY  
*Sivalee Suriyapee, Puntawa Oonsiri, Sakchai Buppaungkul*

09:30-10:00 3D BRACHYTHERAPY EXPERIENCE AT RAMATHIBODI HOSPITAL  
*Daranee Piriyasang*

10:00-10:30 COFFEE BREAK

**Chair:** *Chumpot Kakanaporn*

10:30-12:00 PANEL DISCUSSION: PATIENT-SPECIFIC QA IN IMRT/VMAT  
*Kazuki Kubo, Wisawa Phongprapun, Sangutid Thongsawad, Pimolpun Changkeaw, Sornjarod Oonsiri*

12:00-13:00 LUNCH

**Room** *Bua Luang, 3<sup>rd</sup> floor (Imaging & Nuclear Medicine)*

**Invited Lectures**

**Chair:** *Kitiwat Khumwan*

09:00-09:30 SCATTERED DOSE MEASUREMENT: RADIATION DOSIMETRY USING PASSIVE OSL DOSIMETERS  
*Ikuo Kobayashi*

09:30-10:00 RADIATION PROTECTION OF MEDICAL STAFF: PRACTICAL WAYS TO REDUCE RADIATION DOSE FROM SCATTERED RADIATION  
*Kosuke Matsubara*

10:00-10:30 COFFEE BREAK

**Chair:** *Anchali Krisanachinda*

10:30-11:10 IMAGE QUALITY TO UNDERSTAND MRI  
*Noriyuki Tawara*

11:10-11:50 PHARMACOKINETIC MODELING AND DOSIMETRY OF F18-FDG PET IMAGING IN PEDIATRIC NUCLEAR MEDICINE  
*Kitiwat Khumwan*

11:50-13:00 LUNCH

**Room** *Bua Chompoo*

**Invited Lectures**

**Chair:** *Chirapha Tannanonta*

13:00-13:20 DATA SCIENCE AND MEDICAL PHYSICS  
*Franco Milano*

13:20-13:50 IAEA QUAADRIL/QUANUM/QUATRO  
*Anchali Krisanachinda, Chumpot Kakanaporn*

**Room** *Bua Chompoo*

***Vendor Talk and Invited Speaker***

***Chair: Sivalee Suriyapee***

- 13:50-14:10 MOBIUS IN THE VARIAN ECOSYSTEM (VARIAN, B/A)  
*Selena Hsieh*
- 14:10-14:30 SMARTSCAN-AUTOMATED AND GUIDED BEAM COMMISSIONING (IBA, B/A)  
*Steven Ko*
- 14:30-14:50 MRI-LINAC (ELEKTA, PBI)  
*Vald Puzankoff*
- 14:50-15:10 GLASS DOSIMETER (CHIYODA, PBI)  
*Tatsuya Kobayashi*
- 15:10-15:30 DIAGNOSTIC REFERENCE LEVEL  
*Anchali Krisanachinda, Petcharleeya Suwanpradit*
- 15:30-15:50 PATIENT DOSE MONITORING IN CLINICAL PRACTICE  
*Napapong Pongnapang*
- 15:50-16:10 DOSE MONITORING SOFTWARE AND THE ROLES IN DRIVING DOSE  
OUTCOME (GE)  
*Dean Yiew*
- 16:10-16:30 PRESENTATION AWARDS AND CLOSING