

【General Session】

April 14 (Thu.) 418

Diagnostic Technology

14:00–14:50 Chairperson: Hiraku Kawamura

- POP-001 Detection of infarct foci by model-based iterative reconstruction in CT using a novel phantom model of stroke
Kitasato University Hidetake Hara
- POP-002 Evaluation of chronic smoking effect on cerebral arteriolar vasomotor function in young subjects using MRI
Hokkaido University Masaya Kubota
- POP-003 Voxel size dependence of MRI metallic artifacts in ultrashort echo time imaging
Hokkaido University Daisuke Sato
- POP-004 Validation of electromagnetic simulation of SAR using homogenous spheres with analytically-obtained theoretical values
Hokkaido University Kaito Yamashita

Miscellaneous

15:00–15:50 Chairperson: Hiroaki Matsubara

- POP-005 Antibacterial effect of titanium-oxide particles under white-photon irradiation
Iwate Medical University Eiichi Sato
- POP-006 Development of a high-spatial-resolution CT scanner using a white-power LED
Iwate Medical University Uchimaru Medical Center Yuichi Sato
- POP-007 Evaluation of weighted CT reconstruction for ill-posed problem
Hokkaido University Kiwamu Kamiya
- POP-008 Questionnaire survey on medical physics education and medical physics training system in Japan for researchers and students under 35-year-old
Kyoto University Hiraku Iramina

Radiation Measurement

16:00–17:00 Chairperson: Katsunori Yogo

- POP-009 X-ray-dose-rate measurement using an ionization diode
Iwate Medical University Eiichi Sato
- POP-010 Dosimetric characterization of two-dimensional liquid-filled ionization chambers used for quality assurance in stereotactic radio surgery
Fujita Health University Hospital Yasunori Saito
- POP-011 Attempt of dose evaluation considering ionizing structure by image analysis of charged particle tracks
Teikyo University Tatsunori Yamashita
- POP-012 A study on the relationship between dose rate and counting when a UVC camera is used as a semiconductor detector
Tokyo Metropolitan University Musashi Kaneko
- POP-013 Evaluation of dose uncertainty in polymer gel dosimetry associated with temperature and transportation
National Cancer Center Hospital East Shogo Kurokawa

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Monte Carlo**9:00–9:50 Chairperson: Takeshi Kamomae**

- POP-014 Investigation of dose distribution in heterogeneous materials for a ^{192}Ir source by Monte Carlo simulation
Ibaraki Prefectural University of Health Sciences Fumihito Tomita
- POP-015 The simulation of Electron beam (Elekta Versa HD) in magnetic field
Tokyo Metropolitan University Taiji Fukayama
- POP-016 A comparative study of Geant4 and EGS5 for image quality improvement by using scattered radiation in portal imaging system
Tokyo Metropolitan University Kentaro Saguchi
- POP-017 Denoising Monte Carlo dose distribution using deep learning
Osaka University Kotaro Ryu

Particle Therapy**9:55–10:45 Chairperson: Shunsuke Yonai**

- POP-018 Analyzing spatial distribution between ^{18}F -Fluorodeoxyglucose and ^{18}F -Boronophenylalanine PET for investigating selection indicators for boron neutron capture therapy
National Cancer Center Hospital Tetsu Nakaichi
- POP-019 Fundamental performance evaluation of treatment planning system for boron neutron capture therapy
Southern Tohoku BNCT Research Center Akihiko Takeuchi
- POP-020 Clinical commissioning of the RayStation treatment planning system for carbon-ion beam scanning irradiation at East Japan Heavy Ion Center
Yamagata University Takayuki Kanai

Photon Therapy**10:50–11:50 Chairperson: Masato Tsuneda**

- POP-022 Comparison of rectal-dose reduction ability between a hydrogel spacer and a hyaluronic acid gel spacer in HDR prostate brachytherapy
Tokyo Metropolitan University Yuka Urigo
- POP-023 Prediction of lung dose in radiotherapy of stage III lung cancer using SUV values of PET/CT images
Osaka International Cancer Institute Reimi Yoshinaka
- POP-024 Robustness assessment of VMAT plan with robust optimization for prostate radiotherapy
Fujita Health University Hospital Shuta Ogawa
- POP-025 The impact of MLC positional errors on radiobiological metrics in volumetric-modulated radiation therapy
Niigata University Tomotaka Kinoshita
- POP-026 Dosimetric comparison of helical tomotherapy and HyperArc treatment plans in angiosarcoma of the scalp
Osaka International Cancer Institute Shoki Inui

Machine Learning

18:00–18:50 Chairperson: Daisuke Kawahara

- POP-027 Generation of Pseudo-CT using GAN-based model with contrastive learning on pelvic MRI data
Chiba University Takumi Miyazaki
- POP-028 Automatic segmentation of brain metastases using a platform for deep learning model development in medical imaging
National Cancer Center Hospital Kotaro Iijima
- POP-029 Discrimination of the infiltration of lung adenocarcinoma in computed tomography image using homology method
Osaka University Kazuha Takarabe
- POP-030 A noble quality control and identification method for human keratinocyte stem cells by automated cell tracking
Teikyo University Takuya Hirose
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Motion and Deformation

11:10–12:00 Chairperson: Nobutaka Mukumoto

- POP-031 Verification for skin markerless in Tomotherapy using body surface laser scanning system
Teine keijinkai hospital Fumihiro Sasaki
- POP-032 The position variation between fiducial marker and tumor according to respiratory motion of 250 patients treated by CyberKnife
Kobe Minimally Invasive Cancer Center Hiroaki Akasaka
- POP-033 Deformable image registration between arm positions (raised/down) PET-CT and treatment planning CT images
Teikyo University Kanako Kitazumi
- POP-034 Real-time volumetric imaging based on CT image deformation driven by displacement of internal fiducial markers in abdominal region
Hokkaido University Saiko Kon

Quality Assurance

14:10–15:00 Chairperson: Sodai Tanaka

- POP-035 Examination of transition from 3D detector system to In vivo dosimetry verification in intensity-modulated radiotherapy dose distribution verification
Aomori Rousai Hospital Koji Ishita
- POP-036 Efficient automated patient specific quality assurance using log files and a commercial treatment planning system in proton pencil beam scanning
Osaka Proton Therapy Clinic Yuki Tominaga
- POP-037 Dosimetric evaluation of log-based simplified Monte Carlo dose calculation for efficient patient-specific QA in spot-scanning proton therapy
Hokkaido University Hospital Takuya Matsumoto
- POP-038 Development of a patient QA system using independent beam models and irradiation log files for heavy ion therapy
Osaka University Yuki Noguchi