【General Session (Oral)】

September 20 (Fri.)　Main

Young Investigator Award A

8:30–10:00　Chairperson: Weishan Chang (Tokyo Metropolitan University), Hak Soo Kim (National Cancer Center)

O-001. Development of an automated measurement system for photoneutrons in a clinical Linac using the CsI self-activation method
Kyushu University　Hikaru Moriguchi

O-002. Development of a Remote Operating Neutron Spectrometer for Boron Neutron Capture Therapy Irradiation Field
Kyoto University　Jakkrit Prateepkaew

O-003. Clinical Applicability Evaluation of Newly Designed Eye Shield and Flexible Dummy in Electron Therapy: A Monte Carlo Study
Department of Radiation Convergence Engineering, Yonsei University　Saerom Sung

O-004. Therapeutic high-energy Radiation Characteristics Study for Verification of Flat-panel Detector without conventional Layer
Department of Radiation Oncology, Yonsei Cancer Center, Heavy Ion Therapy Research Institute, Yonsei University College of Medicine, Seoul, Korea, Republic of (South)　Dongho Lee

O-005. Feasibility study of markerless real-time tumor-tracking radiotherapy for liver tumors using diaphragm as a surrogate.
Graduate school of engineering, Hokkaido University　Hidehiro Kino

O-006. Predictive Model for VMAT Plan Deliverability by Visualizing Planning Information
Yonsei University College of Medicine　Hyeonjeong Cho

O-007. Feasibility of target-visibility-enhanced images for markerless tumor tracking: A phantom study
University of Tsukuba　Minori Takaoka

O-008. Dosimetric evaluation of dynamic tracking irradiation by real-time adaptation of spot position and energy in proton therapy
Graduate School of Biomedical Science and Engineering, Hokkaido University　Takahisa Osanai

O-009. Models with Integrated Multi-Source Data for Predicting Atrial Fibrillation in Non-Small Cell Lung Cancer with External Evaluation
Yonsei University College of Medicine　Sang Kyun Yoo

September 20 (Fri.)　Sub 1 (room234)

Young Investigator Award B

8:30–10:00　Chairperson: Noriyuki Kadoya (Tohoku University), Yeon Soo Yeom (Yonsei University)

O-010. Unsupervised CT MAR method using Poisson blending method with diffusion prior in sinogram domain
Korea Advanced Institute of Science and Technology　Subong Hyun

O-011. Metal artifact reduction with prior image synthesis via latent diffusion model
Korea Advanced Institute of Science and Technology　Da-in Choi

O-012. MRI-based Radiomics Nomogram for Progression-Free Survival in Cervical Cancer Patients Treated With Concurrent Chemoradiotherapy
Department of Radiation Oncology, Tohoku University Wynn WingYi LEE

O-013. Clinically Practical 3D Volume Generation Model from a Single-View X-ray Cone-Beam Projection: A Feasibility Study
Department of Nuclear Engineering, Hanyang University Euidam Kim

O-014. Optimizing Data Augmentation for Medical Image Classification
Graduate School of Medical Care and Technology, Teikyo University Kazuki Wakao

O-015. Accuracy Evaluation of AI auto segmentation models U-Net and UNETR for Abdominal Organs in Resource-Constrained Settings
Tohoku University Zhoujie Zhang

O-016. Development of CT Dose Assessment System Based on Mesh-type Reference Computational Phantoms (MRCPs)
Yonsei University Yumi Lee

O-017. In Vivo Imaging Experiment of 95mTc Using Electron Tracking Compton Camera (ETCC)
Tokai University Koya Yoshida

O-018. Predictive dose for radiation-induced lymphopenia in hepatocellular carcinoma after Y-90 radioembolization
Department of Biomedical Engineering and Department of Biomedicine & Health Sciences, College of Medicine, The Catholic University of Korea, Seoul, South Korea Sangseok Ha

September 20 (Fri.) Sub 2 (room224)

Radiation Measurement

10:15–11:45 Chairperson: Hiroaki Matsubara (Fujita Health University), Ryosuke Kohno (International University of Health and Welfare)

O-019. Directional dependence of diagnostic radiochromic film
Kawasaki University of Medical Welfare Shinnosuke Nishihara

O-020. Changes in the scanning orientation effect of Gafchromic film (EBT3) irradiated with ultra-high-dose-rate proton beams
Research Institute for Radiation Biology and Medicine, Hiroshima University Hiroshi Yasuda

O-021. Optical path simulation for in-air readout optical computed tomography
Teikyo University Akito S Koganezawa

O-022. Three-dimensional dosimetry using PVA-I radiochromic gel dosimeter for VMAT of multiple brain metastases
Hiroshima Heiwa Clinic Kaoru Ono

O-023. Development of a dose per pulse dosimeter using a silicon photodiode at a 10MV flattening filter-free mode in radiotherapy
Iwate Medical University School of Medicine Satoshi Yamaguchi

O-024. Comparison of small-field characteristics of plastic scintillator and silicon diode detector in photon beam dosimetry
Tokyo Metropolitan Tama Medical Center Yu Arai

O-025. Validity of Multiple Depth Cherenkov Light Ratio Correction of Plastic Scintillation Detector for High-Energy Electron Beams
Department of Radiology, Tokyo Metropolitan Bokutoh Hospital Takuto Takizawa

O-026. Use of wire-grid polarization camera and Monte Carlo simulation for Cherenkov emission imaging in dosimetry of high-energy X-rays

Kyushu University Aoto Moriguchi

O-027. Patient-specific dosimetry in whole-body region combining measurement and simulation in clinical BNCT

Kansai BNCT Medical Center, Osaka Medical and Pharmaceutical University Ryo Kakino

September 20 (Fri.) Sub 1 (room234)

Particle Therapy 1

13:15–14:05 Chairperson: Taku Inaniwa (QST)

O-028. Experimental assessment of the accuracy of a protoacoustic wave simulation using an optical hydrophone

Hokkaido University Taichi Murakami

O-029. Investigation of probe head designs for protoacoustic measurement using an optical hydrophone

Hokkaido University Sena Hidani

O-030. An Initial Study on the Hybrid Planning of FLASH and IMPT for Abdominal Tumors

Hokkaido University Sho Inoue

O-031. Development of safety margin compensating range uncertainty for MRI-guided proton therapy

Hokkaido University Masaki Konno

O-032. Application of deep learning-based motion prediction for imaging dose reduction in real-time-image gated proton therapy

Hokkaido University Naoki Miyamoto

September 20 (Fri.) Sub 2 (room224)

Joint Session 1
(Therapy)

13:15–14:15 Chairperson: Hideyuki Mizuno (QST), Chul Hee Min (Yonsei University)

O-033. Evaluation of the Dosimetric Impact of Thickness and Air Bubbles in Bolus: 3D Printed versus Commercial Bolus in Radiotherapy

Department of Radiotherapy Keimyung University Hospital Yun Sung Shin

O-034. Assessment of positively charged gold nanoparticles as radiation sensitizers in a clonogenic assay using HeLa cells

Nagoya University Graduate School of Medicine Zedong Cheng

O-035. Performance test of the multigap resistive plate chamber for targeting the carbon ion's time-of-flight detector

Yonsei University College of Medicine Nahye Kwon

O-036. The influence of institutional experience on dosimetric outcomes in HyperArc stereotactic radiotherapy for brain metastasis

Osaka International Cancer Institute Sayaka Kihara

O-037. Dosimetric comparison of AAA and AXB regarding location and size dependence in the treatment of NSCLC

Yeungnam University, Department of Physics BongHyo Lee

O-038. Evaluation of effectiveness in hybrid VMAT using partial arc irradiation in the treatment of non-small cell lung cancer

Department of Radiological Technology,
Faculty of Health Science - Master Course of Radiological Technology,
Juntendo Univ Kenta Suga

September 20 (Fri.) Sub 2 (room224)

Joint Session 2
(Deep Learning)

15:15–16:15 Chairperson: Hidetaka Arimura (Kyushu University), Sang Hoon Jung (Samsung Medical Center)

O-039. Memory-Efficient Segmentation in the Head & Neck Region Using Object Detection: Framework and Competition-Based Validation

Yonsei University Chanwoong Lee

O-040. Contrast Evaluation of Scatter Removal Images Using Deep Learning in Digital Breast Tomosynthesis

Graduate School of Science and Engineering, Hosei Univercity Takumi Okuma

O-041. Effect of Tumor Heterogeneity on Deep Learning Model Performance for Liver Tumor Segmentation

Yonsei University College of Medicine Ahjin Choi

O-042. Correction Accuracy in Beam Hardening Effect and Scattering of Pelvic Images Using Deep Learning

Graduate School of Science and Engineering, Hosei University Soya Yagi

O-043. Automatic Segmentation of Target Volumes and Organs at Risk in Cervical Cancer Brachytherapy using Deep Learning

Oncosoft Yoon Jo Kim

O-044. Can deep learning-based segmentation enable organs in CBCT images by learning CT images of the male pelvis?

Kanagawa Cancer Center Yoshiki Takayama

September 21 (Sat.) Sub 1 (room234)

Photon Therapy

9:00–10:30 Chairperson: Kaoru Ono (Hiroshima Heiwa Clinic), Naoki Kinoshita (University of Fukui)

O-045. Effect of ICD Lead Orientation as a Fiducial Marker for Respiratory Tracking in Stereotactic Arrhythmia Radioablation

Nagoya University Graduate School of Medicine Takayuki Miyachi

O-046. Evaluation of the influence of infrared camera visible area on monitoring accuracy of surface-guided radiotherapy system

Juntendo University Hibiki Takee

O-047. Practical verification test for non-coplanar brain metastasis using a new-type dose distribution dosimeter

The University of Tokyo Hospital Takeshi Ohta

O-048. Commissioning of the enhanced leaf model in treatment planning system: A focus on the dose calculation using dual-layer MLC

Department of Radiation Oncology, Chiba Cancer Center Ryohei Miyasaka

O-049. Dosimetric evaluation of peribronchial dose error by replacing CT values for low-density areas in VMAT plan

Graduate School of Health Science, Juntendo University Hiroto Adachi

O-050. Assessment of the adequacy of CT number calibration curves in photon therapy

Hiroshima High-Precision Radiotherapy Cancer Center Minoru Nakao

O-051. Implementation of a framework for calculation-based patient-specific QA using scripting application on RayStation

Shiga General Hospital Tomohiro Ono

O-052. Frequency of soft errors in cardiac implanted devices caused by secondary neutrons from a 7-MV beam by MR-Linac.

Fujita Health University Shota Kamei

O-053. Study of a false trigger to electrical shock for defibrillation in a cardiac implantable electronic device by medical irradiation

Fujita Health University Hiroaki Matsubara

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Particle Therapy 2

9:00–10:30 Chairperson: Yoshikazu Maeda (Fukui Prefectural Hospital), Masataka Komori (Nagoya University)

O-054. Operation Experience of Compact Superconducting Rotating Gantry for Carbon Ion Radiotherapy

Yamagata University Hikaru Souda

O-055. Evaluation of respiratory motion tolerance for layer-stacking conformal carbon-ion radiotherapy

Gunma University Yuki Hasebe

O-056. Development of 3D range modulators using a 3D printer for animal irradiation with carbon ion beams

Gunma University Tomoya Umakoshi

O-057. Development of carbon ion dose distribution calculation and optimization software for small animals

Gunma University Graduate School Heavy Ion Medical Center Shunsuke Inagaki

O-058. Evaluation of dose difference of bulk density assignment method for prostate cancer treatment with carbon ion radiotherapy

Department of Heavy Particle Medical Science,
Yamagata University Graduate School of Medical Science Miyu Ishizawa

O-059. Estimation of 3D Dose Distribution using Planar PET System in Proton Therapy

Department of Medical Physics and Engineering,
Graduate School of Medicine, Osaka University Yukito Yamaguchi

O-060. Clinical implementation of IMPT patient specific QA using delivery Log

Nagoya City University West Medical Center Kenichiro Tanaka

O-061. Study of visible light luminescence from various materials at ultra-high dose rate proton beam irradiation for dose management

Kouseikai Takai Hospital Ryosaku Yamada

O-062. Imaging of prompt gammas and prompt X-rays during irradiation of proton beams to phantoms at clinical condition

Waseda University Seiichi Yamamoto

September 21 (Sat.) Sub 2 (room224)

Medical Information

10:45–11:25 Chairperson: Hidemi Kamezawa (Teikyo University)

O-063. Imaging of Primo Vascular System using Photon Counting CT
Graduate School of Science and Engineering, Hosei University Diksha Raghunathan

O-064. Evaluation of Image conversion accuracy in Head CT to MRI with and Without Brain Tumor Lesion
Department of Radiological Technology,
Graduate School of Health Science, Juntendo University Ryoma Tsuchiya

O-065. Comparison of classification accuracy and discriminative features in MRI motion artifact with and without brain tumor lesion
Department of Radiological Technology,
Graduate school of Health Science, Juntendo University Masafumi Akanuma

O-066. Recurrence prediction after radiotherapy with virtual data created by modified Mixup in an expanded interpolation space
Graduate Division of Health Sciences, Komazawa University Kimika Matsuo

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Deep Learning & Radiomics

13:15–14:05 Chairperson: Daisuke Kawahara (Hiroshima University)

O-067. Separation of overlapped projection images using deep learning in multi-pinhole SPECT
Faculty of Science and Engineering, Hosei University Takumi Akatsuka

O-068. Correction of Attenuation and Scattering Effects in Multi-pinhole SPECT System With a U-net
Graduated School of Science and Engineering, Hosei University Ryoga Okachi

O-069. Evaluation of the Effect of Scattered Photons from the Liver on Myocardial SPECT Using Deep Learning
Graduate School of Science and Engineering, Hosei University Shuto Inaba

O-070. Prediction of Gleason Pattern of Prostate Cancer by Local Radiomics Approach
Tohoku University Shinichi Tanaka

O-071. Left Ventricular Ejection Fraction Prediction: Preprocessing Network Data Augmentation for Echocardiographic Standardization
Graduate School of Biomedical Sciences, Tokushima University Ren Iwasaki

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Particle Therapy 3

13:15–14:15 Chairperson: Hikaru Souda (Yamagata University)

O-072. Evaluation of deep learning-based dose distribution prediction for proton therapy in hepatocellular carcinoma patients
Southern Tohoku Proton Therapy Center Shuta Ogawa

O-073. Evaluation of treatment planning methods for X-ray and Proton Therapy for fertility preservation in whole-craniospinal irradiation
Juntendo University Maehara Eiichi

O-074. Development of a LET-TCP Model for carbon ion radiation therapy of head and neck adenoid cystic carcinoma
International University of Health and Welfare Daisuke Kondo

O-075. Measurement of soft errors in proton beam therapy and carbon ion therapy
Gunma University Reika Imazu

O-076. The effects of MLC-aperture size on soft-error generation in carbon ion radiotherapy
Gunma University Shogo Shimizu

O-077. Optimal measurement conditions of activation methods at the accelerator-based BNCT system employing a lithium target
Shonan Kamakura General Hospital Shunsuke Suzuki

September 21 (Sat.) Main

Presidential Award

14:30–16:10 Chairperson: Toshiyuki Toshito (Nagoya City University), Yusung Kim (The University of Texas MD Anderson Cancer Center)

O-078. Development of Portable Perovskite Radiation Detectors for low energy photon
Seoul National University Hospital Shin Ju Yeol

O-079. Development of an ultrahigh resolution small animal PET for mouse brain imaging
QST Han Gyu Kang

O-080. Beam Range Measurement for All Available Energies at Various Gantry Angles in Carbon Ion Radiotherapy Machine
Yonsei University College of Medicine Soorim Han

O-081. Optical flow-guided intra-fractional analysis of liver motion during magnetic resonance-guided adaptive radiotherapy
Department of Radiation Oncology and Image-Applied Therapy, Graduate School of Medicine, Kyoto University Takanori Adachi

O-082. Evaluating the Utility of Oral Immobilization Device in Radiation Therapy for Head and Neck Cancer
Seoul National University Yeseur Park

O-083. A Novel Approach to Pathological Image Diagnosis Leveraging Information Theory
Kanazawa Institute of Technology Toshiki Kindo

O-084. Evaluation of EPID-based Dose Verification System for a New Elekta LINAC: A Preliminary Study
Department of Radiation Oncology, Yonsei Cancer Center, Yonsei University College of Medicine, Yonsei University Dohyeon Yoo

O-085. Development of a biological adaptive radiotherapy system to compensate for long-term treatment interruptions
Hiroshima University Takuya Wada

O-086. Feasibility Study of Respiratory Training Device (RESPEDUE) for DIBH Radiotherapy in Left Breast Cancer Patients: A Clinical Trial
Seoul National University Hospital Yoonsuk Huh

O-087. Development of a new FLASH irradiation field using L-band electron LINAC
Institute for Integrated Radiation and Nuclear Science, Kyoto University Hiroki Tanaka