

【Joint Sessions for Japan Radiology Congress】

Opening Ceremony

- Opening Ceremony: April 12 (Fri.) 13:00–13:50 (Main Hall)

Performance: Tokyo Olympic Fanfare (TOF)

Keynote lecture

President: Yasuyuki Yamashita (Kumamoto University)

The 78th Annual Meeting of the Japan Radiological Society (JRS)

Conference President: Takayuki Ishida (Osaka University)

The 75th Annual Meeting of the Japanese Society of Radiological Technology (JSRT)

Congress Chair: Shinichi Minohara (Kanagawa Cancer Center)

The 117th Scientific Meeting of the Japan Society of Medical Physics (JSMP)

Chairman: Akio Niinobe

Japan Medical Imaging and Radiological Systems Industries Association (JIRA)

Honorary Member Award Ceremony

- Honorary Member Award Ceremony: April 12 (Fri.) 13:50–14:30 (Main Hall)

Joint Special Lecture

- Joint Special Lecture: April 12 (Fri.) 14:30–15:00 (Main Hall)

Moderator: Kumamoto Univ. Yasuyuki Yamashita

Osaka Univ. Takayuki Ishida

Development of Artificial Intelligence and Potentials to Medical and Healthcare

The Univ. of Tokyo Yutaka Matsuo

Joint Symposium

- Joint Symposium 1: April 12 (Fri.) 15:20–17:20 (National Convention Hall)

〔Value-based Imaging : Future of Radiology in the Era of AI〕

Moderator: Juntendo Univ. Kanako Kumamaru

NCGM Kohnodai Hosp. Akihiro Machitori

1. What is Value-based Healthcare?

Juntendo Univ. Kanako Kumamaru

2. Value-based Imaging: Patient's Perspective

Kyoto Pharmaceutical Univ. Kyoko Kitazawa

3. The Role of Radiologists for the Proper Management of Medical Radiation Based on the Medical Care Act.

Kanazawa Univ. Anri Inaki

4. Strategic Implications for Radiologists towards Investment in Health

MinaCare Co., Ltd. Yuji Yamamoto

5. Value Based Imaging: Future of Radiology in the Era of AI

Kyoto Prefectural Univ. of Medicine Kei Yamada

• Joint Symposium 2: April 13 (Sat.) 9:10–11:50 (National Convention Hall)

「Innovative Radiology with Artificial Intelligence (AI)」

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| | Moderator: Gifu Univ. | Hiroshi Fujita |
| | The Jikei Univ. | Norio Nakata |
| 1. Keynote Lecture | Development of the Integrated Cancer Medical System Using Artificial Intelligence:
Towards the Realization of Precision Medicine | National Cancer Center
Ryuji Hamamoto
National Cancer Center
Kazuma Kobayashi |
| 2. New Trend of CAD (AI-CAD) in the New AI Era | Gifu Univ. | Hiroshi Fujita |
| 3. Deep Learning in Computer-assisted Diagnosis: Current Status and Future Prospects of Overseas
Research and Development | The Jikei Univ. | Norio Nakata |
| 4. AI Researches in the Radiological Technology: Future Working Style of Radiological Technologist and
an Encourage of AI Research | Fujita Health Univ. | Atsushi Teramoto |
| 5. Application of Deep Learning in Radiotherapy | Univ. of Tsukuba | Toshiyuki Terunuma |
| 6. Issues for Commercialization of Image Diagnostic Products Using Artificial Intelligence. | Japan Medical Imaging and Radiological Systems Industries Association | Takeshi Funahashi |

• Joint Symposium 3: April 13 (Sat.) 13:10–15:10 (Main Hall)

「Identify the Tumor - Approaching New Era of Biologically Adaptive Radiotherapy -」

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| | Moderator: Kyushu Univ. Hosp. | Makoto Shinoto |
| | NIRS-QST | Naruhiko Matsufuji |
| 1. MRI Connecting Functions and Anatomy -a New Bridge for Radiotherapy- | Kyoto Univ. | Mami Iima |
| 2. Nuclear Medicine for Optimized Treatment Strategy and Real-time Therapy Imaging | NIRS-QST | Miwako Takahashi |
| 3. Imaging of Tumor-specific Hypoxia Dynamics and Its Significance in Radiation Biology | Hokkaido Univ. | Hironobu Yasui |
| 4. Differential Diagnosis and Prognostic Prediction Based on Radiomics | Kumamoto Univ. | Yoshikazu Uchiyama |
| 5. Dose and Radiation Quality Optimized Heavy-ion Therapy | NIRS-QST | Taku Inaniwa |

Joint Educational Session

• Diagnostic and Therapeutic Indications of Brain Tumor: April 12 (Fri.) 9:30–11:30 (National Convention Hall)

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| | Moderator: Osaka City Univ. | Yukio Miki |
| | Kindai Univ. | Kohei Hanaoka |
| 1. Updated 4th Edition of the WHO Brain Tumor Classification: What Radiologists Are Desired to Know | Gunma Univ. | Hideaki Yokoo |
| 2. Recent Development of MR Imaging for Brain Tumor | Miyazaki Univ. | Toshinori Hirai |
| 3. Neurosurgical Treatment - Surgical Resection, Chemotherapy, and Other Modalities | Kumamoto Univ. | Akitake Mukasa |
| 4. Radiation Therapy | Niigata Univ. | Hidefumi Aoyama |

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| 5. Brain Tumor Imaging | Kyoto Univ. Hosp. | Masaaki Kajisako |
| 6. BNCT for Brain Tumor Treatment - from a View Point of Medical Physicist - | Hokkaido Univ. | Masayori Ishikawa |

**JRS · JSRT · JSMP Joint Project (Cooperation : Medical Imaging and Information Sciences)
Deep Learning Hands-on Seminar**

April 12 (Fri.) 8:00–9:30 (Harbor Lounge A)

April 13 (Sat.) 15:30–17:00 (Harbor Lounge A)

April 14 (Sun.) 8:45–10:15, 10:30–12:00, 13:00–14:30 (Harbor Lounge A)

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| | Moderator: Gifu Univ. | Takeshi Hara |
| | Niigata Univ. | Yongbum Lee |
| 1. Medical Image Application of Deep Learning | Gifu Univ. | Hiroshi Fujita |
| 2. Image Classification Using Convolutional Neural Network with Tensorflow and Keras | Gifu Univ. | Takeshi Hara |
| 3. BYOD! Quick Setup for Deep Learning Using Tensorflow & Keras | Gifu Univ. | Takeshi Hara |
| 4. Deep Learning for Image Segmentation | Niigata Univ. | Yongbum Lee |

Reception for All Participants (Congress Party)

- Reception for All Participants (Congress Party): April 12 (Fri.) 18:15–19:30
(Yokohama Bay Hotel Tokyu B2F Queen's Grand Ballroom)

Closing and Awards Ceremony

- Closing and Awards Ceremony: April 14 (Sun.) 15:00–16:15 (Main Hall)
(Performance: JRC2019 Festival Orchestra)

【JSRT-JSMP Joint Session】

(A) JSRT-JSMP Joint Lecture

April 13 (Sat.) 11:00–11:50 (501)

Moderator: Osaka Univ. Takayuki Ishida
Knowledge- and Data-driven Models for Chest Radiologic Imaging and Beyond
Huazhong Univ. of Science and Technology Qiang Li

(B) JSRT-JSMP Joint Session

April 14 (Sun.) 9:40–11:50 (501)

In Order to Publish Your Article in RPT: Authors x Reviewers = Good Science

Moderator: Kumamoto Univ. Junji Shiraishi
Teikyo Univ. Shinji Kawamura

1-1. From the Standpoint of an Author (Diagnostic Imaging)
Hamamatsu Photonics Fumio Hashimoto

1-2. Comments as Author (MRI, Nuclear Medicine and Informatics)
Tohoku Univ. Hiroshi Watabe

1-3. Author's Viewpoints (Radiation Therapy Physics)
Osaka Univ. Hosp. Takashi Hashido

2-1. From the Standpoint of a Reviewer (Diagnostic Imaging)
Kanazawa Univ. Katsuhiko Ichikawa

2-2. Suggestions and Advice as Reviewer (MRI, Nuclear Medicine and Informatics)
Hokkaido Univ. Toru Yamamoto

2-3. From the Standpoint of a Referee (Radiation Therapy Physics)
Osaka Univ. Iori Sumida

Overview
The Univ. of Chicago Kunio Doi

(C) Award Ceremony for Doi-Prize and Most Citation Award, and Award Lectures

April 14 (Sun.) 12:00–12:45 (501)

1) Basic concept of editorial policy in RPT

Moderator: Kumamoto Univ. Junji Shiraishi
The Univ. of Chicago Kunio Doi

2) Most Citation Award Ceremony

A) Diagnostic Imaging

Moderator: Teikyo Univ. Shigehiko Katsuragawa

RPT Vol.11, No.2

Tilted-wire Method for Measuring Resolution Properties of CT Images Under Extremely Low-contrast and High-noise Conditions

Tohoku Univ. Chiaki Tominaga

B) MRI, Nuclear Medicine and Informatics

Moderator: Kitasato Univ. Tomoyuki Hasegawa

RPT Vol.11, No.3

Computer-aided Diagnosis with Radiogenomics: Analysis of the Relationship between Genotype and Morphological Changes of the Brain Magnetic Resonance Images

Kumamoto Univ.

Chiharu Kai

C) Radiation Therapy Physics

Moderator: Association for Nuclear Technology in Medicine

Masahiro Endo

RPT Vol.11, No.2

Estimation of Linear Energy Transfer Distribution for Broadbeam Carbon-ion Radiotherapy at the National Institute of Radiological Sciences

NIRS-QST Nobuyuki Kanematsu

(D) JSMP-JSRT Joint Educational Lecture

April 13 (Sat.) 13:00-13:50 (501)

Moderator: Tokyo Metro. Univ.

Kazumasa Inoue

Shine a Light on Cancer: Bioimaging and Nanomedicine

Harvard Medical School

Hak Soo Choi

【JSMP Program】

(A) Morning Educational Lecture

(1) April 12 (Fri.) 8:00–8:55 (418 + 419)

Moderator: NIRS-QST Hideyuki Mizuno
The evolution of brachytherapy dose calculation algorithms
Keio Univ. Takashi Hanada

(2) April 13 (Sat.) 8:00–8:55 (418 + 419)

Moderator: Japanese Red Cross Wakayama Medical Center Yoshitomo Ishihara
Management of imaging dose in image-guided radiation therapy
Kumamoto Univ. Fujio Araki

(3) April 14 (Sun.) 8:00–8:55 (418 + 419)

Moderator: Kyushu Univ. Hidetaka Arimura
Basic of AI and its prospect
The Univ. of Electro-Communications Hayaru Shouno

(B) Lunch Time Lecture

(1) April 12 (Fri.) 12:00–12:50 (418 + 419)

Moderator: Tokyo Women's Medical Univ. Teiji Nishio
Research Ethics: What we need to know-and what we should do
Hokkaido Univ. Toru Yamamoto

(2) April 13 (Sat.) 12:00–12:50 (418 + 419)

Moderator: Osaka Univ. Iori Sumida
The past and future of patient-specific verification for IMRT
National Cancer Center Hosp. East Hidenobu Tachibana

(3) April 14 (Sun.) 12:00–12:50 (418 + 419)

Moderator: Juntendo Univ. Chie Kurokawa
Development of on-line adaptive radiotherapy
National Cancer Center Hosp. Hiroyuki Okamoto

(C) JSMP-JSMBE Joint Session

April 12 (Fri.) 15:10–16:00 (419)

Moderator: Kindai Univ. Yuichi Kimura
NIRS-QST Shigekazu Fukuda
Applications of artificial intelligence/machine learning for computer-assisted diagnosis systems
Kindai Univ. Mitsutaka Nemoto

(D) Report from the QA/QC Committee

April 12 (Fri.) 16:10–17:10 (419)

Moderator: Tokyo Metropolitan Cancer and Infectious Disease Center Komagome Hosp. Satoshi Kito

Multi-institutional survey for technologies in radiotherapy

Osaka Univ. Hosp.

Yuichi Akino

(E) JSMP Symposium

April 13 (Sat.) 15:10-17:10 (418 + 419)

Medical Physics in Targeted Radioisotope Therapy

Moderator: NIRS-QST

Miwako Takahashi

NIRS-QST

Taiga Yamaya

1. Introduction (1): TRT - clinical application

NIRS-QST

Miwako Takahashi

2. Current trends and issues in targeted radionuclide therapy (TRT) research and development

NIRS-QST

Atsushi Tsuji

3. Targeted Radionuclide Therapy using alpha-emitters

Fukushima Medical Univ.

Kohshin Washiyama

4. Practical challenges of therapeutic radionuclides production for the TRT studies

NIRS-QST

Kotaro Nagatsu

5. Introduction (2): TRT imaging

NIRS-QST

Taiga Yamaya

6. Advanced Compton Imaging Technologies

Ludwig-Maximilians-Univ., Munich

Peter Thierolf

(F) JSMP Seminar to Acquire Grants-in-Aid < KAKENHI >

April 13 (Sat.) 15:30-17:00 (416 + 417)

How to get Grants-in-Aid for Scientific Research

Moderator: Kyushu Univ.

Hidetaka Arimura

Teikyo Univ.

Jun'ichi Kotoku

1. Outline of Grants-in-Aid for Scientific Research (KAKENHI)

Scientific Research Aid Division, Research Promotion Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Takashi Tsujiyama

2. How should we prepare a research proposal document of a Grant-in-Aid for Scientific Research Grant?

Tokyo Women's Medical Univ.

Teiji Nishio

3. Important things for research grant acquisition from my viewpoint

Tokushima Univ.

Akihiro Haga

4. How to get KAKEN for Ph.D. students, young researchers and non-academic hospital staffs

Japanese Red Cross Wakayama Medical Center

Yoshitomo Ishihara

5. Medical physicists will contribute to clinical research

Kaizuka City Hosp.

Yuki Otani

6. The Survey Results for the Acquisition of Grants-in-Aid

Osaka Univ.

Masahiko Koizumi

(G) JSMP Special Lecture

April 14 (Sun.) 11:00-11:50 (418 + 419)

Moderator: NIRS-QST

Keiichi Akahane

Making imaging safer: Where we are and vision for future

JSMP Board of Directors

April 11 (Thu.) 12:00–17:00 (421)

Information exchange meeting on medical physics education course

April 12 (Fri.) 17:10–18:00 (418)

JSMP General Meeting of Members

April 13 (Sat.) 17:30–19:00 (419)