Japanese Scandinavian Radiologic Society

日本スカンジナビア放射線医学協会

会報37号，2024年

Joint meeting of
the 15th Symposium of Japanese Scandinavian Radiological Society
and
18th Nordic Japan Imaging Informatics Symposium

Progress in Radiology 2024

Proceeding Papers

日本スカンジナビア放射線医学協会会報　No.37

目次

第15回 日本北欧国際放射線医学シンポジウム開催報告

群馬大学大学院医学系研究科 放射線診断核医学
対馬 義人

自らがフィンランドに留学してから随分と日時がたってしまいました。日本スカンジナビア放射線医学協会から海外留学奨学金（たしか100万円だったと記憶しています）をいただいた後に留学先を探し、縁あってトゥルク大学から良いお返事をいただきました。1年ちょっとを過ごしましたが、いままでの自分の人生で最高の年であったと思っています。シンポジウムは2年ごとに日本とスカンジナビアで交互に開かれていますが、まさか自分が主催することになるとは、当時は夢にも思っていませんでした。そもそも当時はアカデミックの世界で生きていくなどという考えもなく、とにかく外の世界を実体験したかったのです。その結果、単に見聞きしたりするだけでは自らの糧にはなりがたく、異なった文化の中に身を置くことの重要性を痛感しました。いかに狭い世界で生きてきたのかを自覚せざるを得ない1年でした。国内のみならず各国で開かれる国際学会に積極的に参加するようになったのはそのような実体験から得られた教訓です。

コロナ禍のため、札幌でのシンポジウム開催が1年遅れ、それもWebのみとなってしまいましたが、その後のストックホルムは現地開催となりました。理事会では、1年ずらしたまま開催するよりも、遅れを取り戻したほうが良いとの意見が多く、ストックホルム開催の翌年となった次第です。

さて日本で開催するとしても、東京ではこれまで何度も行われており、新鮮さに欠けます。東京に来たことがないというスカンジナビア側の会員もあまりいないでしょう。ということで、前橋で開催することとしました。前橋は意外と目玉となる観光地や施設などに乏しく、ホテルでの開催では何のために前橋まで来ていただくのかということになります。以前トゥルク市内で開催されたある学会が、中世の城であるトゥルク城内で行われたことを思い出しました。もちろん現在は博物館であるわけですが、レセプションはかつての王様が晩餐会を開いたという大広間でした。日本ではこのような例はあまりないようですが、幸いなことに明治時代の迎賓館である臨江閣がイベントの開催も可としており、貸し切りとさせていただきました。木造の建築物で、スカンジナビアからの参加者のみならず、国内の参加者にも好評でした。

シンポジウムでは毎回、さまざまな嗜好を凝らしたイベントを行うのが常です。群馬県まで来ていただくということになれば温泉に行っていただくしかありません。前橋から比較的近い伊香保か、ちょっと遠い草津か迷いましたが、どうせ来ていただくのであればと草津に決めましたが、これも大変好評でした。日本の温泉は北欧、特にフィンランドのサウナに通ずるものがあるようです。

今回の開催にあたって多くの方々のご支援をいただきました。また企業の方々の支援にも多く助けられました。大過なく大変好評なうちに開催できたことは皆さまの支援あってのことです。この場をお借りして感謝申し上げます。

アルバム～写真集～


Progress in Radiology
2024
13th Symposium of the Japanese Scandinavian Radiological Society
&
10th Nordic Japan Imaging Informatics Symposium
Different World, Different View
June 18・19・20, 2024
The Rinkokaku in Maebashi City, Gunma Prefecture


Registration

アルバム～写真集～

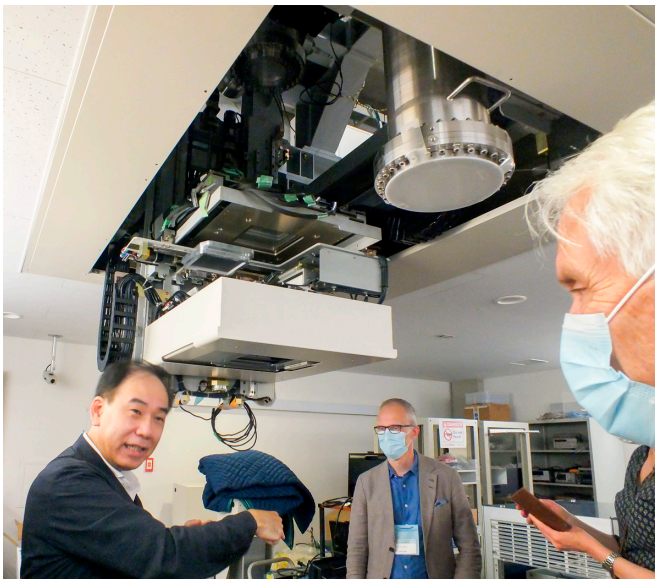


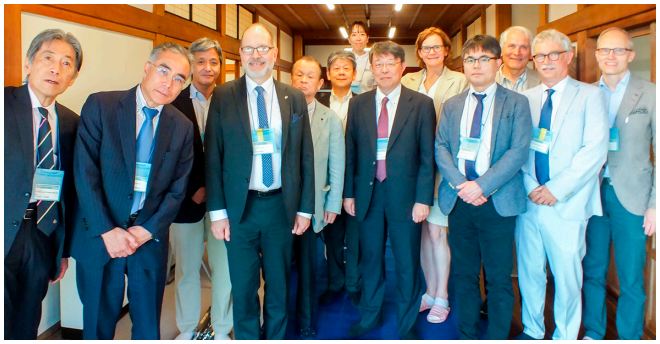




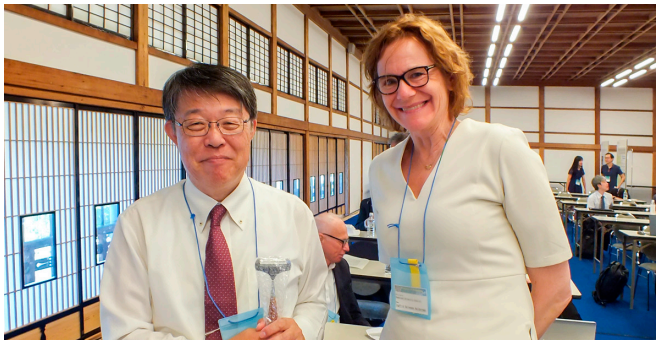


アルバム～写真集～

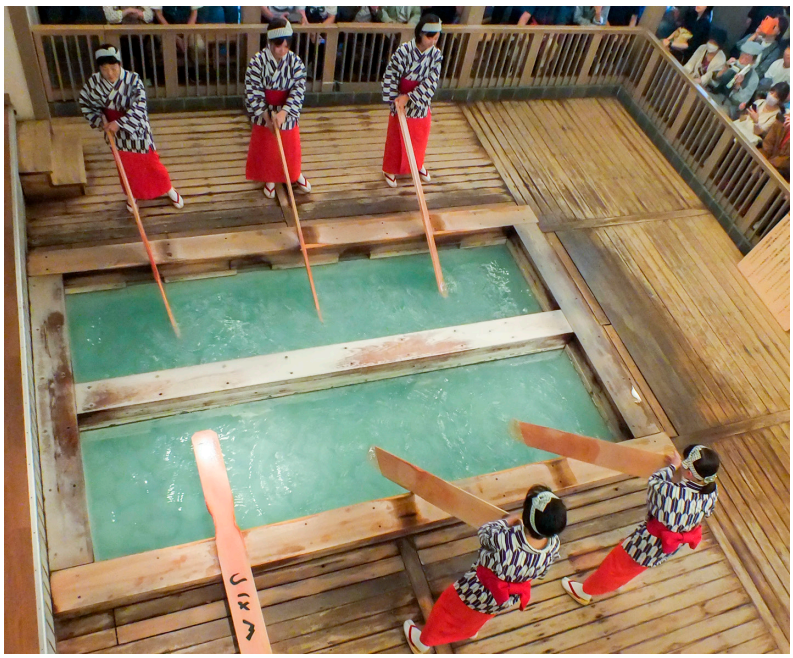





Progress in Radiology
2024
Different World, Different View
June 18・19・20, 2024
The Rinkokaku in Maebashi City, Gunma Prefecture



アルバム～写真集～



次回シンポジウムのご案内

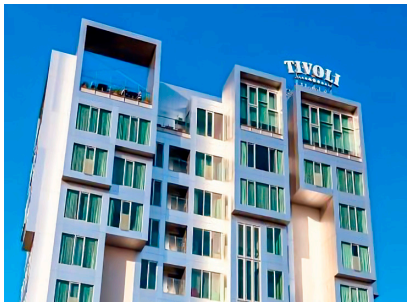
JSRS 2026, June 2 to June 4, 2026

Dear Japanese Colleagues, November, 2024. Denmark

We are delighted to extend a warm invitation to all of you to join us at the upcoming 16th Symposium for the Japanese Scandinavian Radiological Society (JSRS) and the 19th Nordic Japan Imaging Informatics Symposium. The event will be held in the captivating city of Copenhagen, Denmark, from June 2 to June 4, 2026, providing an ideal opportunity to immerse yourselves in the charm of Copenhagen during this splendid season. Copenhagen stands as the capital and most populous city of Denmark, boasting a vibrant urban area with a population of approximately 1.4 million. Further information: https://www.visitdenmark.com/denmark/things-do/attractions/copenhagen

Our chosen venue for the conference in the center of the town is the Tivoli Hotel & Congress Center, where the Progress in Radiology symposium will be held in collaboration with the Icelandic Radiological Society. Notably, Copenhagen Airport (CPH) offers convenient connections to Haneda (HND), Tokyo, and 14 other Nordic cities.

The local organizing committee has already embarked on preparations for this event, with a keen focus on crafting an enriching and memorable experience for all attendees. The symposium will cover a range of topics including Oncological Imaging, Interventional Radiology, Nuclear Imaging, and the application of Artificial Intelligence in Radiology. The program will be shaped by abstracts submitted by participants, thus we encourage you to submit your abstracts well in advance. On the final day, a visit to Herlev University Hospital is scheduled for the morning. Additionally, there will be leisure time allocated for a scenic boat trip along the city's canals, offering a delightful opportunity to admire landmarks such as the iconic Little Mermaid statue.





Having a documented abstract submitted for JSRS 2026 is likely to facilitate your financing. Deadline for abstract submission: November 30, 2025. We eagerly anticipate your presence at this esteemed gathering and look forward to fostering productive discussions and collaborations in the field of radiology.
www.jsrs.dk

On behalf of the JSRS 2026 local committee. Best regards,

President, Prof. Søren Rafaelsen

Japanese Scandinavian Radiological Society (JSRS) Board Meeting Minutes

Date: June. 19, 2024
Time: 17:15-17:45 (Japan), 10:15-10:45 (Stockholm), 08:15-08:45 (UTC)
Venue: Rinkokaku, Maebashi, Japan
Attendees: **JAPAN**
Hiroyuki Tajima, Masamitsu Hatakenaka, Tomoyasu Sato, Yoshio Monzen, Yoshito Tsushima, Masafumi Kanoto, Hiroshi Kondo, Ayako Taketomi-Takahashi

SCANDINAVIA
Søren R. Rafaelsen (DENMARK), Ingfrid S Haldorsen (NORWAY), Harald Nes. (NORWAY), Nils Dahlström (SWEDEN), Jarmo Reponen (FINLAND)

Facilitator: Yoshito Tsushima

AGENDA

Next conference: June 2nd-4th, 2026, Copenhagen.
Copenhagen very accessible from Tokyo!

2028 in Yamagata City (Date TBA)
Conference previously held in Yamagata 20 years ago
(Kaminoyama Onsen, a hot spring resort)
Time of year undecided
(early June best for Scandinavian members)
(early June is cherry season in Yamagata!)

2030 will be in Finland
So far not successful in contacting radiologist in Iceland
Know of radiologist in Japan with contact in Iceland, will request contact
Iceland conference very practical
Accessible venue
conference organization experience

We hope the war in Ukraine ends not only because war is generally unfortunate but also because it makes Nordic flight routes cumbersome

How do we recruit younger members?
(Active members of the society are older)

Young people try to be flexible, but we are not sure what they want from the society
Flexibility in length of stay, such as shorter stays of several weeks or longer stays of more than a year might encourage participation

In Scandinavia, there is a shortage of PhD courses that are specific to a field
Most available courses offered are too general
(It seems specific courses are not considered to be worth designing)

What is the availability of courses In English in Nordic countries and in Japan?
Can these course credits be counted for PhD courses based in participant home countries?

The number of medical physicist members is limited: potential members?
In Japan, most medical physicists work in radiotherapy
In Nordic countries, they tend to go into industry

Do radiologic technologists become PhD students?
In Stockholm Masters can apply to PhD programs
Similar system available in Norway, but program is not in English

It might be helpful to update website to show detailed member profiles, including their strengths and specialties and also contract information
Young people could contact Japanese/ Nordic members knowing specific fields of interest/ subspecialties

Progress in Radiology 2024

Joint meeting of
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Proceeding Papers

Contents

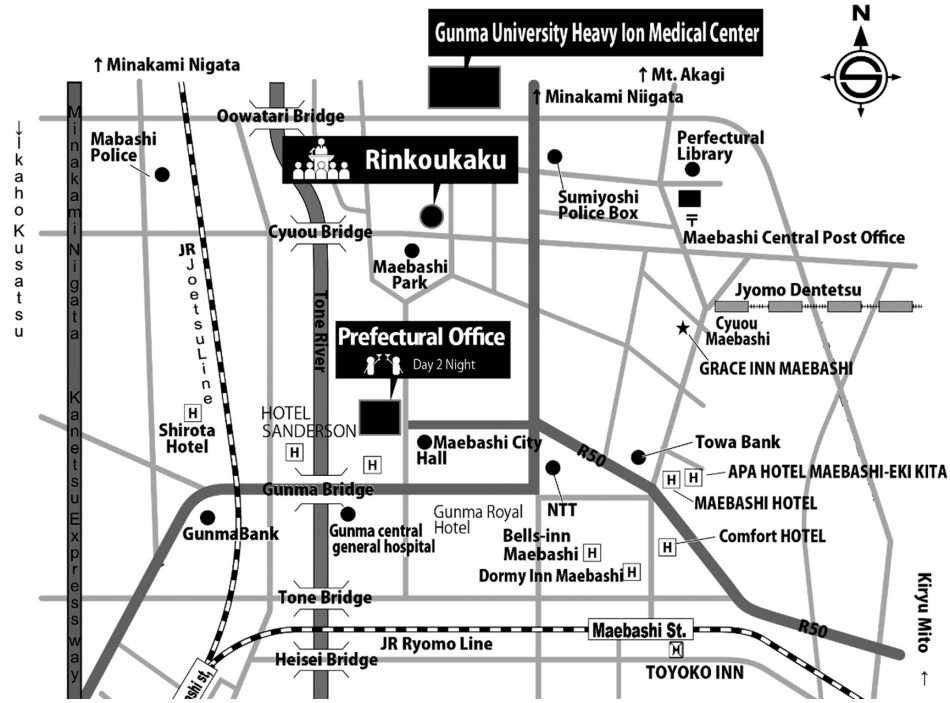
We are pleased to invite you to Japan for the JSRS "Progress in Radiology Meeting" in Gunma. I am honored to be organizing the JSRS meeting. Long ago, I was granted a scholarship by the JSRS to study in Finland. I still consider it the best year of my life.

The event will be held in a historic guest house in Gunma called "Rinkokaku." It is a wood structure originally built in 1884, consisting of a main building, annex, and tea room, and is designated an Important Cultural Property by the Agency of Cultural Affairs.

Gunma is 100 km north of Tokyo, and is a convenient location for international visitors planning to visit Tokyo, Kyoto, and Nara with their families. We hope to see you in Gunma to be a part of this meeting's long history.

President Yoshito Tsushima

Rinkokaku in Maebashi city, Gunma prefecture (3-15 Otemachi, Maebashi City)



From Maebashi St. To Rinkokaku

・S10 minutes by bus (Nippon Chuo Bus Maebashi-Shinto Line) from JR Maebashi Station, get off at the Luna Park Rinkokaku-mae bus stop, and walk 1 minute.

・6 minutes by cab.

From Airport To Maebashi Station

By Train

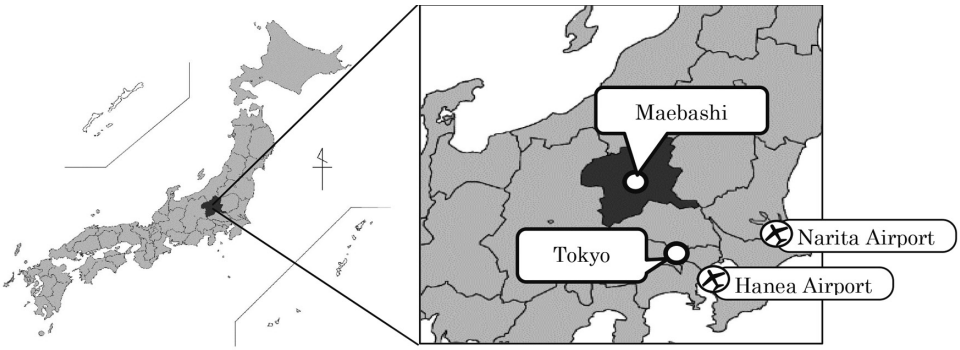
・Narita Airport ---(60min.)---Tokyo St. ---(50min.)---Takasaki St. ---(15min.)---Maebashi St.

・Hanea Airport ---(40min.)--- Tokyo St. ---(50min.)---Takasaki St. ---(15min.)---Maebashi St.

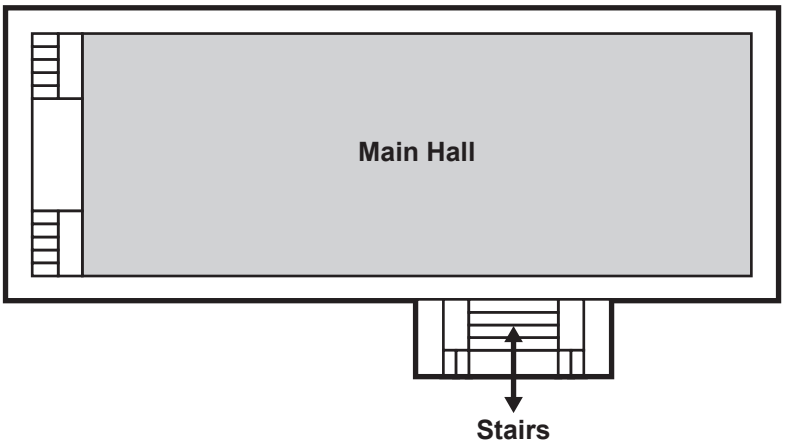
By Bus

・Narita Airport ---------"AZAREA EXPRESS (210min.) ----------Maebashi St.

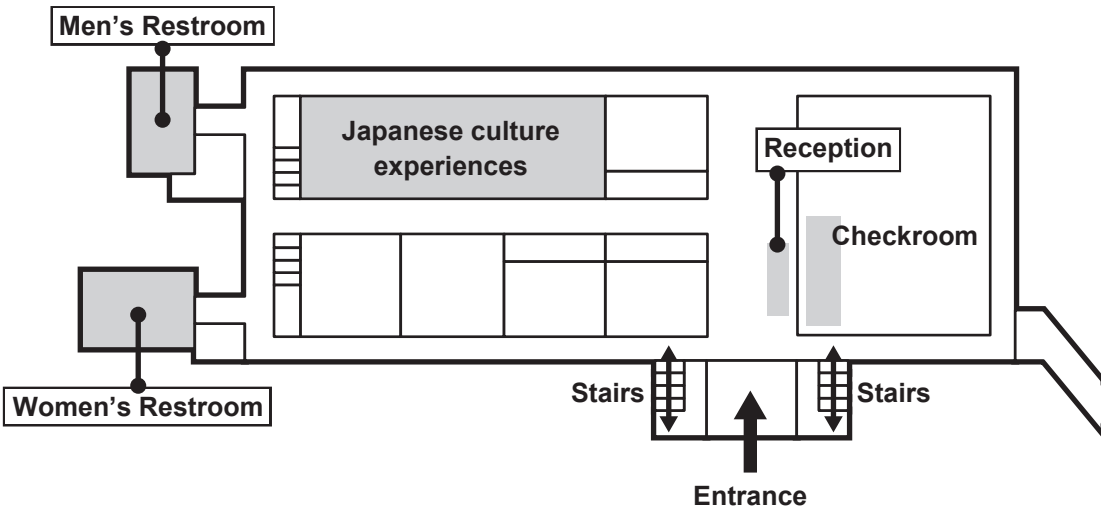
・Hanea Airport ---------"Airport limousine Bus (210min.) --------Maebashi St.



2nd floor



1st floor

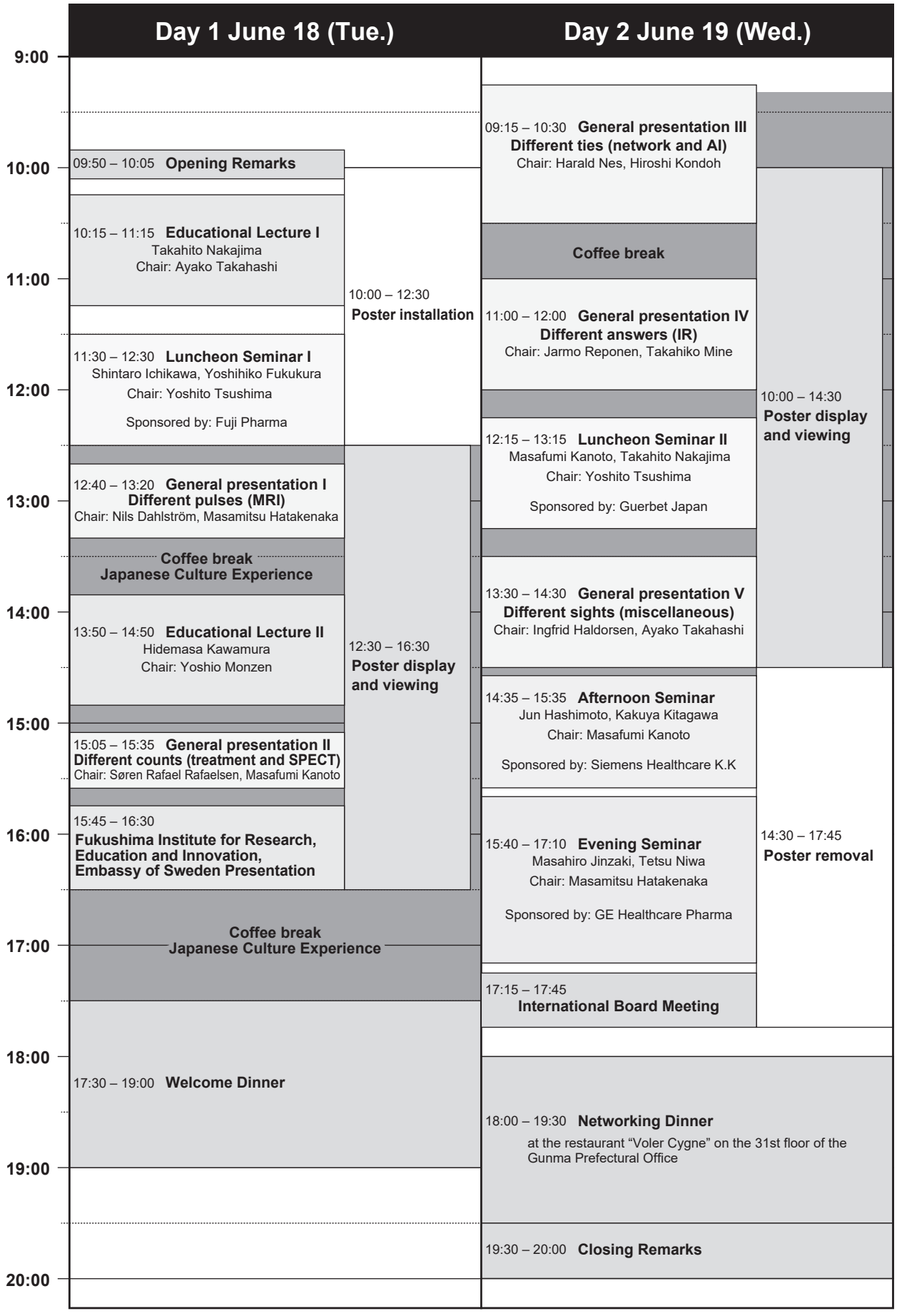


・It is a National Important Cultural Property.

・Smoking is prohibited on the premises and there is no smoking area. In principle, no fire stoves, solid fuels, or other flammable items are allowed in the museum.

・Visitors are required to take off their shoes to enter the museum.

・ Please ask the manager if you want to open the door of the porch. The locks are of fragile construction. Please do not attempt to open the locks by yourself.


Day 1 June 18 (Tue.)
Day 2 June 19 (Wed.)
9:00
10:00
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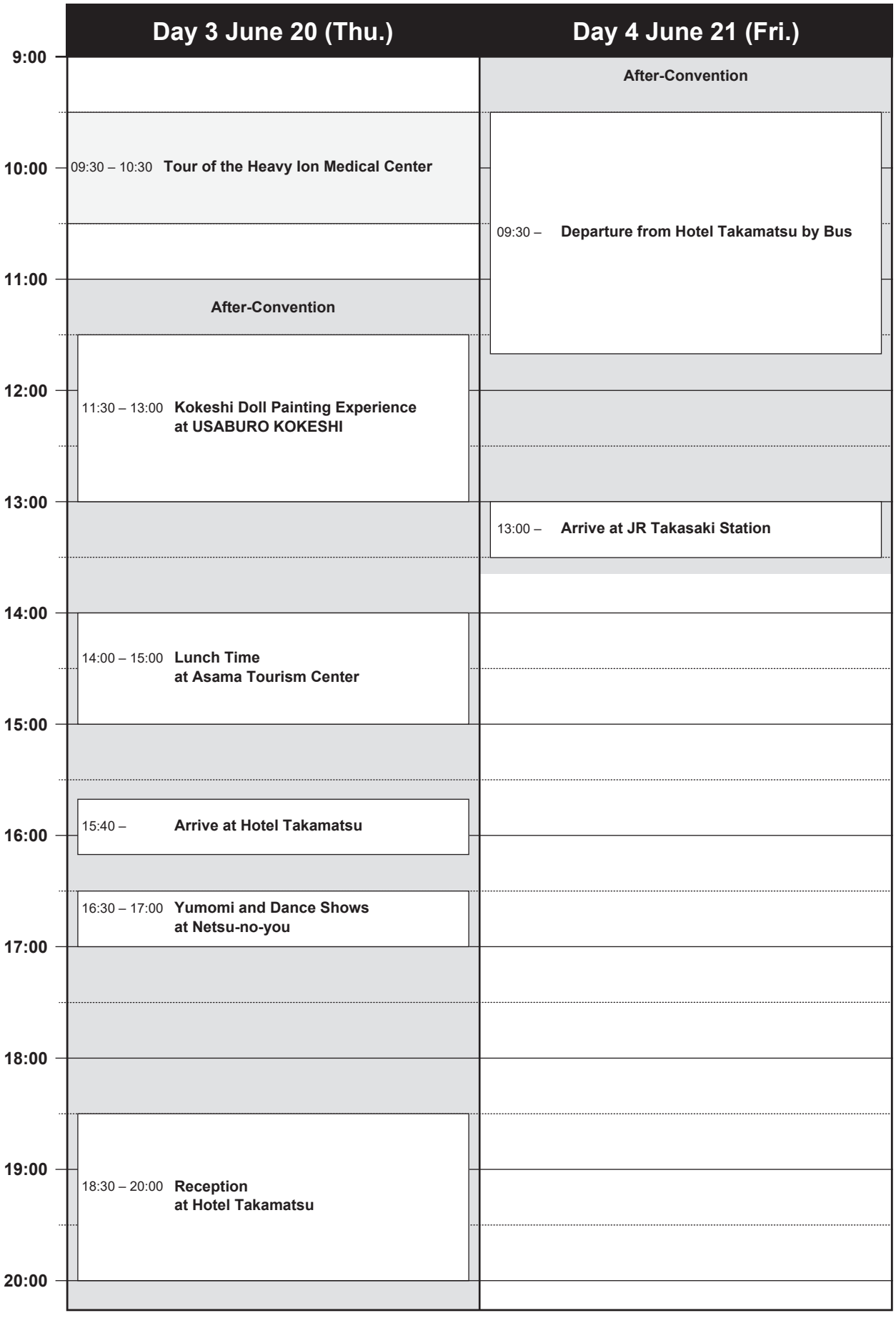
14:00
15:00
16:00
17:00
18:00
19:00
20:00
09:50 – 10:05 Opening Remarks
10:15 – 11:15 Educational Lecture I
Takahito Nakajima
Chair: Ayako Takahashi
11:30 – 12:30 Luncheon Seminar I
Shintaro Ichikawa, Yoshihiko Fukukura
Chair: Yoshito Tsushima
Sponsored by: Fuji Pharma
12:40 – 13:20 General presentation I
Different pulses (MRI)
Chair: Nils Dahlström, Masamitsu Hatakenaka
Coffee break
Japanese Culture Experience
13:50 – 14:50 Educational Lecture II
Hidemasa Kawamura
Chair: Yoshio Monzen
15:05 – 15:35 General presentation II
Different counts (treatment and SPECT)
Chair: Søren Rafael Rafaelsen, Masafumi Kanoto
15:45 – 16:30
Fukushima Institute for Research, Education and Innovation, Embassy of Sweden Presentation
Coffee break
Japanese Culture Experience
17:30 – 19:00 Welcome Dinner
10:00 – 12:30
Poster installation
12:30 – 16:30
Poster display and viewing
09:15 – 10:30 General presentation III
Different ties (network and AI)
Chair: Harald Nes, Hiroshi Kondoh
Coffee break
11:00 – 12:00 General presentation IV
Different answers (IR)
Chair: Jarmo Reponen, Takahiko Mine
12:15 – 13:15 Luncheon Seminar II
Masafumi Kanoto, Takahito Nakajima
Chair: Yoshito Tsushima
Sponsored by: Guerbet Japan
13:30 – 14:30 General presentation V
Different sights (miscellaneous)
Chair: Ingfrid Haldorsen, Ayako Takahashi
14:35 – 15:35 Afternoon Seminar
Jun Hashimoto, Kakuya Kitagawa
Chair: Masafumi Kanoto
Sponsored by: Siemens Healthcare K.K
15:40 – 17:10 Evening Seminar
Masahiro Jinzaki, Tetsu Niwa
Chair: Masamitsu Hatakenaka
Sponsored by: GE Healthcare Pharma
17:15 – 17:45
International Board Meeting
10:00 – 14:30
Poster display and viewing
14:30 – 17:45
Poster removal
18:00 – 19:30 Networking Dinner
at the restaurant “Voler Cygne” on the 31st floor of the Gunma Prefectural Office
19:30 – 20:00 Closing Remarks


Day 3 June 20 (Thu.)
Day 4 June 21 (Fri.)
9:00
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16:00
17:00
18:00
19:00
20:00
After-Convention
09:30 – 10:30 Tour of the Heavy Ion Medical Center
After-Convention
09:30 – Departure from Hotel Takamatsu by Bus
11:30 – 13:00 Kokeshi Doll Painting Experience at USABURO KOKESHI
13:00 – Arrive at JR Takasaki Station
14:00 – 15:00 Lunch Time at Asama Tourism Center
15:40 – Arrive at Hotel Takamatsu
16:30 – 17:00 Yumomi and Dance Shows at Netsu-no-you
18:30 – 20:00 Reception at Hotel Takamatsu

Day 1 June 18 (Tuesday), 2024

09:50 - 10:05 Opening Remarks

President, Yoshito Tsushima (Gunma University)

10:15 - 11:15 Educational Lecture I

Chair: Ayako Takahashi (Gunma University)

EL1 Shining a Light on Cancer: NIR-Photoimmunotherapy ~Breakthrough of Cancer Treatments~

Takahito Nakajima

Professor and Chief of the Department of Diagnostic Imaging and Interventional Radiology at the Institute of Medicine, University of Tsukuba

11:30 - 12:30 Luncheon Seminar I

Sponsored by: Fuji Pharma

Chair: Yoshito Tsushima (Gunma University)

LS1-1 Overview of CT/MRI LI-RADS v2018

Shintaro Ichikawa

Department of Radiology, Hamamatsu University School of Medicine, Shizuoka, Japan

LS1-2 Role of CT and MRI in Early Detection of Pancreatic Ductal Adenocarcinoma

Yoshihiko Fukukura

Department of Radiology, Kawasaki Medical School, Okayama, Japan.

13:20 - Coffee break / Japanese Culture Experience

12:40 - 13:20 General presentation I “Different pulses (MRI)”

Chair: Nils Dahlström (Linkoping University)
Masamitsu Hatakenaka (Sapporo Medical University Hospital)

G1-1 Evaluation of MRS-PDFF, MRI-PDFF and Liver Biopsy Assessment of Hepatic Fat Fraction in a Prospective MASLD Cohort

Christian Simonsson[1,3,4], Shan Cai1[3], Jens Tellman[1], Markus Karlsson[1],August Sekund[1], Gunnar Cedersund[3,4], Simone Ignatova[5], Patrik Nasr[2],Mattias Ekstedt[2,3], Stergios Kechagias[2,3], Nils Dahlström[3,6], Peter Lundberg[1,3]

[1)] Department of Radiation Physics, Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden
[2)] Department of Gastroenterology and Hepatology, Department of Health, Medicine and Caring Sciences, Linköping University
[3)] Center for Medical Image Science and Visualization (CMIV), Linköping University, Linköping, Sweden
[4)] Department of Biomedical Engineering, Linköping University, Linköping, Sweden
[5)] Department of Clinical Pathology and Clinical Genetics, Department of Biomedical and Clinical Sciences, Linköping University, Sweden
[6)] Department of Radiology and Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden

G1-2 MRI Findings of Aneurysmal Walls and Thrombus Associated with Sac Shrinkage After Endovascular Aortic Repair

Teppei Nakagomi[1], Takahiko Mine[2], Masashi Abe[2], So Ueshima[2], Tetsuro Sekine[3], Daisuke Yasui[3], Rika Kobayashi[1], Seigoh Happoh[2], Shinpei Ikeda[2],Yasuhiro Kawase[4], Masahiro Fujii[4], Hiromitsu Hayashi[1], and Shin-ichiro Kumita[1]

[1)] Department of Radiology, Nippon Medical School Hospital, Tokyo
[2)] Department of Radiology, Nippon Medical School Chiba Hokusoh Hospital, Inzai
[3)] Department of Radiology, Nippon Medical School Musashikosugi Hospital, Kawasaki
[4)] Department of Cardiothoracic Surgery, Nippon Medical School Chiba Hokusoh Hospital, Inzai

G1-3 MRI Radiomic Tumor Profifiling for Predicting Stage, Prognosis and Molecular Profifiles in Uterine Cancers

Ingfrid Haldorsen

Head of Mohn Medical Imaging and Visualization Center, Dep. of Radiology, Haukeland University Hospital, Bergen, Norway

G1-4 Optimization of Slice Resolution Through Evaluation of Spatial Resolution in Slice Direction Using the Ladder Method

Tomokazu Takeuchi[1,2], Norio Hayashi[1], Kouichi Ujita[2], Yuusuke Sato[1,2], Ayako Taketomi-Takahashi[2], Takayuki Suto[2], Yoshito Tsushima[3]

[1)] Graduate School, Gunma Prefectural College of Health Sciences
[2)] Department of Radiology, Gunma University Hospital, Japan
[3)] Department of Diagnostic Radiology and Nuclear Medicine, Gunma University Graduate School of Medicine

13:50 - 14:50 Educational Lecture II

Chair: Yoshio Monzen (Sasebo City General Hospital)

EL2 Fundamentals and Clinical Applications of Carbon Ion Radiotherapy

Hidemasa Kawamura

Gunma University Heavy Ion Medical Center

15:05 - 15:35 General presentation II “Different Counts (Treatment and SPECT)”

Chair: Søren Rafael Rafaelsen (University Hospital of Southern Denmark)
Masafumi Kanoto (Yamagata University)

G2-1 CtDNA-Guided Adjuvant Treatment After Radical-Intent Treatment of Metastatic Spread from Colorectal Cancer-the First Interim Results from the OPTIMISE Study

Louise Bach Callesen[1], Torben Frøstrup Hansen[2], Rikke Fredslund Andersen[3], Niels Pallisgaard[4], Stine Kramer[5], Sven Schlander[6], Søren Rafael Rafaelsen[7], Anders Kindberg Boysen[1], Lars Henrik Jensen[2], Anders Jakobsen[2], Karen-Lise Garm Spindler[1]

[1)] Department of Oncology, Aarhus University Hospital, Aarhus, Denmark
[2)] Department of Oncology, Vejle Hospital, University Hospital of Southern Denmark, Vejle, Denmark
[3)] Department of Biochemistry and Immunology, Vejle Hospital, University Hospital of Southern Denmark, Vejle, Denmark
[4)] Department of Pathology, Zealand University Hospital, Næstved, Denmark
[5)] Department of Nuclear Medicine & PET-Centre, Aarhus University Hospital, Aarhus,Denmark
[6)] Department of Radiology, Aarhus University Hospital, Aarhus, Denmark
[7)] Department of Radiology, Vejle Hospital, University Hospital of Southern Denmark, Vejle, Denmark

G2-2 Chemoradiotherapy for Eleven Patients with Squamous Cell Carcinoma of the Anus

Yoshio Monzen, Takashi Mizowaki
Department of Radiology, Sasebo City General Hospital

G2-3 Photopenic Liver on DPD Scintigraphy

Bach-Gansmo T[1, 2], Avdagic A[3], Loaiza JLG[2], Miroslawska A[1], Hodt A[3]
[1)] University Hospital North Norway, Tromsø Norway
[2)] Akershus University Hospital, Nordbyhagen, Norway
[3)] Oslo University Hospital, Ullevål, Oslo Norway

15:45 - 16:30 Fukushima Institute for Research, Education and Innovation, Embassy of Sweden Presentation

- 17:30 Coffee break / Japanese Culture Experience

17:30 - 19:00 Welcome Dinner

Day 2 June 19 (Wednesday) , 2024

09:15 - 10:30 General presentation III “Different ties (Network and AI)”

Chair: Harald Nes (Haugesund Sjukehus)
Hiroshi Kondoh (Kyoritsu Memorial Hospital)

G3-1 Networking in Public Healthcare: Professional Collaboration as a Path to Influence

Harald Nes

Haugesund Sjukehus,
Norwegian Radiologic Society
Academic Board, Norwegian Medical Association

G3-2 Expanded Functionalities of Oshidori-Net and the Effectiveness of Cyber Security Backup

Hiroshi Kondoh[1, 3], Masaki Mochida[2], Tetsuro Kawai[2], Motohiro Nishimura[2], Tetsuro Tsujita[3]

[1)] JTTA (Japanese Telemedicine and Telecare Association)
[2)] Secom Sanin Co. Ltd.
[3)] NPO Tottori Pref. Medical Information Sharing Network

G3-3 Research PACS Innovation: Enabling Hospitals to Test & Deploy Image-Based AI Solutions from Commercial Vendors & In-House Teams

Hauke Bartsch

MMIV, Haukeland University Hospital, Department of Radiology, Bergen, Norway
University of Bergen, Department of Computer Science, Bergen, Norway

G3-4 User Experience of Radiology Information Systems (PACS, RIS) in Finland. A Time Series of National Surveys in 2010-2021

Jarmo Reponen

Research Unit of Health Sciences and Technology, University of Oulu, Finland

G3-5 Automatic Findings Extraction in Head MRA Using Large Language Models

Shiho Asami, Yosuke Yamagishi, Akira Uchino, Hiroyuki Tajima, Yasutaka Baba

Department of Diagnostic Radiology, Saitama Medical University International Medical Center

G3-6 Development and Validation of CT Based Radiomics Deep Learning Signatures to Predict Lymph Node Metastasis in Non Functional Pancreatic Neuroendocrine Tumor

Wenchao Gu, Takahito Nakajima

Department of Diagnostic and Interventional Radiology, University of Tsukuba, Faculty of Medicine, Ibaraki, Tsukuba, Japan

10:30 - Coffee break

11:00 - 12:00 General presentation IV “Different answers (IR)”

Chair: Jarmo Reponen (University of Oulu)
Takahiko Mine (Nippon Medical School Chiba Hokusoh Hospital)

G4-1 Preemptive Aortic Side Branch Embolization Before EVAR with ENDURNAT Stent-Graft System: A Prospective Multicenter Study

Masato Yamaguchi

Department of Diagnostic and Interventional Radiology, Kobe University Hospital

G4-2 Impact of System-F in Delivering Vascular Plugs for Aortic Side Branch Embolization During Endovascular Aneurysm Repair

Takahiko Mine[1], So Ueshima[1], Teppei Nakagomi[2], Seigoh Happoh[1], Shinpei Ikeda[1], Ryutaro Fujitsuna[2], Tatsuo Ueda[2], Yasuhiro Kawase[3], Masahiro Fujii[3], Shin-ichiro Kumita[2]

[1)] Department of Radiology, Nippon Medical School Chiba Hokusoh Hospital
[2)] Department of Radiology, Nippon Medical School
[3)] Department of Cardiovascular Surgery, Nippon Medical School Chiba Hokusoh Hospital

G4-3 Experience in Image-Guided Therapy for Central Venous Stenoses and Occlusions.in Hemodialysis Patients

Tomoyasu Sato

Tsuchiya General Hospital

G4-4 Preemptive Embolization of Aortic Aneurysm Multiple Side Branch Arteries to Reduce Type 2 Endoleaks and Promote Early Sac Shrinkage After Endovascular Aneurysm Repair

Tatsuo Ueda[1], Ryutaro Fujitsuna[1], Hidemasa Saito[1], Misa Iwasaki[1], Taiga Matsumoto[1], Sayaka Shirai[1], Fumie Sugihara[1], Takahiko Mine[2], Hiroyuki Tajima[3], Hiromitsu Hayashi[1], Shin-ichiro Kumita[1]

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[3)] Department of Radiology, Saitama Medical University International Medical Center, Saitama

G4-5 A Case of Visceral Arterial Aneurysms Due to Median Arcuate Ligament Compression Syndrome Treated by Transcatheter Arterial Embolization and Surgical Bypass

Misa Iwasaki[1], Hidemasa Saito[1], Tatsuo Ueda[1], Fumie Sugihara[1], Sayaka Shirai[1], Ryutaro Fujitsuna[1], Taiga Matsumoto[1], Shoji Yokobori[2], Yosuke Ishii[3], Hiromitsu Hayashi[1], Shin-ichiro Kumita[1]

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[3)] Department of Cardiovascular Surgery, Nippon Medical School Hospital

G4-6 A Case of Hemoptysis Due to Chronic Inflammation of the Right Lung Resulting from Gallbladder Perforation After Cholecystitis Treated with Transarterial Embolization

Terutaka Yoshihara[1], Kei Shibuya[1], Masashi Ebara[1], Yasuhiko Koga[2], Sosei Yamanouchi[1], Rei Ishikawa[1], Tamaki Okabe[1], Chika Nakamura[1], Miho Ikeya[1], Takayuki Yokota[1], Yuuki Yasui[1], Hiroyuki Tokue[1], Yoshito Tsushima[1]

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[2)] Division of Allergy and Respiratory Medicine, Integrative Center of Internal Medicine, Gunma University Hospital

12:15 - 13:15 Luncheon Seminar II

Sponsored by: Guerbet Japan

Chair: Yoshito Tsushima (Gunma University)

LS2-1 Significance of Perivascular Space Dilatation Which a Community-Dwelling Population-Based Cohort Study Revealed

Masafumi Kanoto

Dept. of Radiology, Division of Diagnostic Radiology Yamagata University Graduate School of Medical Science

LS2-2 Activatable Probes for Fluorescence Imaging: Benefits and Applications

Takahito Nakajima

Diagnostic Imaging and Interventional Radiology, University of Tsukuba

13:15 - 13:30 Group Photo Session

13:30 - 14:30 General presentation V "Different sights (Miscellaneous)"

Chair: Ingfrid S. Haldorsen (Haukeland University Hospital)
Ayako Takahashi (Gunma University)

G5-1 Spinal Manifestation in a 10 Year Old Girl with Pheochromocytoma

Hirohiko Ito, Rajiv Mangla

SUNY Upstate Medical University Hospital, Division of Neuroradiology, Department of Radiology

G5-2 Intestinal Ultrasound in Patients with Suspected Crohn's Disease - Results of a Prospective Evaluation by Trainees

Jacob Broder Brodersen[1, 2], Michael Dam Jensen[2, 3], Mie Agerbæk Jue[1 3], Jens Kjeldsen[4, 5, 6], Torben Knudsen[1, 2], Søren Rafael Rafaelsen[2, 7]

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[6)] OPEN Odense Patient Data Explorative Network, Odense University Hospital, Odense, Denmark
[7)] Department of Radiology, Vejle Hospital - University Hospital of Southern Denmark, Vejle, Denmark

G5-3 Photon Counting CT in Forensic Science

Anders Persson[1, 2], Nils Dahlström[1, 2]

[1)] Center for Medical Image Science and Visualization (CMIV), Linköping University, Linköping, Sweden
[2)] Department of Radiology and Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden

G5-4 Optimization of Photon Counting CT for Cardiac Imaging in Patients with Left Ventricular Assist Devices; an In-Depth Assessment of Metal Artifacts

Bente Konst[1, 2, 3], Linus Ohlsson[2, 4], Lillian Henriksson[2, 5], Mårten Sandstedt[2, 5], Anders Persson[2, 5], Tino Ebbers[1, 2]

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[2)] Center for Medical Image Science and Visualization (CMIV), Linköping University, Linköping, Sweden
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[4)] Department of Thoracic and Vascular Surgery in Östergötland, and Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden
[5)] Department of Radiology in Linköping, and Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden

G5-5 Displacement of the Couch of a CT System for Treatment Planning Measured Using a High-Precision Wide-Area Three-Dimensional (3D) Coordinate Measuring Machine (CMM)

Ryuichi Yada[1], Masataka Sakamoto[2], Junya Tamaki[2], Yusuke Ueshima[3], Kenta Konishi[4], Katsumasa Nakamura[4]

[1)] Department of Regional Medical Management Studies, Hamamatsu University School of Medicine
[2)] Department of Radiology, Hamamatsu University School of Medicine
[3)] Regional Creative Education Center, Hamamatsu University School of Medicine
[4)] Department of Radiation Oncology, Hamamatsu University School of Medicine

G5-6 Anthropogenic Gadolinium Anomalies in the Water of the Tone River, Japan

Soma Kumasaka[1, 2], A. Adhipatria P. Kartamihardja[1, 3], Yuka Kumasaka[1], Satomi Kameo[4], Hiroshi Koyama[5,6], Yoshito Tsushima[1]

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[4)] Department of Nutrition, Koshien University
[5)] Department of Public Health, Gunma University Graduate School of Medicine
[6)] Division of Internal Medicine, Gunma Rehabilitation Hospital

14:35 - 15:35 Afternoon Seminar

Sponsored by: Siemens Healthcare K.K

Chair: Masafumi Kanoto (Yamagata University)

AS-1 Photon-counting CT: Characteristics and Clinical Applications

Jun Hashimoto

Department of Radiology, Tokai University School of Medicine

AS-2 Next-generation coronary artery imaging with photon-counting detector CT

Kakuya Kitagawa

Department of Advanced Diagnostic Imaging, Mie University Graduate School of Medicine

15:40 - 17:10 Evening Seminar

Sponsored by: GE Healthcare Pharma

Chair: Masamitsu Hatakenaka (Sapporo Medical University Hospital)

ES-1 Development and Introduction of Upright CT -New Diagnostic Method in the Era of Healthy Longevity-

Masahiro Jinzaki

Department of Radiology, Keio University School of Medicine

ES-2 Clinical Utility of Photon-Counting CT

Tetsu Niwa

Department of Diagnostic Radiology, Tokai University School of Medicine

17:15 - 17:45 International Board Meeting

18:00 - 19:30 Networking Dinner

at the restaurant "Voler Cygne" on the 31st floor of the Gunma Prefectural Office.

19:30 - 20:00 Closing Remarks

Executive Director, Søren Rafaelsen

Day 3 June 20 (Thursday), 2024

09:30 - 10:30 Tour of the Heavy Ion Medical Center

On June 18-19, we will be inviting prospective visitors at the registration desk at the venue.
The maximum number of participants is 20.

Poster

P-1 Using Loras Increases the Efficiency and Accuracy of Text-To-Image Diffusion Models When Generating Chest X-Ray Pathology

Eliz YY Lin [1], Gerald JS Tan [1, 2]

[1)] Department of Diagnostic Radiology, Tan Tock Seng Hospital, Singapore
[2)] Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

P-2 AI-Generated Medical Images - The Next Big Thing After ChatGPT and AIGenerated Photos?

Gerald JS Tan [1, 2], Eliz YY Lin [1]

[1)] Department of Diagnostic Radiology, Tan Tock Seng Hospital, Singapore
[2)] Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

P-3 Disappearance of Basal Ganglia High Signal Intensity Following Embolization of Intrahepatic Portosystemic Venous Shunt in Patient With Hepatic Encephalopathy: A Case Report

Ikuo Yamazaki[1], Nobuhiro Takaya[1], Atsushi Sakurai[2]

[1)] Department of Diagnostic Radiology, Isesaki Municipal Hospital.
[2)] Department of Neurology, Isesaki Municipal Hospital

P-4 The Time-Course Augmentation of Perivascular Space Enlargement in Basal Ganglia Among a Community-Dwelling Elder Population

Yasuhiro Sugai[1], Toshitada Hiraka[1], Akiko Shibata[1], Ayato Taketa[1], Taiyo Tanae[1], Yosuke Moriya[1], Chifumi Iseki[2, 3], Yasuyuki Ohta[3], Masafumi Kanoto[1]

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[2)] Department of Behavioral Neurology and Cognitive Neuroscience, Tohoku University Graduate School of Medicine
[3)] Division of Neurology and Clinical Neuroscience, Department of Internal Medicine III, Yamagata University Faculty of Medicine

P-5 Survey of Relationship Between Effective Atomic Number Within Endoleak Area Derived from Dual Energy CT and Sac Shrinkage After Endovascular Aortic Repair

So Ueshima[1], Takahiko Mine[1], Masashi Abe[1], Teppei Nakagomi[2], Hajime Kiyuna[1], Tetsuro Sekine[3], Seigoh Happoh[1], Shinpei Ikeda[1], Yasuhiro Kawase[4], Masahiro Fujii[4], Hiromitsu Hayashi[2], and Shin-ichiro Kumita[2]

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[3)] Department of Radiology, Nippon Medical School Musashikosugi Hospital, Kawasaki
[4)] Department of Cardiothoracic Surgery, Nippon Medical School Chiba Hokusoh Hospital, Inzai

P-6 Endovascular Treatments for Vascular Injury After Hepatobiliary and Pancreatic Surgery: Evaluation of Factors Which May Contribute to Clinical Success

Hidemasa Saito[1], Tatsuo Ueda[1], Fumie Sugihara[1], Hiromitsu Hayashi[1], Sayaka Shirai[1], Ryutaro Fujitsuna[1], Taiga Matsumoto[1], Misa Iwasaki[1], Hiroyuki Tajima[2], Shin-ichiro Kumita[1]

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[2)] Department of Diagnostic Radiology, Saitama Medical University International Medical Center

P-7 Examination of Diagnostic Imaging in Spontaneous Superior Mesenteric Artery Dissection

Sayaka Shirai, Tatsuo Ueda, Fumie Sugihara, Hidemasa Saito, Ryutaro Fujitsuna, Taiga Matsumoto, Misa Iwasaki, Hiromitsu Hayashi, Shin-ichiro Kumita

Department of Radiology, Nippon Medical School Hospital

P-8 Creation of Age-Specific Estimated Brain Structure Templates for Pediatric MEG Examinations: Evaluation of the Accuracy of the Age-Volume Curve

Norio Hayashi[1], Ami Masuda[1], Tomoki Aizawa[1], Teresa Ichiki[1], Hiroyuki Hayashi[2], Yukihiro Matsuura[2], Yuko, Yoshimura[3], Mitsuru Kikuchi[4]

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Progress in Radiology 2024

ABSTRACTS

EL1

Shining a Light on Cancer: NIR-Photoimmunotherapy ~Breakthrough of Cancer Treatments~

Takahito Nakajima
Professor, Institute of Medicine, University of Tsukuba
Chief of Radiology department, University of Tsukuba Hospital

The approval of photoimmunotherapy (PIT) for stage IV head and neck cancer in Japan in 2021 represents a groundbreaking development in cancer treatment strategies. This talk presents the evolution of PIT from its conceptualization at the National Institutes of Health (NIH) to its prospective clinical applications in Japan.

Pioneered at the NIH, PIT emerges as a novel therapeutic modality that conjugates antibodies with a fluorescent sensitizer activated by near-infrared (NIR) light. This novel therapy induces rapid necrosis of cancers with minimal damage to surrounding tissues. The presentation will elucidate the underlying principles of PIT and demonstrate its versatility against multiple malignancies.

At the cellular level, PIT induces cell membrane perforation similar to electroporation, resulting in super-selective cell necrosis. A critical threshold of more than 10,000 pores on the cell membrane triggers cellular necrosis, a phenomenon that will be visually demonstrated at the in vitro level, providing compelling evidence for the mechanism of PIT.

The practicality of photoimmunotherapy (PIT) lies in the use of IR700 dye paired with anti-EGFR antibodies, a combination that has shown potent anti-cancer activity in multiple tumor types in preliminary studies. Immune checkpoint inhibitors (ICIs) are recognized as exceptional therapeutic agents in various clinical settings, although their efficacy is limited to only 40% of cancer cases. The combination of PIT with ICIs could leverage the “in situ vaccination” effect used by PIT to enhance antigen release and immunogenicity, potentially offering significant benefits.

Highlighting the confluence of radiology and immunotherapy, the session will conclude with an exploration of “armed body therapy” - a novel concept that integrates therapeutic agents with radiologic techniques. Experimental applications in porcine models and innovative device developments will be presented, highlighting a new frontier in cancer therapeutics where precision medicine and immune modulation converge.

Keywords: photoimmunotherapy, immunotherapy, cancer treatment, head and neck cancer, insurance coverage, IR700, near infrared light, electroporation, immune checkpoint inhibitors, in situ vaccination, armed body therapy, interventional radiology.

NAKAJIMA Takahito

Educational Background:
- Bachelor of Medicine, Gunma University Faculty of Medicine, [1997]
- Ph.D. in Medical Science, Graduate School of Medicine, Gunma University, [2003]

Professional Achievements:
- Co-founder of the venture company Advanced Medical Imaging Analysis Center, Co., Ltd. originating from Gunma University in 2005.
- Postdoctoral Research Fellow in the Molecular Imaging Program at the National Institutes of Health (NIH), National Cancer Center, USA from 2010 to 2013.
- Vice Head and Associate Professor of the Department of Radiology at Gunma University Hospital in 2018.
- Professor and Chief of the Department of Diagnostic Imaging and Interventional Radiology at the Institute of Medicine, University of Tsukuba in 2020.

Memberships and Affiliations:
- Delegate of the Japan Radiological Society
- Delegate of the Japanese Society of Nuclear Medicine
- Organizer of the Kanto-Koshinetsu Regional Meeting of the Japanese Society of Nuclear Medicine

Areas of Expertise:
- Diagnostic Radiology (General)
- Interventional Radiology
- Nuclear Medicine
- Ultrasound sonography
- Molecular Imaging and Photoimmunotherapy

EL2

Fundamentals and Clinical Applications of Carbon Ion Radiotherapy

Hidemasa Kawamura
Gunma University Heavy Ion Medical Center

Carbon ion radiotherapy (CIRT) has gained significant interest due to its advantages in physical and radiobiological properties compared to photon therapy. CIRT is a promising new treatment technique, with early data suggesting that it is safe and effective for a variety of tumors.

CIRT offers superior dose conformity in the treatment of deep-seated tumors compared to conventional photon therapy. Carbon ions have a characteristic deep energy distribution, known as a "Bragg peak," where low levels of energy are deposited in tissues proximal to the target and the majority of the energy is released in the target. This characteristic enables precise dose delivery, maximizing the radiation dose to the tumor while minimizing exposure to surrounding normal tissues. Furthermore, a sharper lateral dose penumbra is observed at greater depths.

In addition, carbon ions have a higher linear energy transfer (LET) than photons and protons, resulting in a higher relative biological effectiveness (RBE). The high ionization density of carbon ions causes more frequent DNA damage, including complex double-strand breaks that are more complex for cells to repair. Extensive DNA damage can activate various cell death pathways, such as apoptosis and mitotic catastrophe, leading to the elimination of tumor cells. Carbon ions have a relative biological effectiveness (RBE) that is generally 2-3 times higher than that of conventional photons, indicating their enhanced ability to kill cancer cells.

Particle radiotherapy' s therapeutic advantages were first recognized by Robert Wilson in the 1940s. The National Institute of Radiologic Sciences (NIRS) opened the first heavy ion accelerator for clinical use in Chiba, Japan, in 1994. Currently, 16 facilities worldwide offer CIRT. CIRT is applied for the treatment of head and neck, lung, liver, pancreas, prostate, bone and soft tissue sarcoma, gynecologic tumors, and other types of cancer. The availability of CIRT facilities worldwide is still limited, which hinders patient access to this advanced treatment modality. Plans to build new facilities are underway. In Japan, CIRT was initially used for clinical research and later for advanced medical care. In recent years, national insurance has covered CIRT for various types of malignant diseases, and patients' economic burden is reduced.

Gunma University Heavy Ion Medical Center began offering CIRT in 2010. As a university hospital, we are exploring the integration of CIRT with other treatment modalities, such as surgery, chemotherapy, and immunotherapy, to enhance treatment efficacy and broaden the application of CIRT. Currently, we treat approximately 7,000 patients. This presentation provides a comprehensive overview of the history, principles, clinical results, and future directions of CIRT, including our experience at Gunma University.

KAWAMURA Hidemasa

Educational Background:
Ph.D. in Radiation Oncology, Gunma University Graduate School of Medicine, March 2009
M.D., Gunma University School of Medicine, March 2003

Professional Achievements:
Present
Professor, Gunma University Heavy Ion Medical Center 2021-
Vice director, Heavy Ion Medical Center, Gunna University Hospital

Assistant professor, Department of Radiation Oncology, Gunma University Graduate School of Medicine 2009
Research Fellow, Department of Radiation Oncology, Cellular & Molecular Radiation Oncology Laboratory/ Massachusetts General Hospital, Harvard Medical School 2011
Assistant professor, Gunma University Heavy Ion Medical Center 2013
Associate professor, Department of Radiation Oncology, Gunma University Graduate School of Medicine 2018

Memberships and Affiliations:
Japanese Society for Radiation Oncology
Japan Radiological Society
Japanese College of Radiology
Japan Society of Clinical Oncology
The Japanese Cancer Association
The Japanese Urological Association
The Japan Lung Cancer Society
The Japanese radiation oncology study group
Japanese Society for Quality and Safety in Healthcare

Areas of Expertise:
Carbon Ion Radiotherapy
High Precision Radiotherapy
Clinical Radiation Oncology; Prostate cancer, Lung Cancer, Head and Neck Cancer
Quality of Life
Treatment Decision Making

G1-1

Evaluation of MRS-PDFF, MRI-PDFF and Liver Biopsy Assessment of Hepatic Fat Fraction in a Prospective MASLD Cohort

Christian Simonsson[1,3,4], Shan Cai[1,3], Jens Tellman[1], Markus Karlsson[1], August Sekund[1], Gunnar Cedersund[3,4], Simone Ignatova[5], Patrik Nasr[2], Mattias Ekstedt[2,3], Stergios Kechagias[2,3], Nils Dahlström[3,6], Peter Lundberg[1,3]

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Purpose: To compare MR-based techniques for Proton Density Fat Fraction (PDFF) assessment with histopathological evaluation of steatosis in patients with Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)
Methods: Eighty-four patients scheduled for liver biopsy due to signs of diffuse liver disease were examined prospectively with MRS and MRI to determine hepatic PDFF. The ^{1}H-MRS was performed as a PRESS sequence with a volume of interest (VOI) of 30x30x30 mm^3. For MRI-based PDFF, the Dixon technique was used in two separate configurations, 6- and 2-point (6pD and 2pD), The MR examination was performed within one hour before obtaining the liver biopsy.
In 6pD-PDFF, two VOIs were used, one as closely as possible to the site of biopsy and one in the MRS VOI location. For 2pD-PDFF, several VOIs were used to calculate a global value.
By histopathology, steatosis was visually graded 0-3 representing <5%, 5-33%, 33%-66% and >66%, respectively.
Results: MRS-PDFF, 6pD-PDFF and 2pD-PDFF accurately characterized steatosis diagnosed by histopathology. A greater difference was noted between MRS-PDFF and Dixon-derived PDFF than the difference between these Dixon PDFF measurements. In accordance with previous studies there was a mean absolute bias of ~15% when comparing PDFF with histopathological grading of steatosis, with the divergence increasing with the grade of histopathological steatosis.
Conclusion: MRI-derived PDFF using the Dixon technique accurately distinguishes between histopathological steatosis grades.
Clinical Relevance and/ or Applications: MR imaging based PDFF is valuable for non-invasive characterization of hepatic steatosis.

G1-2

MRI Findings of Aneurysmal Walls and Thrombus Associated with Sac Shrinkage After Endovascular Aortic Repair

Teppei Nakagomi[1], Takahiko Mine[2], Masashi Abe[2], So Ueshima[2], Tetsuro Sekine[3], Daisuke Yasui[3], Rika Kobayashi[1], Seigoh Happoh[2], Shinpei Ikeda[2], Yasuhiro Kawase[4], Masahiro Fujii[4], Hiromitsu Hayashi[1], and Shin-ichiro Kumita[1]

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[4)] Department of Cardiothoracic Surgery, Nippon Medical School Chiba Hokusoh Hospital, Inzai

Objective: Imaging characteristics indicating outcomes after endovascular aortic repair (EVAR) for abdominal aortic aneurysms are not satisfactory established. We analyzed the association with aneurysmal volume change and the MRI findings of endoleak, intra-aneurysmal thrombus, and aneurysmal wall.
Methods: Forty-eight patients underwent contrast-enhanced MRI as the follow-up survey after EVAR were enrolled. Based on the following stratifications, the relationship between each finding and the aneurysmal volume change for one year was analyzed. First, regarding endoleak, its existence and boundary shape were detected. Second, regarding intra-aneurysmal thrombus, signal patterns in the non-contrast sequences were divided into homogenous or heterogenous, and heterogenous group was further divided into uncomplex or complex. Third, the effect of aneurysmal wall thickening was evaluated.
Results: The lack of endoleak (n=21) and the endoleak with clear boundary (n=13) related to shrinkage than the endoleak with unclear boundary (n=16), (respective volume change ratio: 93.4±22.8, 95.0±15.1, 113.7 ±22.0%, p=0.001). Regarding intra-aneurysmal thrombus, the homogenous group (n=21) shrunk than the heterogenous group (n=29), (88.2±17.7 vs. 109 ±21.6%, P<0.001). Among the heterogenous group, the complex pattern as multi-cracked or mix patterns (n=14) was mostly associated with enlargement (120 ±23.8%, p<0.001). The aneurysmal wall thickening (n=10) promoted shrinkage (77.9±15.5%, p<0.001).
Conclusion: Several imaging features demonstrated from MRI related to the change in aneurysmal volume. Lack of endoleak, clear endoleak boundary, homogenous or uncomplex heterogenous thrombus, and wall thickening were noted as the factors for sac shrinkage.

G1-3

MRI Radiomic Tumor Profiling for Predicting Stage, Prognosis and Molecular Profiles in Uterine Cancers

Ingfrid Haldorsen

Head of Mohn Medical Imaging and Visualization Center, Dep. of Radiology, Haukeland University Hospital, Bergen, Norway

Pelvic magnetic resonance imaging (MRI) is routinely utilized for preoperative staging and allows MRI radiomic tumor profiling. Advanced stage and specific radiomic profiles have been shown to predict clinical phenotype, treatment response and outcome in uterine endometrial cancer (EC) and in cervical cancer (CC). Recent studies also indicate that MRI radiomic profiles are linked to specific molecular subclasses according to The Cancer Genome Atlas (TCGA), and imaging profiles may thus serve as surrogate markers guiding prognostication and individualized treatment strategies.

This presentation will highlight recent studies, including studies from our own research group, describing diagnostic staging performance of MRI when utilizing radiomics and the prognostic power of MRI radiomic tumor profiles in uterine cancers. Furthermore, results from radiomic- and genomic tumor profiles when analyzed integratively in uterine cancers, will be presented.

G1-4

Optimization of Slice Resolution Through Evaluation of Spatial Resolution in Slice Direction Using the Ladder Method

Tomokazu Takeuchi [1,2], Norio Hayashi [1], Kouichi Ujita [2], Yuusuke Sato [1,2], Ayako Taketomi-Takahashi [2], Takayuki Suto [2], Yoshito Tsushima [3]

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[3)] Department of Diagnostic Radiology and Nuclear Medicine, Gunma University Graduate School of Medicine

Purpose: Resolution assessment in MRI is challenging, and the understanding of slice direction resolution is limited. Despite the widespread clinical use of 3D imaging, the extended acquisition time presents a limitation. To address this, "slice resolution" is utilized; however, its impact on multi-planar reconstruction (MPR) images is not understood. This study aims to objectively evaluate resolution using the ladder method, explore the impact of different slice resolution settings in various 3D imaging sequences, and propose optimal conditions for slice resolution.
Materials and Methods: Various 3D imaging sequences—SPACE T1WI, T2WI, and VIBE T1WI—were employed with slice resolutions from 50% to 100%. Axial images were acquired and reconstructed into coronal cross-sections for assessment. The ladder method was used for objective evaluation, including spatial frequency analysis. Visual evaluation was conducted and compared with objective results to enhance result validity.
Results: In all imaging sequences, ladder method results remained constant from 100% to 80% slice resolution but decreased below 70%. Good separation of 2 mm-diameter pins, scoring 4 points, was achieved at a minimum 60% slice resolution for T2WI SPACE and T1WI VIBE, and at least 80% for T1WI SPACE. A score below 2 points—difficulty separating 2 mm-diameter pins—was consistent at 50% slice resolution for all sequences.
Conclusion: The ladder method and visual evaluations suggested stable image quality at 80% slice resolution, allowing a potential 20% acquisition time reduction.
Clinical Relevance/Application: Reducing imaging time by 20% might improve patient comfort during the examination without compromising image quality.

G2-1

CtDNA-Guided Adjuvant Treatment After Radical-Intent Treatment of Metastatic Spread from Colorectal Cancer-the First Interim Results from the OPTIMISE Study

Louise Bach Callesen [1], Torben Frøstrup Hansen [2], Rikke Fredslund Andersen [3], Niels Pallisgaard [4], Stine Kramer [5], Sven Schlander [6], Søren Rafael Rafaelsen [7], Anders Kindberg Boysen [1], Lars Henrik Jensen [2], Anders Jakobsen [2], Karen-Lise Garm Spindler [1]

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[6)] Department of Radiology, Aarhus University Hospital, Aarhus, Denmark
[7)] Department of Radiology, Vejle Hospital, University Hospital of Southern Denmark, Vejle, Denmark

Purpose: Patients with detectable ctDNA after radical-intent treatment of metastatic spread from colorectal cancer (mCRC) have a very high risk of recurrence, which may be prevented with intensified adjuvant chemotherapy (aCTh). We investigate ctDNA-guided aCTh after radical-intent treatment of mCRC.
Methods: The study is an open-label 1:1 randomized clinical trial comparing ctDNA-guided aCTh against standard of care (SOC), with a run-in phase investigating feasibility measures. Key inclusion criteria; radical-intent treatment for mCRC and clinically eligible for triple-agent chemotherapy. Patients underwent a PET-CT scan before randomization. ctDNA analyses of plasma samples were analyzed. In the ctDNA-guided arm, ctDNA positivity led to an escalation strategy with triple-agent chemotherapy, and conversely ctDNA negativity led to a de-escalation strategy.
Results: Thirty-two patients were included. The rate of PET-CT-positive cases was 22% (n = 7/32). Ninety-seven percent of the patients were randomized. Fourteen patients were randomly assigned to SOC and sixteen to ctDNA-guided adjuvant treatment and follow-up. All analyses of baseline plasma samples in the ctDNA-guided arm passed the quality control, and 19% were ctDNA positive. The median time to result was three working days. All ctDNA-positive patients were eligible for triple-agent chemotherapy.
Conclusion: The study was proven to be feasible and continues in the planned large-scale phase II trial.
Clinical Relevance and/ or Applications:
Results from the OPTIMISE study will potentially optimize the adjuvant treatment of patients undergoing radical-intent treatment of mCRC, thereby improving survival and reducing.

G2-2

Chemoradiotherapy for Eleven Patients with Squamous Cell Carcinoma of the Anus

Yoshio Monzen, Takashi Mizowaki
Department of Radiology, Sasebo City General Hospital

Purpose: Squamous cell carcinoma of the anus (hereinafter called “anal canal cancer”) is a relatively rare disease worldwide. We retrospectively reviewed the treatment effect of concurrent chemoradiotherapy in patients with anal canal cancer.
Methods: A total of 11 patients (11 women; median age 67 (53-87) years) with anal canal cancer were studied. According to the 8th Union for International Cancer Control (UICC) staging system, there were 2 patients in stage Ⅰ, 5 in stage ⅡA, 3 in stage ⅢA, and 1 in stage ⅢC. Ten patients were treated with three dimensional radiation therapy (3D-CRT), and 1 patient received intensity modulated radiation therapy (IMRT). Median tumor dose was 59.4Gy (54-59.4Gy). Of the 11 patients, 9 were treated with mitomycin-C and fluorouracil, 1 patient was treated with cisplatin and fluorouracil, and 1 patient was treated with nedaplatin and fluorouracil.
Results: A complete response was achieved in all patients after treatment. Median survival time was 58 months (24-100 months). Three-year overall survival rate, three-year progression-free survival rate, and colonostomy-free rate were 100%, 91%, and 100%, respectively. Although patients developed leukopenia, thrombocytopenia, radiation dermatitis of the perineum, and radiation enteritis during treatment, these adverse events improved.
Conclusion: Chemoradiotherapy was associated with good results in anal canal cancer with acceptable toxicities.

G2-3

Photopenic Liver on DPD Scintigraphy

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Purpose: Diffuse soft tissue uptake, attenuated bone uptake, and an apparent photopenic liver is uncommon, but not exceptional on whole body scintigraphy (WBS) with 3,3-diphosphono-1,2-propanodicarboxylic acid (DPD).
The aim is to demonstrate the scintigraphic features of this clinical entity.
Methods: Patients with biopsy proven transthyretin cardiomyopathy (ATTRcm) were reassessed for diffuse soft tissue uptake.
Results: Five patients, all males, aged 65-88, were included; 4 with Perugini grade 3 and 1 Perugini grade 1. The incidence was close to 10 % of patients with biopsy proven ATTRcm. Three patients were alive at the study end, median follow up 2 years. The Perugini grade 1 had biopsy proven cutaneous short chain amyloidosis (AL), and combined AL and ATTRcm, endomyocardial biopsy showing 28% ATTR and 8% AL, and septal thickness of 20 mm. The four Perugini grade 3 had characteristic ATTRcm. The liver has normally only slight uptake on a DPD WBS, but an apparent photopenic liver is particularly evident in patients with diffuse soft tissue uptake.
Conclusion: On WBS with high background activity, the apparent photopenic liver is attributable, at least in part, to the contrast created by the surrounding high soft tissue uptake in lungs, adipose tissue, gut, and muscles. Another implication is that the liver is often spared in diffuse amyloidosis.

G3-1

Networking in Public Healthcare: Professional Collaboration as a Path to Influence

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Radiologic leaders in my region have trough 15 years developed a fruitful cooperation. Initially aimed to calibrate imaging protocols and logistics, then expanded to constantly new tasks. We discovered an astonishing grade of increased impact in our healthcare organisation, almost as an informal power. I will refer from the history behind it, highlight some of the suksess factors, and give a brief overview of the results.

G3-2

Expanded Functionalities of Oshidori-Net and the Effectiveness of Cyber Security Backup

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Purpose: Oshidori-net, which has been in operation since 2010, has expanded several functions in response to users' requests. Functions such as Oshidori-Note, iPhone/iPad terminals, and real-time backup were added. The purpose of this paper is to re-evaluate Oshidori-net in light of these functions and the situation in Japan.
Methods: In order to clarify the status of the expansion to date, usage information is presented numerically and the advantages are enumerated. A model of system utilization will be examined based on the additional functions. To consider necessary models in urban areas. Clarify the relationship with the trend of system development in Japan.
Results: In February 2024, the number of registered patients reached 14,000, but the number of hospitals providing information decreased from a maximum of 20 to 17 at present. The reason was that the informational hospitals needed to spend from 1 to 2.4 million yen per year depending on the number of beds and did not make a profit according to this amount. The expenses of other medical institutions, which amounted to about 12,000 yen per year, gradually increased. Compared to the urban situation, there was a single flow from clinics and acute care hospitals to chronic care hospitals in Tottori Prefecture. On the other hand, in urban areas, there were multiple medical institutions for each, and the need in urban areas appeared to be great. In Japan, in 2010, the regional medical coordination system allowed medical information to be referenced for each medical institution, but it was not integrated, and there was almost no time series display similar to a PHR. The Oshidori-Note allows information about patients to be transmitted from the referring medical institution, enabling interactive transmission of medical information. iPhone and iPad devices can be used outside of medical institutions. Functions such as real-time backup were developed for disaster countermeasures, but the use of iPhone/iPad terminals will also be effective in this case, considering that the hospital' s internal network may not be available in the event of a cyber attack by ransomware. In addition, the use of the Oshidori-Note and iPhone/iPad terminals can be used to respond to evacuees at evacuation centers in the event of a Noto Peninsula earthquake.
Conclusion: The use of Oshidori-net was found to be more effective in urban areas outside of the prefecture. It was also considered effective in countermeasures against cyber-attacks and for evacuation centers in the event of an earthquake.
Clinical Relevance and/ or Applications: Based on the above conclusions, we decided to plan to expand the use of the system outside the prefecture. We also decided to explain the effectiveness of the system in countermeasures against disasters and cyber-attacks.

G3-3

Research PACS Innovation: Enabling Hospitals to Test & Deploy Image-Based AI Solutions from Commercial Vendors & In-House Teams

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Purpose: We present a hospital-based research system for the development and testing of image- based AI algorithms. Results highlight the testing of commercial algorithms for mammography screening and an in-house developed automatic segmentation tool for cervical vertebrae from volumetric MR images.
Methods: We reviewed special purpose solutions used in large clinical trials and designed a dedicated research only picture archive and communication system (PACS). Placing research PACS next to our clinical systems one infrastructure supports many projects using clinical DICOM and HL7. Users request a (free of charge) project space and use a web application to import clinical image data and address them to their project. Qualified users can export pseudo-nymized data, automate data migration tasks and setup data processing services for image segmentation and classification. We support developers with implementing gateway functions including structured reports.
Results: Research PACS performed automated AI processing integrating a commercially available AI software in the BreastScreen Norway project and processing 116,000 imaging visits. An in- house AI model (fastAI/PyTorch) was trained recursively on 10, 30, and 109 images with manually edited masks to improve the quality of vertebrae segmentation. Processing is triggered by the researcher and used for biomarker discovery.
Clinical Relevance and/ or Applications: The presented research PACS provides services for 162 regional projects and is accessible to all researchers in Western Norway (Helse Vest RHF). Our team is interested in establishing collaborations with other institutions to support inter-regional data exchanges for multi-center projects.

G3-4

User Experience of Radiology Information Systems (PACS, RIS) in Finland. A Time Series of National Surveys in 2010-2021

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Purpose: In Finland, the user experience (UX) of health information systems, including electronic health record systems (EHRs) and information systems (ISs) in radiology (PACS and RIS) has been studied nationwide and systematically since 2010. The purpose of this study was to compare the performance of PACS and RIS in a time series between 2010 and 2021 and relate the results to information technology (IT) infrastructure changes.
Methods: A web-based survey was sent to Finnish doctors who had an e-mail address in the register of the Finnish Medical Association about their UX with ISs in 2010, 2014, 2017 and 2021. The number of respondents varied from 3,900 to 4,700, respectively. The survey questions included statements on a 5-point likert scale about the UX aspects of the ISs and a request to give the ISs a general "school grade". For this study, the detailed information concerning PACS and RIS was extracted from the collected data.
Results: The average UX of radiology ISs showed high scores in 2010, 2014 and 2017 studies. In 2021, the average user experience deteriorated, and the school grades fell. There were differences between individual products. At the same, a major IT infrastructure changes took place in many healthcare institutions.
Conclusion: Radiology ISs have traditionally been in the forefront of ISs and therefore their UX has mostly been ahead of general ISs. However, major IT infrastructure changes seem to adversely affect the UX.
Applications: Careful planning is needed before major IT infrastructure modifications.

G3-5

Automatic Findings Extraction in Head MRA Using Large Language Models

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Purpose: Using a pre-trained Large Language Model (LLM), automatically extract findings related to vascular lesions from radiology reports, and evaluate the accuracy.
Methods: From the head MRA radiology reports by our neuroradiologist (Dr. U.A.), 101 cases were randomly extracted (32 occlusion cases, 27 stenosis cases, 7 aneurysm cases, 10 variant cases, and 25 normal cases). Due to privacy concerns, the LLM needs to operate on a local PC. Information extraction was performed by zero-shot learning using the Japanese LLMs "ELYZA-japanese-Llama-2-13b-fast-instruct" and "Mixtral-8x7B-Instruct-v0.1" . Evaluated on 3 levels: "completely correct" , "partially correct" , and "incorrect" . Only findings extracted with "completely correct" evaluations were considered hits, while "partially correct" and "incorrect" were determined to be misses.
Performance was evaluated by accuracy, precision, recall, specificity, and F1 score.
Results: With the ELYZA-japanese-Llama-2-13b-fast-instruct model, the F1 score reveals occlusion:0.95, stenosis :0.94, aneurysm: 0.89, and variant: 0.69. Meanwhile, with the Mixtral-8x7B-Instruct-v0.1 model, the F1 score reveals occlusion :0.98, stenosis:0.73, aneurysm: 0.94 and variant: 0.63.
Conclusion: By using LLMs, we were able to achieve automation of information extraction with a certain level of accuracy.
Clinical Relevance and/ or Applications: If we can extract information from unstructured diagnostic reports, it could be useful for diagnostic support, data analysis, and more.

G3-6

Development and Validation of CT Based Radiomics Deep Learning Signatures to Predict Lymph Node Metastasis in Non functional Pancreatic Neuroendocrine Tumor

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Purpose: To develop and validate a combination model based on contrast-enhanced CT images to predict the lymph node metastasis (LNM) in NF-PanN
Methods: Retrospective data were gathered for 320 patients with NF-PanNETs who underwent curative pancreatic resection and CT imaging at two institutions between January 2010 and March 2022. RDPs (Radiomics deep learning signature) were developed based on ten machine-learning techniques. These signatures were integrated with the clinicopathological factors into a nomogram for clinical applications. The evaluation of the model' s performance was conducted through the metrics of the area under the curve (AUC).
Results: The RDPs showed excellent performance in both centers with a high AUC for predicting LNM and disease-free survival (DFS) in Center 1 (AUC, 0.88; 95% CI: 0.84–0.92; DFS, $p < 0.05$) and Center 2 (AUC, 0.91; 95% CI: 0.85–0.97; DFS, $p < 0.05$). Notably, our model maintained a satisfactory predictive ability for tumors at the 2-cm threshold, demonstrating its effectiveness across different tumor sizes in Center 1 (≤2 cm: AUC, 0.90 and >2 cm: AUC, 0.86) and Center 2 (≤2 cm: AUC, 0.93 and >2 cm: AUC, 0.91).
Conclusion: Our RDPs may have the potential to preoperatively predict LNM in NF-PanNETs, address the insufficiency of clinical guidelines concerning the 2-cm threshold for tumor lymph node dissection, and provide precise therapeutic strategies
Clinical Relevance and/ or Applications: Our RDPs aid in precision treatment decisions for NF-PanNETs, ensuring tailored approaches based on LNM risk, influencing the choice between follow-up, enucleation, or oncologic resection, and guiding neoadjuvant therapy use. Validation through future studies is needed.

G4-1

Preemptive Aortic Side Branch Embolization Before EVAR with ENDURNAT Stent-Graft System: A Prospective Multicenter Study

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Purpose: To evaluate the efficacy and safety of preemptive transcatheter arterial embolization (P-TAE) for aortic side branches (ASBs) to prevent type 2 endoleak (EL2) in patients with abdominal aortic aneurysm (AAA) before EVAR with an ENDURANT Stent Graft System.

Methods: Between 2018 and 2021, 100 patients with AAA from nine hospitals were enrolled prospectively. P-TAE was attempted for patent ASBs regardless of diameter, including the inferior mesenteric artery (IMA), lumbar artery(LAs), and other branches based on preoperative thin slice contrast-enhanced CT(CECT). CECT was examined at one and six months after EVAR to evaluate EL2. The primary endpoint was the incidence of late EL2 at 6 months after EVAR. The secondary endpoints were aneurysmal sac diameter changes at 6 and 12 months after EVAR, complications, re-intervention, and aneurysm-related mortality.

Results: The number of patent ASBs in all patients was 397, including 73 IMA, 315 LAs, and nine others. The median number of patent ASBs per patient before EVAR was 4.0 (IQR 3-5). P-TAE was performed without any complications in all patients. 80.9 % (321 /397) of the ASBs (80.9 %) were successfully embolized, including 86.3%(63/73)for IMA, 80.3%(253/315)for LAs, and 55.6%(5/9)for other branches. The incidence of late EL2 at 6 months was 8.9 % (8/90). Aneurysm sac shrinkage >5 mm was obtained 41.1% (37/90) at 6 months and 55.3% (47/85) at 12 months after EVAR.

Conclusion: P-TAE for ASBs before EVAR with ENDURANT is safe and effective in preventing EL2 and leads to early sac shrinkage at one year after EVAR.

G4-2

Impact of System-F in Delivering Vascular Plugs for Aortic Side Branch Embolization During Endovascular Aneurysm Repair

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Purpose: This article aimed to illustrate the utility of our original system to deliver vascular plugs into aortic side branches during endovascular aneurysm repair.
Methods: Our device, which we named "System-F", mainly consists of a 12-Fr long sheath with a side hole, a stiff guidewire as a shaft, and a parallelly inserted delivery catheter navigated through the side hole into the aneurysm cavity. Vertical motion and horizontal rotation of the side hole allow multidimensional movement of the delivery catheter within the aneurysm. This system was applied to approach inferior mesenteric and lumbar arteries in seven cases of endovascular aneurysm repair.
Results: Apart from one lumbar artery with stenosis at the orifice, vascular plugs were successfully delivered into all target branches. Four inferior mesenteric arteries were embolized using an 8-mm AVP-II or 7–8-mm AVP-4s, and 14 lumbar arteries were embolized using 4–7-mm AVP-4s. Type II endoleak was not observed in the follow-up survey of any case.
Conclusion: The several elements of the System-F achieved high delivery capability for vascular plug placement in the side branches of abdominal aortic aneurysms and have the potential to widely be applied.

G4-3

Experience in Image-Guided Therapy for Central Venous Stenoses and Occlusions. in Hemodialysis Patients

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Purpose: In cases of upper limb shunt creation for hemodialysis, there is a frequent occurrence of narrowing or occlusion in central veins like the subclavian and brachiocephalic veins. Relocating the shunt to the opposite limb may needed to continue dialysis. Flow disturbance cause severe swelling and impaired upper limb function. Vein dilation on the body surface is observed as a collateral pathway. Catheter-based reopening attempts may face difficulties, especially in cases of occlusion. Early restenosis or occlusion are sometimes observed. The use of recanalizing devices has increased success rates.
Methods: Our hospital' s experience with central vein recanalization involves 97 cases (average age 65.4±17.6 years, 57 males, and 40 females) undergoing image-guided treatment for subclavian and brachiocephalic vein narrowing or occlusion between September 2012 and December 2023.
Results: Over this period, 209 treatments were performed: 59 cases received one treatment, 16 received two, 11 received three, 4 received four, and 7 received five or more. Technical success was achieved in 96 out of 97 cases, with one case (3%) using a bidirectional approach but failing to penetrate a fully occluded lesion. Initial dilation methods included POBA in 7 cases, cutting balloon or valve cutter in 3 cases, metallic stent placement in 76 cases, DCB use in 8 cases, and DES use in 1 case. Preoperative pressure differences were measured in 32 cases, ranging from 0 to 90 mmHg with an average of 26.3 ±16.0 mmHg. Multiple dilations were needed in 38 cases (33%). The initial lesion morphology included stenosis in 23 cases and occlusion in 15 cases. The duration until second retreatment ranged from 2 to 58 months, averaging 15.6±13.8 months after initial procedure.
Conclusion: In conclusion, image-guided treatment proves beneficial for central vein stenoses and occlusions.

G4-4

Preemptive Embolization of Aortic Aneurysm Multiple Side Branch Arteries to Reduce Type 2 Endoleaks and Promote Early Sac Shrinkage After Endovascular Aneurysm Repair

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Purpose: To evaluate the efficacy of preemptive embolization (PE) of multiple side branch arteries (SBAs) branching from the abdominal aortic aneurysm (AAA) sac on prevention of type 2 endoleaks (T2ELs) and early aneurysm sac shrinkage.
Methods: Patients undergoing endovascular aneurysm repair (EVAR) for AAA with or without PE of multiple SBAs between January 2016 and August 2021 were retrospectively studied. The patients were compared for occlusion rates of SBAs, frequency of T2ELs, changes in aneurysm sac size, percentage of aneurysm sac size decrease, and frequency of reduction in the aneurysm sac diameter by >2 mm.
Results: The study enrolled 43 patients in the embolization group (EG) and 20 in the non-embolization group (N-EG). The total occlusion rate of SBAs was significantly higher in the EG than in the N-EG (70.2% vs. 29.3%, $P<0.05$). T2ELs frequency was significantly lower in the EG at 1, 3, 6, and 24 months of follow-up. The frequency of reduction in diameter by >2 mm was significantly higher in the EG than in the N-EG at 12 (88.4% vs. 40%, $P<0.05$) and 24 months (86.2% vs. 36.8% $P<0.05$). The optimal cut-off value for the total occlusion rate of SBAs to achieve reduction in diameter by >2 mm at 12 months after EVAR was 62.5% in all patients (area under the curve=0.693; sensitivity=60.9%; specificity=82.4%).
Conclusion: PE of multiple SBAs branching from the AAA sac may contribute to prevention T2ELs and early aneurysm sac shrinkage, and it might reduce the risk of late complications after EVAR.

G4-5

A Case of Visceral Arterial Aneurysms Due to Median Arcuate Ligament Compression Syndrome Treated by Transcatheter Arterial Embolization and Surgical Bypass

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Purpose: Transcatheter arterial embolization (TAE) is the first choice of treatment for pancreaticoduodenal artery aneurysms due to median arcuate ligament compression syndrome (MALS), however excessive TAE may cause hepatic infarction, therefore treatment strategy is important. We report a case of ruptured aneurysms of anterior/posterior superior pancreaticoduodenal artery (ASPDA / PSPDA) and dorsal pancreatic artery (DPA) due to MALS successfully treated with TAE and surgical bypass.
Case Report: A woman in her 50s developed a sudden abdominal pain, and was transferred to our hospital. Contrast-enhanced CT showed a stenosis of the celiac trunk due to MALS, and multiple aneurysms of ASPDA and PSPDA. TAE with coils and glue was performed for PSPDA aneurysm, however the patient had hemorrhage and anemia on the 11th day after the TAE. The DPA aneurysm was observed on CT and rapidly enlarging, therefore we underwent the second TAE. Although ASPDA aneurysm was untreated, we concerned about hepatic ischemia. Consequently, we performed aorto-abdominal artery surgical bypass. CT after the bypass showed a reduction in ASPDA aneurysm, thus we decided to observe. Two years after the surgical bypass, the patient has been doing well with no increase in ASPDA aneurysm and no other visceral aneurysm.
Conclusion: We experienced a case of successful hybrid treatment with TAE and surgical bypass of visceral aneurysms caused by MALS.
Clinical Relevance: Visceral aneurysms caused by MALS, which are difficult to treat with TAE alone, were considered important for surgeons and interventional radiologists to work closely together.

G4-6

A Case of Hemoptysis Due to Chronic Inflammation of the Right Lung Resulting from Gallbladder Perforation After Cholecystitis Treated with Transarterial Embolization

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The patient was a male in his 70s with a history of abdominal aortic aneurysm treated with stent-graft insertion, subsequent femoral artery bypass surgery for stent-graft occlusion and angina. Two years ago, he developed acute cholecystitis and was conservatively managed. Six months later, his gallbladder perforated, showing a continuous gas pattern extending into the right middle lobe of the lung in CT. A year ago, he started coughing up bloody sputum. Initially managed as an outpatient, he experienced mild hemoptysis four months later. Being on clopidogrel for angina, he temporarily stopped it and received hemostatic agents, which improved his symptoms. However, a year later, he had another mild hemoptysis episode, managed conservatively. To control the hemoptysis, transcatheter arterial embolization (TAE) was planned. Preoperative CT showed nodules suggestive of chronic inflammation in the right middle lobe of the lung supplied by his right inferior phrenic artery, right bronchial artery, right internal mammary artery, and omental artery. TAE was approached via right common femoral artery. His right inferior phrenic artery was embolized with 25 microcoils. Subsequently his omental artery was embolized with 5 microcoils. His right bronchial artery and right internal mammary artery could not be selected due to the tortuosity of his aorta, and embolization to the two arteries was not possible. As of abstract submission, hemoptysis has not occurred to him. This case represents a rare instance of hemoptysis due to chronic inflammation of the right lung secondary to cholecystitis, and we report it, including a literature review.

G5-1

Spinal Manifestation in a 10 Year Old Girl with Pheochromocytoma

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Purpose: To report spinal manifestation in a 10 year old girl with pheochromocytoima
Methods: A case study
Results: 10 year old girl with several month history of headache and vision changes presented to ER with signs and symptoms of common cold and was found to have adenovirus, influenza A virus, and RSV. While at ER she had new onset seizures with fever of 39 degrees C and was given a presumptive diagnosis of complex febrile seizure. Lumbar puncture was then performed with clear CSF. After the LP she was found to be hypertensive and a subsequent MRI Abdomen showed pathology proven right adrenal pheochromocytoma. MRI Brain and spine showed CNS lesions thought to be associated with PRESS.
Conclusion: Hypertension in a 10 year old girl from adrenal peochromocytoma caused PRESS of the brain and spine manifesting seizures and fall.
Clinical Relevance and/ or Applications: Spinal PRESS is not so well-known as PRESS in the brain and could happen with or without findings of PRESS in the brain but it should be suspected in an appropriate clinical setting.

G5-2

Intestinal Ultrasound in Patients with Suspected Crohn' s Disease - Results of a Prospective Evaluation by Trainees

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Purpose: Intestinal ultrasound (IUS) performed by experts is a valuable tool for the diagnostic work-up and monitoring of Crohn' s disease (CD). However, concern about insufficient training and perceived high inter-observer variability limit the adoption of IUS in CD. We examined the diagnostic accuracy of trainee-performed IUS in patients with suspected CD.
Methods: Patients recruited to a prospective trial investigating the diagnostic accuracy of magnetic resonance enterocolonography (MREC) in patients with clinically suspected CD underwent IUS performed by trainees. The primary end-point was IUS per-patient sensitivity and specificity for ileocolonic CD determined by ileocolonoscopy.
Results: 129 patients with clinically suspected CD and a complete IC and IUS were included in the analysis. IUS detected signs of CD in 49 cases (small bowel 31, colon 15, small bowel, and colon 3). The sensitivity and specificity for detection of ileocolonic CD by trainee performed IUS improved during the first to the second half of the study period from 57.1% (CI 34.0-78.2) to 73.1% (CI 52.2-88.4) and 76.5% (CI 58.8-89.3) to 89.7% (CI 72.6-97.8). The overall sensitivity and specificity of diagnosing CD with IUS were 65.4% (CI 50.9-78.0) and 80.5% (CI 69.9-88.7). There was no difference in diagnostic performance between IUS and MREC for the detection of CD.
Conclusion: Trainees improved during the study, and IUS performance in disease detection corresponded to expert-evaluated MREC.
Clinical Relevance and/ or Applications: Our results indicate that experience level should not limit or impede the usage of this patient-friendly technique

G5-3

Photon Counting CT in Forensic Science

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Purpose: To explore the capabilities of Photon Counting CT in forensic science, focusing on its enhanced imaging qualities and improvements in forensic investigations.
Methods: Photon Counting CT, a novel imaging technology, distinguishes itself through its superior spatial resolution, energy-resolving capabilities, and heightened contrast sensitivity. These features enable, detailed and accurate imaging, crucial for forensic analysis. Case studies from CMIV Linköping university will be presented were PCCT has been employed in routine forensic examinations since 2020, analyzing its effectiveness in revealing critical details that traditional CT might miss.
Results: Preliminary findings indicate that PCCT significantly enhances the visualization of forensic evidence. Its ability to provide detailed imaging of soft tissues, bone structures, and even trace materials, offers a comprehensive view of forensic samples. The technology' s energy-resolving capabilities allow for material differentiation, crucial in cases involving complex composite materials. These advancements lead to more accurate reconstructions of forensic evidence.
Conclusion: The integration of PCCT in forensic science could mark a paradigm shift in how investigations are conducted. Its precision in detecting and analyzing minute details offers a new level of depth in forensic examinations. The technology also poses potential, aiding in determining cause of death and injury mechanisms without the invasiveness of traditional autopsies.
Clinical Relevance and/ or Applications: Photon Counting CT stands at the forefront of the next generation of forensic tools, offering unparalleled detail and accuracy in forensic investigations. Its adoption could significantly enhance the capabilities of forensic scientists, paving the way for more precise and efficient analysis.

G5-4

Optimization of Photon Counting CT for Cardiac Imaging in Patients with Left Ventricular Assist Devices; an In-Depth Assessment of Metal Artifacts

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Purpose: Photon counting CT (PCCT) offers potential in minimizing metal artifacts and generating virtual mono-energetic images (VMI), making it valuable for cardiac characterization. This study aims to optimize PCCT for cardiac imaging during left ventricular assistance device (LVAD) therapy, focusing on metal artifacts and visual grading.
Methods: Various scan and reconstruction settings were tested on a phantom and further evaluated on a patient acquisition to identify the optimal protocol settings. Metal artifacts were assessed using HU/SD measurements, Fourier analysis, and LVAD volume depiction. Radiologists graded metal artifacts and diagnostic interpretability. Regression and correlation analyses determined associations between assessment methods and parameters.
Results: Blooming artifacts caused LVAD volume fluctuations (27.0–92.7 cm3), influenced by kVp, kernel, keV, and iMAR (R2=0.989). Radiologists preferred pacemaker iMAR, 3 mm slice thickness, and T3D keV with kernel Bv56f for minimal metal artifacts, and 110 keV with Qr40f for lung tissue. Model adequacy for assessment methods varied 0.28–0.99 for phantom, 0.95–1.00 for in-vivo. In-vivo correlations between visual grading (VGSUM) and assessment methods ranged from -0.01 to -0.48.
Conclusion: Acquisition at 120 kVp with IQ 80 and reconstruction using VMI 110 keV or T3D, kernel Qr40f and Bv56f, pacemaker iMAR and 3.0 mm slice thickness provides optimal image quality in LVAD patients. LVAD volume is an effective method for assessing blooming metal artifacts.
Clinical Relevance and/ or Applications: Optimizing PCCT for LVAD patients enhances image quality, aiding therapy and follow-up. These findings may inform future PCCT protocol development with advancements in hardware and software.

G5-5

Displacement of the Couch of a CT System for Treatment Planning Measured Using a High-Precision Wide-Area Three-Dimensional (3D) Coordinate Measuring Machine (CMM)

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Purpose: In recent years, high-precision radiotherapy techniques such as intensity-modulated radiation therapy (IMRT) and stereotactic irradiation (STI) have become increasingly popular. To achieve high-precision radiation therapy, millimeter-level or higher accuracy is required. Therefore, the same level of accuracy is required for CT systems for treatment planning. This study aims to accurately measure the displacement caused by the travel of the couch of CT systems (CT couch) using a Keyence Corporation wide-area 3D CMM with high precision (around 0.01 mm or less).
Methods: We used two CT systems: a Revolution CT (GE Healthcare, Waukesha, WI, USA) and a SOMATOM Definition Flash CT (Siemens Healthineers, Erlangen, Germany). A CMM probe was placed on the CT couch using a homemade jig. The probe was placed 200 mm spacing from the gantry side in the longitudinal direction of the couch. Measurements were performed continuously every 0.1 seconds from the position where the couch was pulled out the most from the gantry while traveling toward the gantry. Measurements were performed three times each.
Results: The two CT systems showed significantly different displacements. In the imaging plane, the Revolution CT showed displacements of 1.1 mm in the horizontal direction and 5.0 mm in the vertical direction when a 1000 mm couch was traveled. Also, the SOMATOM CT showed displacements of 1.8 mm in the horizontal direction and 2.7 mm in the vertical direction.
Conclusion: The developed method revealed the displacement of the CT couch, which is unsuitable for high-precision radiotherapy.

G5-6

Anthropogenic Gadolinium Anomalies in the Water of the Tone River, Japan

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Purpose: The anthropogenic gadolinium (Gd), commonly recognized as being derived from Gd-based contrast agents (GBCA) used in magnetic resonance imaging (MRI), is widely identified in the aquatic environment with concerns of its potential toxicity and accumulation. The aim of this study was to investigate the current status of anthropogenic Gd in the Tone River
Methods: The water samples were collected at 15 different locations of the Tone River. The concentrations of the rare earth elements (REEs) were measured by inductively coupled plasma-mass spectrometry and normalized to Post-Archean Australian Shale to construct shale-normalized REE patterns. The degree of Gd anomaly (Gd%anomaly)—defined as the percentages of the anthropogenic Gd to the geogenic background—was used to compare the anthropogenic Gd among the water samples from different locations. Pearson's correlation coefficients were used to describe associations between the Gd%anomaly and the number of major hospitals and their MRI units in each area.
Results: All the samples displayed positive Gd anomalies. The Gd%anomaly ranged from 121% to 6,545% and displayed a repeating decrease-and-increase trend. The Gd%anomaly were positively correlated with the number of the hospitals ($r = 0.88$; $p < 0.001$) and their MRI units ($r = 0.89$; $p < 0.001$).
Conclusion: This study revealed remarkable anomalies in Gd concentrations in Japanese river waters, suggesting the importance of more extensive studies on the risk to human health and the need to develop effective removal technologies.
Clinical Relevance and/ or Applications: Remarkable gadolinium concentration anomalies in Japanese river water were observed, and a strong positive correlation was found with the number of major hospitals and their MRI units. This result underscores the importance of more extensive research on anthropogenic gadolinium.

P-1

Using Loras Increases the Efficiency and Accuracy of Text-To-Image Diffusion Models When Generating Chest X-Ray Pathology

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Purpose: Radiological images of pathological conditions are often used for non-clinical purposes such as education and testing, but have to individually curated from clinical cases. Existing generative artificial intelligence (AI) text-to-image models can now create basic radiological images but are unable to reliably generate images with specific pathologies. Training new models is technically possible but requires large datasets, expert knowledge for labelling and specialized computational resources, and is generally infeasible.
Methods: We hypothesized that Low-Rank Adaptation (LoRA) can be used to fine-tune existing models and create pathological images accurately and efficiently. Based on an open-source Stable Diffusion model, we trained a LoRA on 50 chest x-rays (CXRs) with pleural effusions. We then initialized the model with the pre-trained weights from the LoRA before generating 500 images. We also generated 500 control images with a generic CXR model using the same prompts. The images were then evaluated for the presence/absence of an effusion by two independent radiologists.
Results: Both radiologists concurred on the presence of an effusion in 12 (2.4%) of the control images and 317 (63.4%) of the LoRA set, which was significantly different (Chi-squared = 421, $p < .00001$). There was also a large range of images in the LoRA set, including many variations that were not in the original training dataset.
Conclusion: Using LoRAs to fine-tune text-to-image diffusion models is an efficient way of generating large number of variations of radiological pathologies.
Clinical Relevance and/or Applications: Generating radiological images for training and quality control, especially for large numbers of uncommon pathologies.

P-2

AI-Generated Medical Images - The Next Big Thing After ChatGPT and AI-Generated Photos?

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Purpose: Generative artificial intelligence (AI) has been used to create realistic images that are indistinguishable from actual photos. We hypothesize that the same technology can be used in radiology to generate medical images that are of a high quality and as realistic as actual x-rays.
Methods: We conducted an anonymized, blinded survey using 3 types of chest x-rays (CXRs): A control group of real CXRs with pleural effusions; a second group of images created with text-to-image generative AI using an open-source generic CXR Stable Diffusion model, and a third group generated using a Low-Rank Adaptation (LoRA) Stable Diffusion model we trained on the control images. Images were randomized and radiologists asked to evaluate Image Quality on a 5-point Likert scale, and if the image was real or AI-generated.
Results: A total of 27 radiologists participated. Image Quality of the original images was the highest (3.7), followed by images generated with our LoRA (3.6), then the generic CXR model (3.0), although the differences were not statistically significant. Almost all images in the control group were correctly identified as "real" (99%), with similarly high accuracy (98%) for the generic CXR model. However, only 29% of LoRA-generated images were correctly labelled as "AI-generated" , a statistically significant result, and one suggesting that radiologists had difficulty differentiating them from real CXRs at first glance.
Conclusion: AI-generated CXRs using a Stable Diffusion LoRA model were rated by radiologists to be as realistic and high quality as the source images.
Clinical Relevance and/or Applications: Generating realistic radiological images for training, testing and quality control.

P-3

Disappearance of Basal Ganglia High Signal Intensity Following Embolization of Intrahepatic Portosystemic Venous Shunt in Patient With Hepatic Encephalopathy: A Case Report

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Background: Bilateral and symmetric hyperintensity involving basal ganglia (especially the globi pallidi) on T1-weighted MR image (basal ganglia high signal intensity: BGH) is a well-known characteristic MRI finding associated with hepatic encephalopathy (HE). We report a reversible case of BGH.
Case Presentation: A 47-year-old woman with no history of liver disease presented to our hospital with memory disturbance and decreased concentration (Grade1 of the West Haven Criteria). Diagnosis of HE was made because of elevated ammonia (83μg/dL; Normal value<80μg/dL), decreased Fisher ratio (2.1; normal value<2.43-4.40) and bilateral BGH on MRI. Dynamic contrast enhanced CT revealed multiple intrahepatic portosystemic venous shunts which drained into the middle hepatic vein (MHV) and left hepatic vein (Type Ⅳ with Park's classification). Despite various medications, her symptom and laboratory data were unstable for about 3 years. Therefore, she underwent obliteration of portosystemic venous shunts. We performed embolization of a large P5-MHV shunt and small P4-MHV shunt with metallic coils via a transvenous retrograde approach. Her symptoms resolved after embolization and laboratory data normalized. MRI demonstrated disappearance of the bilateral BGH after 6 months.
Discussion: The cause of BGH is reportedly due to the accumulation of neurotoxic substances such as manganese within brain tissue. We discuss the pathogenesis and clinical importance of BGH in patients with HE. In addition, angiographic findings and method of transcatheter embolization are described.
Conclusion: Disappearance of BGH might be helpful in evaluating treatment efficacy of HE.

P-4

The Time-Course Augmentation of Perivascular Space Enlargement in Basal Ganglia Among a Community-Dwelling Elder Population

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Purpose: To examine whether the time-course augmentation of perivascular space enlargement in basal ganglia (BG-PVS) reflects cerebral small vessel disease (CSVD) progression.
Methods: This study included 416 older participants from a population-based cohort. They were called for periodic medical examinations including MRI studies. They had MRI studies more than once in the study period, which were performed by 0.3T MRI system. The grade of BG-PVS and WMHL were evaluated by visual rating scales and their time-course augmentation was also evaluated visually. In baseline, the participants were asked their medical history, smoking and drinking history, and underwent a blood examination and their office blood pressure examination. In addition, a 24-hours ambulatory BP monitoring was performed at the second medical examination.
Results: BG-PVS time-course augmentation was observed in 48 participants (11.5%). BG-PVS time-course augmentation was significantly associated with subsequent severe WMHL in univariate analysis ($p<0.001$), which remained significance in multivariate analysis adjusted for imaging and demographic factors ($p=0.03$). In multivariate analysis additionally adjusted for the clinical factors, the significance disappeared ($p=0.07$). The WMHL time-course augmentation was observed in 169 (40.6%) of all the participants and were significantly associated with BG-PVS time-course augmentation ($p=0.005$).
Conclusion: This study revealed that BG-PVS time-course augmentation was related to subsequent severe WMHL and significantly associated with WMHL time-course augmentation.
Clinical Relevance and/or Applications: The BG-PVS time-course augmentation would be a notable image finding suggesting for CSVD progression.

P-5

Survey of Relationship Between Effective Atomic Number Within Endoleak Area Derived from Dual Energy CT and Sac Shrinkage After Endovascular Aortic Repair

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Objective: Imaging characteristics indicating outcomes after endovascular aortic repair (EVAR) for abdominal aortic aneurysms are not satisfactory established. We analyzed the association between aneurysmal volume change and effective atomic number (NZeff) within the endoleak area derived from non-contrast dual energy CT (DECT).
Methods: Thirty-five patients underwent non-contrast DECT as the follow-up survey after EVAR were classified into 2 groups according to aneurysmal volume change ratio (VCR) for one year: shrinkage group (VCR < 95%) and non-shrinkage group (VCR > 95%). The incidence and the location of endoleak were detected from contrast enhanced MR angiography or conventional CT angiography. As the analysis of DECT, the aneurysmal inside was divided into the intra-vascular area, the endoleak area, and the non-endoleak area, and NZeff within each area was compared. Further, NZeff in the endoleak area was compared between 2 groups.
Results: Shrinkage group included 19 patients (VCR: 56.8-94.7%, incidence of endoleak: 26%) and non-shrinkage group included 16 patients (VCR: 99.4-117.4%, incidence of endoleak: 63%). NZeff within the intra-vascular area, the endoleak area, and the non-endoleak area were 8.1 ± 0.3, 7.7 ± 0.1, and 7.6 ± 0.1, respectively ($p<0.001$). NZeff within the endoleak area in the shrinkage group was smaller than that in the non-shrinkage group (7.57 ± 0.08 vs 7.72 ± 0.11, P=0.019).
Conclusion: The relationship between NZeff within endoleak area and sac shrinkage after EVAR was partially demonstrated; further analysis indicating clinical outcomes are warranted.

P-6

Endovascular Treatments for Vascular Injury After Hepatobiliary and Pancreatic Surgery: Evaluation of Factors Which May Contribute to Clinical Success

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Purpose: We evaluated the factors associated with clinical success (no perioperative death and no rebleeding within 30 days) of endovascular treatments (EVTs) for vascular injury after hepatobiliary and pancreatic surgery.
Methods: Sixty-nine consecutive patients who underwent EVTs for vascular injuries from January 2011 to September 2022 were included. These patients were divided into two groups: clinical successful group (Group S; n=48) and clinical failure group (Group F; n=21), and clinical success following EVTs were evaluated according to technical success, vital signs (VS), shock index (SI), disseminated intravascular coagulation (DIC), stent graft (SG) placements, PHA occlusion, and visualization of intrahepatic hepatic artery (IHA) immediately after EVTs.
Results: There was no significant difference in technical success rates (group S: 95.8% vs group F: 95.2%; P=1). Two patients in the group S who did not achieve technical success had hemostasis with embolization after unsuccessful SG placements. In the group S, systolic blood pressure was significantly higher (P=.03), the number of cases of SI 1 or higher were significantly lower (P<.01), the number of cases of DIC were significantly lower (P=.03), and the number of cases of SG placements were significantly higher (P=.04). There were no significant differences in PHA occlusion (P=0.74) or visualization of IHA (P=0.24).
Conclusion: Clinical success may be influenced by the general condition of the patients. Regarding the EVT procedure, successful SG placement may be related to clinical success.
Clinical Relevance and/ or Applications: Interventional radiologists should attempt to place SGs in cases who meet the anatomical indications.

P-7

Examination of Diagnostic Imaging in Spontaneous Superior Mesenteric Artery Dissection

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Purpose: Spontaneous isolated superior mesenteric artery dissection (SISMAD) rarely causes intestinal ischemia and requires including endovascular treatment (EVT), and evaluation by contrast-enhanced computed tomography (CECT) is important. The aim of this study is to investigate the features of intestinal ischemia on CECT in SISMAD.
Methods: Between January 2011 and September 2022, the medical records and the findings on CECT of the patients with SISMAD was collected, retrospectively. Statistical analysis was performed between intestinal ischemia group and intestinal non-ischemia group. As a subgroup analysis, the intestinal ischemia group was further classified into conservative treatment group and EVT group, and an additional study about the degree of development of Riolan' s arch (RA) was performed.
Results: The study enrolled 9 patients in the intestinal ischemia group and 23 in the intestinal non-ischemia group. Compared with the intestinal non-ischemia group, the intestinal ischemia group had a smaller degree of true lumen stenosis (12.7% vs 40.0%, $P<0.05$) with cut-off of 33.24%, the area under the curve, sensitivity, and specificity were 0.855, 1.000 and 0.652, respectively. RA was more often detected in intestinal ischemia group (9 vs 14, $P<0.05$), and as a subgroup analysis, the rate of change in the maximum diameter of RA before and after the treatment was significantly decreased in the EVT group (+2.1% vs -20.9%, $P<0.05$).
Conclusion: Evaluating the rate of stenosis and the degree of RA development may lead to the diagnosis of intestinal ischemia in SISMAD.

P-8

Creation of Age-Specific Estimated Brain Structure Templates for Pediatric MEG Examinations: Evaluation of the Accuracy of the Age-Volume Curve

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Purpose: The role of Magnetoencephalography (MEG) examination is expected in the diagnosis of Autism Spectrum Disorder in children. A challenge with MEG examinations is the need for an anatomical estimated map of the activated regions. In this study, we evaluated the accuracy of the Ave-Volume curve for constructing an estimated anatomical brain.
Methods: The MRI data used were from 134 children (aged 0–10 years, 4.9 ± 3.2 years). The MEG data were from 19 children (aged 5–9 years, 7.1 ± 1.2 years) who were imaged with a MEG machine with auditory stimuli. From the MRI data, we constructed standardized anatomical brain structure maps for ages 0 to 10 years. We regressed the Ave-Volume curve from the brain structure maps and ranked the estimated anatomical brains for any given month to create templates. The accuracy of overlaying these ranked templates on the activated regions in the MEG data was evaluated.
Results: A statistical analysis of the displacement between the activated regions and the locations overlaid by the templates ranked from 1st to 3rd and the lowest rank showed that the displacement was significantly smaller at the 1st rank.
Conclusion: Using the constructed Ave-Volume curve to create an estimated anatomical brain allowed for the construction of accurate brain structure maps.
Clinical Relevance and/or Applications: This study suggests that using standardized estimated brain structure maps could significantly enhance the role of MEG examinations in diagnosing Autism Spectrum Disorder in children.

LS1-1

Overview of CT/MRI LI-RADS v2018

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CT/MRI LI-RADS was created to standardize the reporting and data collection for HCC. This method of categorizing imaging findings for patients with cirrhosis or other risk factors for developing HCC allows the radiologists to apply consistent terminology, reduce imaging interpretation variability and errors, enhance communication with referring clinicians, and facilitate quality assurance and research.
LI-RADS categories are strongly correlated with the probability of hepatocellular carcinoma or hepatic malignancy, therefore the categorization has clinical significance. LI-RADS emphasizes specificity in the diagnosis of hepatocellular carcinoma, and it is important that it be used correctly in eligible patients. This presentation will outline the evaluation methods for each category, major features, and ancillary features, presenting clinical cases.

LS1-2

Role of CT and MRI in Early Detection of Pancreatic Ductal Adenocarcinoma

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Pancreatic ductal adenocarcinoma (PDAC) still has a dismal prognosis, with a 5-year survival rate of less than 10% because of the difficulty in early diagnosis, the ineffectiveness of chemotherapy as well as its intrinsic aggressive biological nature. However, early-stage PDAC has a favorable prognosis with a 5-year survival rate of 68.7% for stage IA disease.
Enhancing the ability to diagnose early PDAC could significantly improve its prognosis. Although CT and MRI are commonly used imaging modalities for evaluating patients suspected of having PDAC, they often fail to demonstrate small tumors. Some researchers have reported that pathological evaluation often reveals localized stenosis of the main pancreatic duct, ductal branch dilatation, or parenchymal atrophy around early-stage PDAC. Recognizing characteristic clinical and imaging features of early-stage PDAC leads to early diagnosis. CT and MRI may facilitate the detection of early-stage PDAC by visualizing the abnormalities in pancreatic ducts and/or pancreas parenchyma around the early-stage tumor.
I will illustrate CT and MR features of pancreatic intraepithelial neoplasm and small PDAC, and discuss the possibility of CT and MRI for the early detection of PDAC.

AS-1

Photon-counting CT: Characteristics and Clinical Applications

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Compared to conventional CT, photon-counting CT has the following advantages: excellent spatial resolution, reduced radiation exposure, and material-specific imaging by using energy data of X-ray photons. Moreover, Flash Spiral (high-speed double-helical scan) is available in NAEOTOM Alpha (photon-counting CT manufactured by Siemens Healthineers), because two photon-counting detectors are mounted on it.

Improved spatial resolution allows easy observation of normal fine structures and small lesions, resulting in diagnoses of diseases in early stages. It also offers easy estimation of in-stent restenosis after coronary or carotid stenting.

The reduction rate of radiation exposure ranges from 30% to more than 90% depending on the examination site and the condition of patients. When using Flash Spiral combined with prospective ECG-gating in coronary CT, we can obtain coronary angiography with one-beat acquisition on condition that the patient' s heart rate is relatively low and stable. This protocol yields extremely low radiation exposure.

Use of energy information of each photon improves the accuracy and quality of the dual-energy method including monochromatic images. These methods are used to remove calcification from arterial walls, to reduce artifacts, to increase contrast between a lesion and the normal background, to emphasize or eliminate iodine (contrast media) in images, and so on. Outstanding features of the dual-energy method with photon-counting CT are that we do not need specific protocol setting and that we can perform dual-energy method-based analyses without additional scan. This means we are allowed to decide the use of the dual-energy method after the routine imaging protocol, leading to considerable convenience in our daily clinical practice.

In this presentation, I will explain the above basic properties in brief, and show the comparison of images obtained with conventional and photon-counting CT.

AS-2

Next-generation coronary artery imaging with photon-counting detector CT

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Photon-counting detector CT (PCD-CT) holds promise for transforming clinical CT imaging, especially in coronary artery assessment. It excels in detecting coronary calcification, evaluating plaque composition, and assessing coronary stents, as demonstrated in both in vitro and in vivo studies.

However, integrating the ultra-high resolution (UHR) mode of PCD-CT into routine clinical practice faces challenges. The use of UHR images with 1024 matrices of 0.2 mm thickness requires an advanced in-hospital PACS environment to handle data ten times larger than conventional coronary CT scans.

While PCD-CT improves stenosis assessment accuracy, its application to plaque characterization requires careful consideration. Findings from conventional CT scans may not directly apply to UHR images. Comparative validation with intravascular imaging modalities like intravascular ultrasound (IVUS) and a reassessment of correlations with prognosis are urgently needed.

In this presentation, I will discuss the utility and challenges of UHR coronary imaging using PCD-CT, including the experience at my own institution.

LS2-1

Significance of Perivascular Space Dilatation Which a Community-Dwelling Population-Based Cohort Study Revealed

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It had been believed so far for a long time that the perivascular space dilatation does not have clinical significance. However, it has been revealed that a glymphatic system plays an important role on elimination pathway of cerebrospinal fluid. The glymphatic system is a concept proposed as a mechanism for transporting substances within the brain parenchyma via cerebrospinal fluid and interstitial fluid. It has been revealed that a glymphatic system abnormality may lead to perivascular space dilatation and may result in a variety of diseases such as Alzheimer disease, cerebral amyloid angiopathy, cerebral infarction, cerebral hemorrhage, cerebral small vessel disease, multiple sclerosis, epilepsy, cerebral autosomal dominant arteriopathy with subcortical infarction and leukoencephalopathy (CADASIL), mucopolysaccharidosis and so on.

We have performed a community-dwelling population-based cohort study in the Takahata town, Yamagata prefecture Japan, which is a small town in rural area, for a long time and have investigated the relationship between the perivascular space dilatation and idiopathic normal pressure hydrocephalus, cerebral small vessel disease, cognitive function and blood pressure. Actually, we revealed that the perivascular space dilatation has the relation with these factors. In this lecture, I am going to talk about the clinical significance of perivascular space dilatation obtained from results of a community-dwelling population-based cohort study in detail.

LS2-2

Activatable Probes for Fluorescence Imaging: Benefits and Applications

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Chair, Department of Radiology, University of Tsukuba Hospital

Introduction
Fluorescence imaging is a technique that uses the wavelength difference between excitation and reflected light to visualize biological structures and processes. I will introduce a novel type of contrast agent that can overcome these challenges: the activatable probe.

Antibody-based Activatable Probes
One application of an activatable probe is an antibody-based fluorescent material consisting of an antibody and a fluorophore. The antibody is designed to target a specific antigen, such as a tumor marker or gene expression product. This design quenches fluorescence by fluorescence resonance energy transfer (FRET) when in proximity to another fluorophore. Upon binding its target, the probe changes shape, disrupts FRET, and emits light. This selective fluorescence uniquely visualizes antigens because only probes bound to targets will light up.

Application of Antibody-Based Fluorescent Material: Intraoperative ICG Imaging
Recently, intraoperative ICG imaging has used indocyanine green (ICG) as a fluorophore in the clinical setting. ICG binds to albumin in the blood and acts as a fluorescent agent and macromolecule. In our preclinical research, we have produced a conjugate of ICG and an antibody targeting the epidermal growth factor receptor (EGFR). This activatable probe, ICG-labeled antibody can detect lymph node metastases of lung cancer using a near-infrared camera, allowing us to determine whether the lymph node expresses EGFR.

Comparison with Low Molecular Weight Contrast Agents
Low molecular weight contrast agents are the most commonly used type of contrast agent for CT and MR imaging. These agents are small molecules that can easily diffuse into the extracellular space, resulting in non-specific accumulation, rapid clearance, and high background signal. Dynamic studies with sequential acquisitions would be required to reveal the characteristics of the vasculature and vascular synthesis of tumors.

Conclusion
In conclusion, activatable probes are a promising type of contrast agent for fluorescence imaging that can overcome the limitations of conventional contrast agents and provide more accurate and reliable information for diagnosis and treatment.

ES-1

Development and Introduction of Upright CT - New Diagnostic Method in the Era of Healthy Longevity-

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Humans spend most of their daily lives standing, and there are diseases whose symptoms worsen in the standing position. However, there are hardly any methods to quantitatively assess the pathophysiology or anatomical structure in the standing position, or to examine patients while standing. The idea of upright CT has been around since soon after the development of CT in 1972, but it was not realized at the time because CT scanning took a very long time, making it difficult for subjects to maintain a standing position. Recently, with the significant improvement in CT scanning time, upright CT has become feasible, and we have developed it in collaboration with a company. After its introduction, this CT has been verified to have the same physical properties as conventional CT, and can ensure clinical usability with accurate vertical movement.

The operational advantages of standing CT include requiring only two-thirds of the installation area needed in comparison with conventional CT, the ability to start scanning immediately after entering the gantry, allowing for an efficient workflow similar to X-ray photography, and the ability for non-contact, remote operation since no assistance is required, reducing the risk of infection for medical personnel, even with infectious disease patients.

Clinically, the following aspects are considered useful:

1. Diagnosis of conditions where symptoms appear or abnormalities become evident in the standing position.
2. Assessment of posture.
3. Early diagnosis of gravity-bearing pathologies like musculoskeletal disorders.
4. Determination of pelvic floor muscle laxity.
5. Assessment of changes in muscle mass over time.
6. Development of phlebology

Conventional supine CT has been useful in diagnosing organic diseases such as infections, cancer, arteriosclerosis, and lifestyle-related diseases, contributing to the improvement of life prognosis. Upright CT appears to be effective for the early diagnosis of functional disorders and aims to meet the needs of the era of healthy longevity.

ES-2

Clinical Utility of Photon-Counting CT

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Recent development of photon-counting CT (PCCT) provides great benefits for CT diagnosis. Firstly, PCCT has detector providing high-resolution and less-noise images. This enables good visualization of small anatomical structures such as auditory organs, small vessels, and the organs of infants and small children. Less noise on images leads to higher accuracy of diagnosis as well as less radiation exposure. Secondly, PCCT has high-pitch imaging examination, which have a relatively good image quality, compared to the previous CT scanners. High-pitch examination reduces motion artifact from the physiological movement such as cardiac and respiratory motion, and body movement in patients who cannot stand still. Thirdly, PCCT has spectral data, which provides additional imaging information to the conventional CT images; those include virtual monoenergetic imaging, iodine map, and virtual non-contrast imaging. Spectral images are valuable for increase of contrast-enhancement effect on images and omission of non-contrast scans. Of note, these benefits mentioned above can be achieved simultaneously. PCCT brings many benefits for radiologic diagnosis.

High-resolution image and spectral data result in large amount of data. Efficient utilization of these imaging data requires data server with large capacity, high-speed viewer, and dedicated software.

In this session, the benefit and clinical utility of PCCT will be discussed.

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定款

第1章　総則

（名称）

第1条　この法人は、特定非営利活動法人日本スカンジナビア放射線医学協会と称する。

（事務所）

第2条　この法人は、事務所を群馬県前橋市昭和町三丁目39番22に置く。

（目的）

第3条　この法人は、日本とスカンジナビアの放射線科医と友好と連絡を図り、放射線医学に関する交流、進歩を目的とする。

（特定非営利活動の種類）

第4条　この法人は、前条の目的を達成するため、次の種類の特定非営利活動を行う。

（1）保健、医療又は福祉の増進を図る活動

（2）学術、文化、芸術又はスポーツの振興を図る活動

（3）国際協力の活動

（4）科学技術の振興を図る活動

（5）前各号に掲げる活動を行う団体の運営又は活動に関する連絡、助言又は援助の活動

（事業）

第5条　この法人は、第3条の目的を達成するため、次の特定非営利活動に係る事業を行う。

（1）特定非営利活動に係る事業

① 学術集会、日本北欧合同シンポジウム等の開催事業

② 関係各国の放射線医学の研究発表の交換、情報交換事業

③ 関係各国の放射線医学の人事交流（留学）等事業

④ その他本会の趣旨に沿う必要な事業

2　その他の事業から生じた利益は、特定非営利活動に係る事業のために使用するものとする。

第2章　会員

（種別）

第6条　この法人の会員は、次の2種とし、正会員をもって特定非営利活動促進法（以下「法」という。）上の社員とする。

（1）正　会　員　この法人の目的に賛同し、日本及びスカンジナビア諸国の放射線医学に携わる医師及び理事会での推薦を受けた個人及び団体

（2）賛 助 会 員　この法人の目的に賛同し、この法人の活動を援助する個人及び団体

（入会）

第7条　会員の入会については、医療に携わる者である事の他、特に条件を定めない。

2　会員として入会しようとするものは、理事会の議決を経て理事長が別に定める入会申込書により理事長に申し込むものとし、理事長は、正当な理由がない限り、入会を認めなければならない。

3　理事長は、前項のものの入会を認めないときは、速やかに、理由を付した書面をもって本人にその旨を通知しなければならない。

（入会金及び会費）

第8条　会員は、理事会において別に定める会費を納入しなければならない。

（会員の資格喪失）

第9条　会員が次の各号のいずれかに該当するに至ったときは、その資格を喪失する。

（1）退会したとき。

（2）本人が死亡し、若しくは失そう宣告を受け、又は会員である団体が消滅したとき。

（3）継続して2年以上会費を滞納したとき。

（4）除名されたとき。

（退会）

第10条　会員は、理事長が別に定める退会届を理事長に提出して、任意に退会することができる。

（除名）

第11条　会員が次の各号のいずれかに該当する場合には、理事会の議決により、当該会員を除名することができる。この場合、理事会において議決する前に当該会員に弁明の機会を与えなければならない。

（1）この法人の定款、規則等に違反したとき。

（2）この法人の名誉を傷つけ、又は目的に反する行為をしたとき。

（拠出金品の不返還）

第12条　既に納入した入会金、会費その他の拠出金品は、返還しない。

第3章　役員及び職員

（種類及び定数）

第13条　この法人に次の役員を置く。

（1）理事　　3人以上

（2）監事　　1人以上

2　理事のうち、1人を理事長、1人以上を副理事長とする。

（選任等）

第14条　理事は理事会において選任し、監事は総会において選任する。

2　理事長及び副理事長は、理事の互選とする。

3　役員のうちには、それぞれの役員について、その配偶者若しくは三親等以内の親族が1人を超えて含まれ、又は当該役員並びにその配偶者及び三親等以内の親族が役員の総数の3分の1を超えて含まれることになってはならない。

4　監事は、理事又はこの法人の職員を兼ねることができない。

（職務）

第15条　理事長は、この法人を代表し、その業務を総理する。

2　理事長以外の理事は、法人の業務について、この法人を代表しない。

3　副理事長は、理事長を補佐し、理事長に事故があるとき又は理事長が欠けたときは、理事長があらかじめ指名した順序によって、その職務を代行する。

4　理事は、理事会を構成し、この定款の定め、総会の議決及び理事会の議決に基づき、この法人の業務を執行する。

5　監事は、次に掲げる職務を行う。

（1）理事の業務執行状況を監査すること。

（2）この法人の財産の状況を監査すること。

（3）前2号の規定による監査の結果、この法人の業務又は財産に関し不正の行為又は法令若しくは定款に違反する重大な事実があることを発見した場合には、これを総会又は所轄庁に報告すること。

（4）前号の報告をするために必要がある場合には、総会を招集すること。

（5）理事の業務執行の状況又はこの法人の財産の状況について、理事に意見を述べ、又は理事会の招集を請求すること。

（任期）

第16条　役員の任期は、2年とする。ただし、再任を妨げない。

2　補欠又は増員により選任された役員の任期は、それぞれ前任者又は現任者の残任期間とする。

3　役員は、辞任又は任期満了後においても、後任者が就任するまでは、その職務を行わなければならない。

（欠員補充）

第17条　理事又は監事のうち、その定数の3分の1を超える者が欠けたときは、遅滞なくこれを補充しなければならない。

（解任）

第18条　役員が次の各号のいずれかに該当する場合は、理事は理事会の議決、監事は総会の議決により、当該役員を解任することができる。この場合、理事会又は総会において議決する前に当該役員に弁明の機会を与えなければならない。

（1）心身の故障のため職務の執行に堪えないと認められるとき。

（2）職務上の義務違反その他役員としてふさわしくない行為があると認められるとき。

（報酬等）

第19条　役員には、報酬を与えることができる。ただし、役員のうち報酬を受ける者の数は、役員総数の3分の1以下でなければならない。

2　役員には、その職務を執行するために要した費用を弁償することができる。

3　前2項に関し必要な事項は、理事会の議決を経て、理事長が別に定める。

（職員）

第20条　この法人に、事務局長その他の職員を置く。

2　職員は、理事長が任免する。

第4章　総会

（種別）

第21条　この法人の総会は、通常総会及び臨時総会の2種とする。

（構成）

第22条　総会は、正会員をもって構成する。

（権能）

第23条　総会は、以下の事項について議決する。

（1）定款の変更

（2）解散
（3）合併
（4）事業報告及び活動決算
（5）監事の選任又は解任
（6）その他運営に関する重要事項

（開催）

第24条　通常総会は、毎年1回開催する。

2　臨時総会は、次の各号のいずれかに該当する場合に開催する。
（1）理事会が必要と認め招集の請求をしたとき。
（2）正会員総数の5分の1以上から会議の目的を記載した書面により、招集の請求があったとき。
（3）第15条第5項第4号の規定により、監事が招集するとき。

（招集）

第25条　総会は、第24条第2項第3号の場合を除き理事長が招集する。

2　理事長は、第24条第2項第1号及び第2号の規定による請求があったときは、その日から起算して30日以内に臨時総会を招集しなければならない。

3　総会を招集するときは、会議の日時、場所、目的及び審議事項を記載した書面又は書面に代わる電磁的方法によって、少なくとも総会の開催の日の5日前までに通知しなければならない。

（議長）

第26条　総会の議長は、その総会において、出席した正会員の中から選出する。

（定足数）

第27条　総会は、正会員総数の2分の1以上の出席がなければ開会することができない。

（議決）

第28条　総会における議決事項は、第25条第3項の規定によってあらかじめ通知した事項とする。ただし、議事が緊急を要するもので、出席した正会員の2分の1以上の同意があった場合は、この限りではない。

2　総会の議事は、この定款に別に定めるもののほか、出席した正会員の過半数をもって決し、可否同数のときは、議長の決するところによる。

（社員の表決権等）

第29条　各正会員の表決権は、平等とする。

2　やむを得ない理由のため総会に出席できない正会員は、あらかじめ通知された事項について書面、又は書面に代えて電磁的方法により表決し、若しくは他の正会員を代理人として表決を委任することができる。

3　前項の規定により表決した正会員は、第27条、第28条第2項、第30条第1項第2号、第52条及び第54条の適用については、総会に出席したものとみなす。

4　総会の議決について、特別の利害関係を有する正会員は、その議事の議決に加わることができない。

（議事録）

第30条　総会の議事については、次の事項を記載した議事録を作成しなければならない。
（1）日時及び場所
（2）正会員総数及び出席者数（書面表決者、電磁的方法による表決者又は表決委任者がある場合にあっては、その数を付記すること。）

（3）審議事項
（4）議事の経過の概要及び議決の結果
（5）議事録署名人の選任に関する事項

2　議事録には、議長及びその会議において選任された議事録署名人2人以上が署名しなければならない。

第5章　理事会

（構成）
第31条　理事会は、理事をもって構成する。

（権能）
第32条　理事会は、この定款で別に定めるもののほか、次の事項を議決する。
（1）総会に付議すべき事項
（2）総会の議決した事項の執行に関する事項
（3）その他総会の議決を要しない会務の執行に関する事項

（開催）
第33条　理事会は、次の各号のいずれかに該当する場合に開催する。
（1）理事長が必要と認めたとき。
（2）理事総数の2分の1以上から会議の目的である事項を記載した書面をもって招集の請求があったとき。
（3）第15条第5項第5号の規定により、監事から招集の請求があったとき。

（招集）
第34条　理事会は、理事長が招集する。

2　理事長は、前条第2号及び第3号の規定による請求があったときには、その日から起算して14日以内に理事会を招集しなければならない。

3　理事会を招集するときは、会議の日時、場所、目的及び審議事項を記載した書面又は書面に代わる電磁的方法によって、少なくとも理事会の開催の日の5日前までに通知しなければならない。

（議長）
第35条　理事会の議長は、理事長がこれに当たる。

（定足数）
第36条　理事会は、理事総数の過半数の出席がなければ開会することができない。

（議決）
第37条　理事会における議決事項は、第34条第3項の規定によってあらかじめ通知した事項とする。

2　理事会の議事は、この定款に別に定めるもののほか、理事総数の過半数をもって決し、可否同数のときは、議長の決するところによる。

（理事の表決権等）
第38条　各理事の表決権は、平等とする。

2　やむを得ない理由のため理事会に出席できない理事は、あらかじめ通知された事項について書面又は書面に代わる電磁的方法により表決することができる。

3　前項の規定により表決した理事は、第36条、第37条第2項及び第39条第1項第2号の適用については、理事会に出席したものとみなす。

4　理事会の議決について、特別の利害関係を有する理事は、その議事の議決に加わることができない。

（議事録）

第39条　理事会の議事については、次の事項を記載した議事録を作成しなければならない。

（1）日時及び場所

（2）理事総数、出席者数及び出席者氏名（書面表決者、電磁的方法による表決者がある場合にあっては、その旨を付記すること。）

（3）審議事項

（4）議事の経過の概要及び議決の結果

（5）議事録署名人の選任に関する事項

2　議事録には、議長及びその会議において選任された議事録署名人2人以上が署名しなければならない。

第6章　資産及び会計

（資産の構成）

第40条　この法人の資産は、次に掲げるものをもって構成する。

（1）設立当初の財産目録に記載された資産

（2）入会金及び会費

（3）寄附金品

（4）財産から生じる収益

（5）事業に伴う収益

（6）その他の収益

（資産の区分）

第41条　この法人の資産は、特定非営利活動に係る事業に関する資産とする。

（財産の管理）

第42条　この法人の資産は、理事長が管理し、その管理方法は、理事会の議決を経て、理事長が別に定める。

（会計の原則）

第43条　この法人の会計は、法第27条各号に掲げる原則に従って行うものとする。

（会計の区分等）

第44条　この法人の会計は、特定非営利活動に係る事業に関する会計とする。

（事業計画及び予算）

第45条　この法人の事業計画及びこれに伴う活動予算は、理事長が作成し、理事会の議決を経なければならない。

（暫定予算）

第46条　前条の規定にかかわらず、やむを得ない理由により予算が成立しないときは、理事長は、理事会の議決を経て、予算成立の日まで前年度の予算に準じて収益費用を講じることができる。

2　前項の収益費用は、新たに成立した予算の収益費用とみなす。

（予備費の設定及び使用）

第47条　予算超過又は予算外の費用に充てるため、予算中に予備費を設けることができる。

2　予備費を使用するときは、理事会の議決を経なければならない。

（予算の追加及び更正）

第48条　予算作成後にやむを得ない事由が生じたときは、理事会の議決を経て、既定予算の追加又は更正をすることができる。

（事業報告及び決算）

第49条　この法人の事業報告書、活動計算書、貸借対照表及び財産目録等の決算に関する書類は、毎事業年度終了後、速やかに、理事長が作成し、監事の監査を受け、総会の承認を経なければならない。

2　決算上剰余金を生じたときは、次事業年度に繰り越すものとする。

（事業年度）

第50条　この法人の事業年度は、毎年4月1日に始まり翌年3月31日に終わる。

（臨機の措置）

第51条　予算をもって定めるもののほか、借入金の借入れその他新たな義務を負担し、又は権利の放棄をしようとするときは、総会の議決を経なければならない。

第7章　定款の変更、解散及び合併

（定款の変更）

第52条　この法人が定款を変更しようとするときは、総会において、その出席した正会員の4分の3以上の議決を経、かつ、法第25条第3項に規定する事項を変更する場合、所轄庁の認証を得なければならない。

（解散）

第53条　この法人は、次に掲げる事由により解散する。

（1）総会の決議
（2）目的とする特定非営利活動に係る事業の成功の不能
（3）正会員の欠亡
（4）合併
（5）破産手続開始の決定
（6）所轄庁による設立の認証の取消し

2　前項第1号の事由によりこの法人が解散するときは、正会員総数の4分の3以上の承諾を得なければならない。

3　第1項第2号の事由により解散するときは、所轄庁の認定を得なければならない。

4　この法人が解散したときは、合併及び破産手続開始の決定の場合を除き、理事を清算人とする。

（残余財産の処分）

第54条　この法人が解散（合併又は破産手続開始の決定による解散の場合を除く。）したときに残存する財産は、法第11条第3項に掲げる者のうち、総会に出席した正会員の過半数をもって決した者に譲渡するものとする。

（合併）

第55条　この法人が合併しようとするときは、総会において正会員総数の4分の3以上の議決を経、かつ、所轄庁の認証を得なければならない。

第8章　公告の方法

（公告の方法）

第56条　この法人の公告は、官報に掲載して行う。
ただし、法第28条の2第1項に規定する貸借対照表の公告については、当法人のホームページに掲載して行う。

第9章　雑則

（細則）

第57条　この定款の施行について必要な細則は、理事会の議決を経て、理事長がこれを定める。

附　則

1　この定款は、この法人の成立の日から施行する。

2　この法人の設立当初の入会金及び会費は、第8条の規定にかかわらず、次に掲げる額とする。
（1）正　会　員　　年会費　1口2,000円
（6）賛 助 会 員　　年会費　1口100,000円

3　この法人の設立当初の役員は、第14条第1項及び第2項の規定にかかわらず、別表のとおりとし、その任期は、第16条第1項の規定にかかわらず、設立の日から令和6年5月31日までとする。

4　この法人の設立当初の事業計画及び活動予算は、第45条の規定にかかわらず、設立総会の定めるところによる。

5　この法人の設立初年度の事業年度は、第50条の規定にかかわらず、設立の日から令和5年3月31日までとする。

別　表

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理事	田島 廣之	
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理事	嶺 貴彦	
理事	村田 智	
理事	門前 芳夫	
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理事	山田 哲久	
監事	高木 亮	

留学助成金公募のお知らせ

日本スカンジナビア放射線医学協会日本支部では留学希望者の応募を受けつけています。希望者は以下の要項に従ってまずはメールにてお問い合わせください。

1．ノルウェー、デンマーク、フィンランド、スウェーデン及びアイスランドいずれかへの留学希望者を募ります。

2．放射線医学を専攻している医師または歯科医師で日本医学放射線学会会員であること。

3．国籍は問わない。

4．留学期間は6ヵ月以上であること。

5．応募締切り；お問い合わせ下さい

6．問い合わせ先　jsrs@jsrs.tokyo

留学助成金取得者リスト

＜北欧への留学＞ ※所属は全て留学時

2021年（第36回）

大橋 茜（京都医療センター）　留学先：Lund University　指導医：Sophia Zackrisson

2018年（第33回）

大熊 ひでみ（東京大学）　留学先：University of Eastern Finland　指導医：R. Vanninen

2017年（第32回）

嶺 貴彦（東海大学）　留学先：Denmark 王立病院　指導医：Goetz Benndorf

2015年（第30回）

金 舞（群馬大学）　留学先：University of Turku

2012年（第27回）

鹿戸 将史（山形大学）　留学先：Oslo 大学　指導医：Per Kristian Hol

2010年（第25回）

小野澤 志郎（日本医大）　留学先：Malmoe病院　指導者：M. Malina

朽木 恵（山形大学）　留学先：Denmark 王立病院　指導者：I. Viborg

2008年（第23回）

杉浦 公彦（鳥取大学）　留学先：Malmoe 病院　指導者：K. Ivancev

2007年（第22回）

山口 雅人（神戸大学）　留学先：Malmoe 病院　指導者：K. Ivancev

2006年（第21回）

町田 稔（国立がんセンター）　留学先：Karolinska 病院　指導者：G. Svane

2005年（第20回）

野村 美和子（三重大学）　留学先：Aarhus 大学病院　指導者：J. Overgaard

遠藤 育世（聖マリアンナ大学）　留学先：Oslo 大学　指導者：F. Laerum

2004年（第19回）

岸本 佳子（山口大学）　留学先：Goeteborg 大学　指導者：A. Hellstrom

南郷 峰善（大阪市立大学）　留学先：Malmoe 病院　指導者：K. Ivancev

2002年（第17回）

伊藤 宏彦（ワシントン大学）　留学先：Huddinge 病院　指導者：P. Aspelin

江川 亜希子（長崎大学）　留学先：Karolinska 大学　指導者：H. Ringertz

留学助成金取得者リスト

2001年（第16回）

南 和徳（長崎市立市民病院）— 辞退

2000年（第15回）

築山 裕見子（埼玉医科大学）　留学先：Uppsala University　指導者：A.Hemmingsson, A. Magnusson

1999年（第14回）

中原 圓（日本医科大学）　留学先：Karolinska 病院　指導者：K. Ericson

1998年（第13回）

安藤 容子（一宮市立市民病院）　留学先：Oslo 大学　指導者：F. Laerum

1996年（第11回）

村田 智（筑波大学）　留学先：Malmoe 大学　指導者：K. Ivancev

1995年（第10回）

伊藤 浩（東北大学）　留学先：Karolinska 研究所

1994年（第9回）

佐藤 友保（国立福山病院）　留学先：Huddinge 病院　指導者：B. Calissendorff

1993年（第8回）

冨口 静二（熊本大学）　留学先：Huddinge 病院　指導者：K. Mare；Karolinska病院　L. Jorfeldt

対馬 義人（群馬大学）　留学先：Turku 大学　指導者：M. Kormano

1992年（第7回）

黒木 一典（聖マリアンナ医科大学）　留学先：Oslo 大学　指導者：F. Laerum

児玉 行弘（名古屋大学）　留学先：Odense 大学　指導者：F. Mathiesen

1991年（第6回）

橋本 東児（昭和大学）　留学先：Karolinska 病院　指導者：H. Ohlsen

今村 正浩（関西医科大学）　留学先：Karolinska 研究所 腫瘍生物学Ⅱ部門　指導者：L. Revesz

川島 隆太（東北大学）　留学先：Karolinska 研究所　指導者：P. Roland

1990年（第5回）

山田 哲久（東京慈恵会医科大学）　留学先：Arhus Kommune Hospital　指導者：Bent Mdsen

門前 芳夫（大村市立病院）　留学先：Karolinska 病院 Radiumhemmet
指導者：R. Svanstroem, Radiosurgery　C. Lindquist, Soeder sjukhuset　U.Glas

1989年（第4回）

保坂 純郎（下谷病院）　留学先：Oslo 大学　指導者：I. Enge., F. Laerum

1988年（第3回）

井上 裕喜（鹿児島大学）　留学先：Turku 大学　指導者：M. Kormano

1987年（第2回）

上田 潤（住友病院）　留学先：Uppsala 大学　指導者：Uno Erikson

細矢 貴亮（山形大学）　留学先：Lund 大学　指導者：Cronqvist

1986年（第1回）

西山 謹司（大阪大学）　留学先：Karolinska Institutet(Radiumhemmet)

田島 廣之（日本医科大学）　留学先：Karolinska Institutet(Thoraxkkiniken)　指導者：Alfred Szamosi

※2020年（第35回）、2019年（第34回）、2016年（第31回）、2014年（第29回）、2013年（第28回）、2011年（第26回）、2009年（第24回）、2003年（第18回）、1997年（第12回）は、該当者なし。

留学助成金取得者リスト

<日本への留学> ※所属は全て留学時

2015年

Kyoko Rasmussen（Hvidovre Hospital）	留学先：聖路加病院

1997年

Hanne Witt（Karolinska 病院）	留学先：日本医科大学（隈崎）、東京都立駒込病院

1995年

Pavel Kesek（Malmoe 大学）	留学先：日本医科大学（隈崎）、東京慈恵会医科大学

1993年

Bo Kalin（Karolinska 病院）	留学先：日本医科大学（隈崎）
Jarmo Reponen（Oulu 大学）	留学先：大阪大学（小塚）
Jan Reider Bjoerke（Vestfold Central Hospital）	留学先：国立がんセンター中央病院（牛尾）

1992年

Finn Mathisen（Odense 大学）	留学先：日本医科大学（隈崎）、大阪大学（小塚、池添）

1990年

Ralf Kallmam（Karolinska 病院）	留学先：日本医科大学（隈崎）、京都府立医大（河合）

1989年

Eie Herlitz（Karolinska 病院）	留学先：日本医科大学（隈崎）

日本スカンジナビア放射線医学協会会員申込書

年　　月　　日

（□正会員　□賛助会員）

ふりがな 氏　名
所　属
住　所　〒 ☎　　FAX　　E-mail
自　宅　〒 ☎　　FAX　　E-mail
放射線科の専門分野
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・北欧留学（2 週間以上）の経験の有無　□有　□無 ＜有＞の方は具体的にご記入ください。 ①留学期間　　年　　月　　日 ～　　年　　月　　日 ②留学施設 ③指導者 ④研修内容 ⑤取得した資格 ⑥その後の渡北欧歴（年・国名） ⑦その後、コンタクトのある北欧放射線医学者 ＜無＞の方は以下にご記入ください。 ①渡北欧の希望の有無　□有　□無 ②欧米の知識 □英　□仏　□独　□スウェーデン　□デンマーク　□ノルウェー　□フィンランド　□その他
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申込先　Fax: 027-220-8409, E-mail: jsrs@jsrs.tokyo

日本スカンジナビア放射線医学協会役員名簿

＜役員＞

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佐藤 友保	理事	土谷総合病院
田島 廣之	理事	埼玉医科大学国際医療センター
中村 和正	理事	浜松医科大学
細矢 貴亮	理事	山形済生病院
嶺　貴彦	理事	日本医科大学北総病院
村田　智	理事	帝京大学ちば総合医療センター
門前 芳夫	理事	佐世保市総合医療センター
山口 雅人	理事	神戸大学
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日本スカンジナビア放射線医学協会賛助会員名簿

＜賛助会員＞

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事務局だより

本年は、Progress Radiology2024 が群馬にて開催されました。およそ2年前から準備委員会を立ち上げ、準備を進めて参りました。会場の下見から始まり、企画提案会議や運営スタッフとの打合せを重ね、当日を迎えるまでの期間は、シンポジウムの事がいつも頭の片隅にあったような気がします（運営側の記録として、会報誌の中に詳細を掲載しています）。早くも大会が終了して5ヶ月が経ちました。大会を無事に終えた事に安堵しつつも、打合せなどで頻繁に顔を合わせていた先生方とお会いする機会が減ったことで、少し寂しい想いもあります。中心となって運営に携わっていただいた先生方とは、この大会を通して連帯感が強まったと感じています。学内で偶然お会いした時には、喜びのあまり手を降って駆け寄ってしまう程です。

今回の大会では、当事務局が主体となり運営を行い、不安や戸惑いを抱えながらもスタッフで何度も話し合い、一丸となって取り組んで参りました。大変貴重な経験をさせていただきました。シンポジウムにご参加いただきました皆様、関係各位の皆様には心より御礼を申し上げます。

本誌では、シンポジウムの参加報告記をメインテーマに設け、ご参加くださいました皆様よりご寄稿いただきました。本会報誌製作にあたって原稿依頼にご快諾くださった近藤博史先生、鹿戸将史先生、伊藤浩先生、対馬義人先生、高橋綾子先生、平澤裕美先生、金舞先生、高瀬彩先生、Dr. Jarmo Reponen先生、Dr. Soren Rafaelsen先生に、この場をお借りして感謝申し上げます。

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