

International Atomic Energy Agency
Department of Technical Cooperation
And
Nuclear Medicine and Diagnostic Imaging Section
Division of Human Health

SV-RAS6091-1900081

Scientific visit under the IAEA's technical cooperation programme

4 – 8 November 2019

- 1) Dept. Radiology, Tohoku University Graduate School of Medicine/University
Hospital
- 2) Cyclotron and Radioisotope Center, Tohoku University
- 3) Southern Tohoku Hospital

- 1) Dr. Kei Takase and Dr. Kentaro Takanami Tohoku University Graduate School of
Medicine Departement of Radiology
- 2) Dr. Manabu Tashiro and Dr. Hiroshi Watabe Cyclotron and Radioisotope Center
(CYRIC) Tohoku University
- 3) Dr. Yoshihiro Takai and Dr. Kiichi Ishiwata Southern Tohoku Hospital

PROGRAM

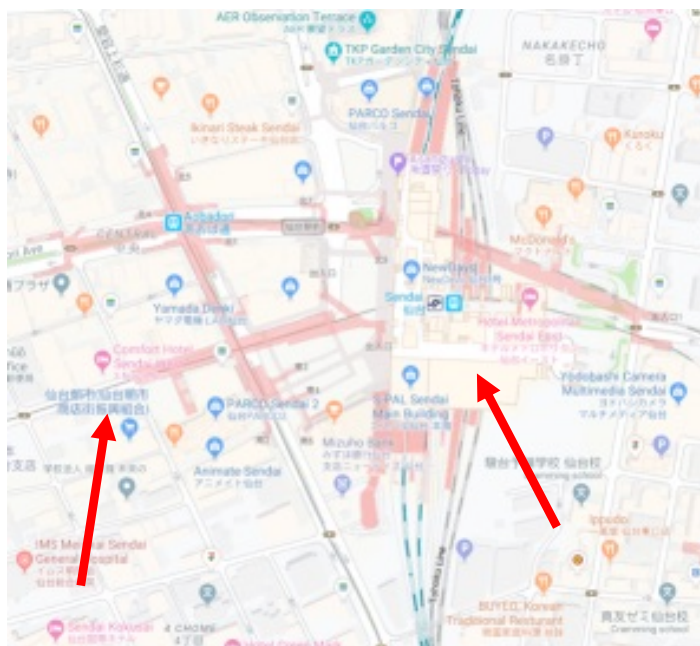
Monday, 4 November 2019

9:00-15:00

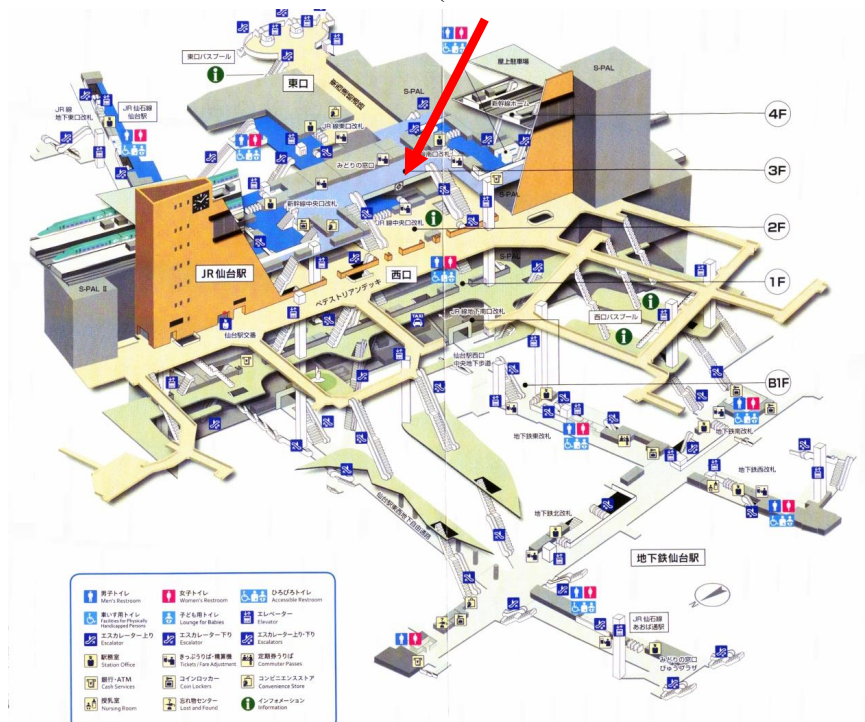
*Meeting at 9:00 at Sendai station, Shinkansen Main Gate (3F)

- 1) Pre-orientation “Transportation in Sendai” (by Prof. Manabu TASHIRO)
- 2) Facility visit to Cyclotron and Radioisotope Center (CYRIC) and basic lectures on Large cyclotron, small cyclotron, radiochemistry laboratory, small animal PET, clinical PET, etc.
(by Prof. Manabu TASHIRO and Prof. Hiroshi WATABE)

Locations of Comfort Hotel Sendai West and Sendai Station



View from West side of Sendai Station (An arrow indicates 3F Shinkansen Main Gate)



Thursday 5 November 2019

@Minami Tohoku Hospital BNCT center

8:00 Gathering at Sendai station, Shinkansen Main Gate (3F)

Move to Minami Tohoku Hospital (Koriyama) by Shinkansen bullet train

Leader: Kentaro Takanami (Tohoku University Hospital)

10:00-11:00

Opening remarks and a lecture on BNCT

Prof. Yoshihiro Takai (Radiation Oncologist)

11:00-11:20

A presentation about “The results of world’s first phase 2 clinical trial of AB-BNCT on recurrent/advanced Head and Neck Cancer”

Dr. Katsumi Hirose (Radiation Oncologist)

11:20-12:00

Facility tour to the Southern Tohoku BNCT Research Center

Prof. Yoshihiro Takai

12:00-12:50

Lunch at restaurant “Bonjour (at one’s own expense)

PET program

13:00-13:20

Opening remarks: Introduction of PET Facilities

Toshiyuki SAGINOYA, M.D., Ph.D.

13:20-14:30

Facility tour to the PET Center in Southern Tohoku Medical Clinic

- A series of routine operations in PET diagnosis

Nurse

Ms Tomoko ISHIDA

Nuclear medicine technologist

Mr. Yasuaki SATO

Pharmacist

Mr. Ryouichi EBINUMA

Toshiyuki SAGINOYA / Kiichi ISHIWATA

14:30-15:40

Facility tour to the Southern Tohoku Drug Discovery and Cyclotron Research Center

- Performance of semiconductor PET/CT
- Radiopharmaceutical production area recently required in research oriented PET facility in Japan

Nuclear medicine technologist Mr. Yasuaki SATO
Pharmacist Mr. Ryouichi EBINUMA
Kiichi ISHIWATA / Toshiyuki SAGINOYA

15:40-16:00

A small lecture on PET research activities at the Southern Tohoku Hospital and closing remark
Kiichi ISHIWATA, Ph.D.

Back to Sendai

Wednesday 6 November 2019

@CYRIC

9:00-17:00

1. Hybrid imaging: lectures and practice

9:00 Meeting at CYRIC

9:00~9:15 Briefing

9:15~10:15 Introductory lecture (by Prof. Manabu TASHIRO)

10:30~11:30 Analysis of amyloid PET imaging (by Prof. Kotaro HIRAOKA)

11:30~12:30 Lunch

12:30~13:30 Analysis of FDG PET images (by Prof. Manabu TASHIRO)

13:30~14:30 PET-QC (by Prof. Hiroshi WATABE: with other visitors)

2. Dosimetry: lectures and practice:

14:45-17:00 Demonstration of dosimetry (by Prof. Hiroshi WATABE: with other visitors)
 using D-shuttle, a new high time-resolution dosimeter, and Medical Internal
 Radiation Dose (MIRD)

17:30-20:00 Discussion & information exchange on current situation of nuclear medicine,
 medical engineering and health care issues in various countries 1

Thursday 7 November 2019

@CYRIC

9:00-17:00

*Lectures on radiation exposure from various aspects such as medicine, chemistry, physics,
radiation protection, laws and regulation in Japan (with other participants)

8:40~9:10 Reception

9:10~9:20 Guidance

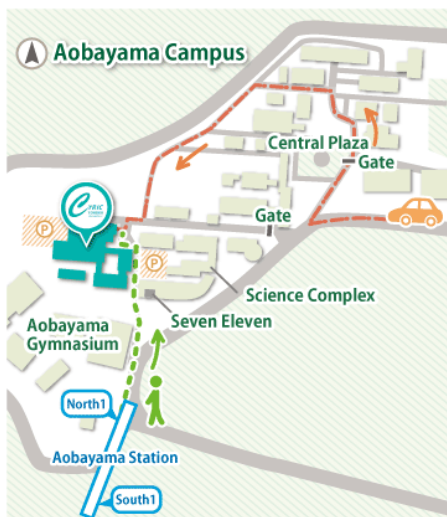
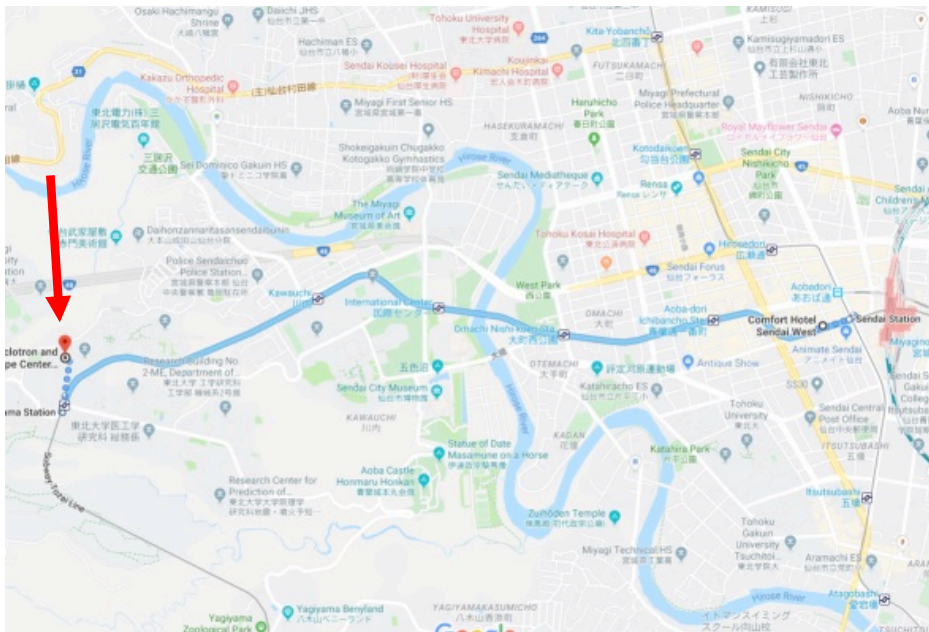
9:20~9:50 Introductory lecture (by Prof. Hiroshi WATABE)

10:00~11:00 Medical aspects of radiation exposure (by Prof. Manabu TASHIRO)

11:10~12:10 Regulations in Japan (by Prof. Hiroshi WATABE)

12:10~13:00	Lunch
13:00~14:00	Observation of phantom measurement (Mr. Shoichi WATANUKI/M. TASHIRO)
14:00~15:00	Basic Neuroanatomy Training for technologists (by Prof. Manabu TASHIRO)
15:00~16:00	Demonstration of PET-QC (without radioactivity) (Mr. Shoichi WATANUKI/M. TASHIRO)
16:00~17:00	Q & A / additional lectures
17:30~20:00	Discussion & information exchange on current situation of nuclear medicine, medical engineering and health care issues in various countries 2

Location of CYRIC



Taxi

About 20 minutes from Sendai Station.

Subway | Sendai Subway Tozai Line

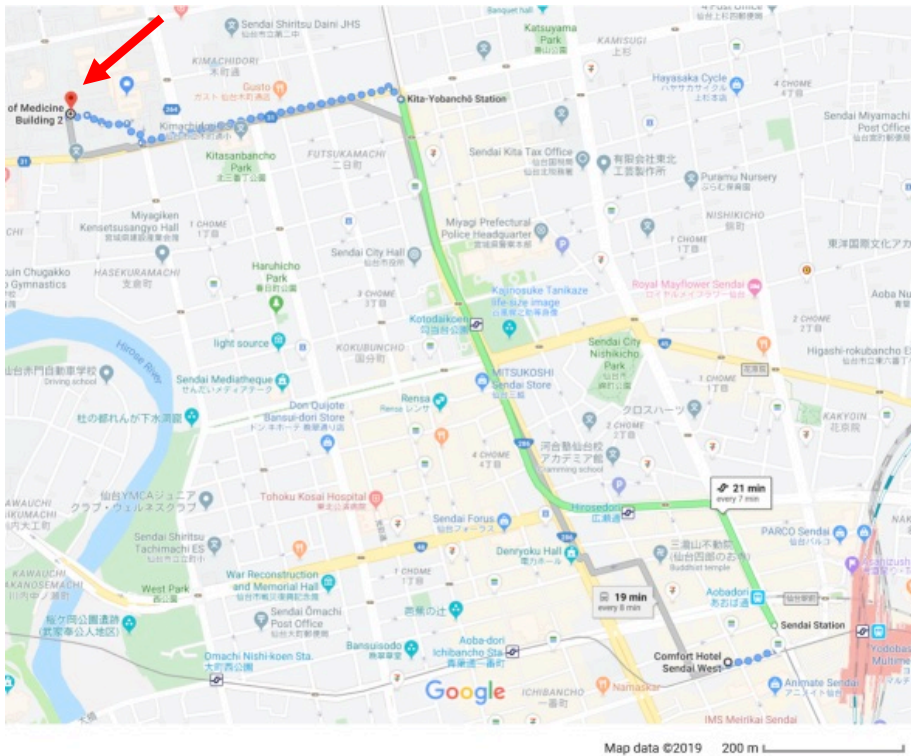
Take the subway from Sendai Station to Aobayama Station (9 minutes) and exit at North 1. Walk 3 minutes from there.

Car

Admittance by the University is required for use.

Friday 8 November 2019
@Tohoku University Hospital
<p>7:45</p> <p>Gathering at Main entrance of Tohoku University Hospital</p> <p>8:00-8:30</p> <p>Participation to Clinical conference of the department of diagnostic Radiology</p> <p>8:30-9:00</p> <p>Facility tour of PET center and Division of Nuclear Medicine, Tohoku University Hospital</p> <p>Synthesis of radioactive pharmaceutical, F-18 FDG</p> <p>Labelling and adjustment of Tc-99 labelled radiopharmaceutical</p> <p style="padding-left: 40px;">HAYASHI (Nuclear physicist).</p> <p style="padding-left: 40px;">Kentaro TAKANAMI M.D., Ph.D.</p> <p style="padding-left: 40px;">Hayato ODAGIRI (Nuclear medicine technologist)</p> <p>9:00-9:30</p> <p>Opening remarks and a lecture on Diagnostic Radiology</p> <p style="padding-left: 40px;">Prof. Kei TAKASE M.D., Ph.D.</p> <p>9:30-11:00</p> <p>Facility tour of Nuclear Medicine Exam. Room.</p> <p style="padding-left: 40px;">Hayato ODAGIRI (Nuclear medicine technologist)</p> <p>11:00-12:00</p> <p>Lecture on PET/CT, SPECT/CT fusion imaging</p> <p style="padding-left: 40px;">Kentaro TAKANAMI M.D., Ph.D.</p> <p>12:00-13:00</p> <p>Lunch</p> <p>13:00-13:30</p> <p>Lecture on Pediatric FDG PET imaging</p> <p style="padding-left: 40px;">Mioko SAITO M.D., Ph.D.</p> <p>13:30-14:00</p> <p>Closing remarks</p> <p style="padding-left: 40px;">Prof. Kei TAKASE M.D., Ph.D.</p>

Location of Tohoku University Hospital



Main Entrance of Tohoku University Hospital

