



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

**WS-RAS6091-EVT1901109  
End-of-mission Report**

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**IAEA Regional Workshop on Nuclear Neurology SPECT  
and PET applications in dementia, movement disorder, and  
epilepsy**

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**July 29 – Aug 2, 2019**

**National Center of Neurology and Psychiatry, Tokyo, Japan**

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**Local Course Director**

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National Center of Neurology and Psychiatry (NCNP)  
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## Participants

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Esmaeil GHAREH PAPAGH	Iran
Aza Ismail Abdi ABDI	Iraq
Mohamed Sadoon Mohson AL-SHAMMAA	Iraq
Rafid Riyadh AL-TUMA	Iraq
Konstantin GOUREVICH	Israel
Viengkham LEUANGVANXAY	Lao P.D.R.
Sackmone SYCHALEUN	Lao P.D.R.
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Ms Thiri Kyi PHYU	Myanmar
Shaheen IQBAL	Pakistan
Omair SAJJAD	Pakistan
Juanito Jr OLPINDO	Philippines
Arlene ORTIZ	Philippines
Mohammed ALHARBI	Saudi Arabia
Wanying XIE	Singapore
Tawika KAEWCHUR	Thailand
Tanyaluck THIENTUNYAKIT	Thailand
Batool ESSA GHULAM ABDULLA ALBALOOSHI	UAE
Quan NGUYEN	Viet Nam
Nguyen PHUONG	Viet Nam
Sharaf SHAREEF	Yemen

# PROGRAM

**Monday, 29 July 2019**

**Multimedia hall (Library and Conference Center 1F, NCNP)**

<b>09:30-9:50</b>	Registration	
<b>9:50-10:30</b>	Opening remarks Self-Introduction Pre-Course Evaluation	Prof. Hidehiro Mizusawa (President, NCNP) Prof. Jun Hatazawa (President, Japanese Society of Nuclear Medicine, Asia Oceania Foundation of Nuclear Medicine and Biology) Prof. Hiroshi Matsuda (Course Director)
<b>SESSION 1 (Radiopharmaceutical and Image Analysis)</b>  <b>CHAIR:</b> <b>Prof. Hiroshi Matsuda</b> <b>National Center of Neurology and Psychiatry, Japan</b>		
<b>10:30-11:00</b>	<b>Overview of PET radiopharmaceutical</b>  ILO: 1. Recognize the significance of radiopharmaceuticals used in PET brain imaging. 2. Integrate the concepts of radiopharmaceuticals in brain imaging within the context of best practices of the nuclear technology on the brain imaging	Dr. Harumasa Takano (IBIC, NCNP )
<b>11:00-12:00</b>	<b>Overview of SPECT radiopharmaceutical</b>  ILO: 1. Recognize the significance of radiopharmaceuticals used in SPECT/CT brain imaging. 2. Integrate the concepts of radiopharmaceuticals in brain imaging within the context of best practices of the nuclear technology on the brain imaging	Prof. Hiroshi Matsuda (IBIC,NCNP)
<b>12:00-13:30</b>	<b>Lunch Break</b>	
<b>13:30-14:20</b>	<b>Statistical Image Analysis</b>  ILO: Review and understand basic concept of statistical parametric analysis used in SPECT and PET combined with CT or MR for Neurological Imaging using Nuclear Medicine techniques	Prof. Hiroshi Matsuda (IBIC,NCNP)

<b>14:20-15:10</b>	<b>Dementia; SPECT diagnosis</b>  ILO: 1. Understand the pathophysiology of Alzheimer's disease. 2. Discuss the risk factors of Alzheimer's disease. 3. Discuss the role of SPECT nuclear medicine imaging in Alzheimer's disease	Prof. Hiroshi Matsuda (IBIC,NCNP)
<b>15:10-16:00</b>	<b>SPECT measures</b>  1. Understand the significance of SPECT measurements/ quantification factors used in PET brain imaging. 2. Integrate the concepts of radiopharmaceuticals in brain imaging within the context of best practices of the nuclear technology on the brain imaging	Prof. Hiroshi Matsuda (IBIC,NCNP)
<b>End of SESSION 1</b>		
<b>18:30- Welcome Reception</b> (Venue: Shinjuku Prince Hotel 25F, Restaurant FUGA)		



**Tuesday, 30 July 2019**

**Multimedia hall (Library and Conference Center 1F, NCNP)**

**SESSION 2 (Epilepsy)**

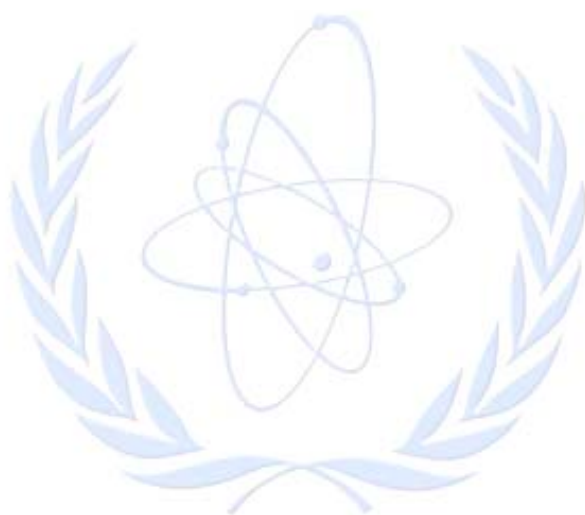
**CHAIR:**

**Prof. Hiroshi Matsuda**

**National Center of Neurology and Psychiatry, Japan**

<b>09:00-10:00</b>	<b>Clinical diagnosis, Medical Treatment</b>  ILO: 1. Understand the pathophysiology of seizures 2. Discuss the risk factors 3. Discuss the role of nuclear medicine imaging in seizures	Dr. Eiji Nakagawa (Department of Child Neurology, NCNP)
<b>10:00-11:00</b>	<b>Epileptic Surgery</b>  ILO: 1. Understand the importance of surgical management in seizures in the context of nuclear imaging	Dr. Masaki Iwasaki (Department of Neurosurgery, NCNP)
<b>11:00-12:00</b>	<b>MRI diagnosis of epilepsy</b>  ILO: 1. Describe appropriate ways of report writing in neurological cases with MR interpretation 2. Discuss the role of Brain Imaging using actual cases for image interpretation and its relevance in clinical practice	Dr. Noriko Sato (Department of Radiology, NCNP)
<b>12:00-13:30</b>	<b>Lunch Break</b>	
<b>13:30-15:00</b>	<b>FDG PET for detection of epileptic focus</b>  ILO: 1. Understand the pathophysiology of seizures 2. Discuss the risk factors 3. Discuss the role of nuclear medicine imaging in seizures	Dr. Emiko Morimoto (Department of Radiology, NCNP)
<b>15:00-16:00</b>	<b>SISCOM for detection of epileptic focus</b>  ILO: 1. Understand the pathophysiology of seizures 2. Discuss the risk factors 3. Discuss the role of SISCOM in seizures	Dr. Yukio Kimura (Department of Radiology, NCNP)

**End of SESSION 2**



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**Wednesday, 31 July 2019**

**Multimedia hall (Library and Conference Center 1F, NCNP)**

**SESSION 3 (Dementia)**

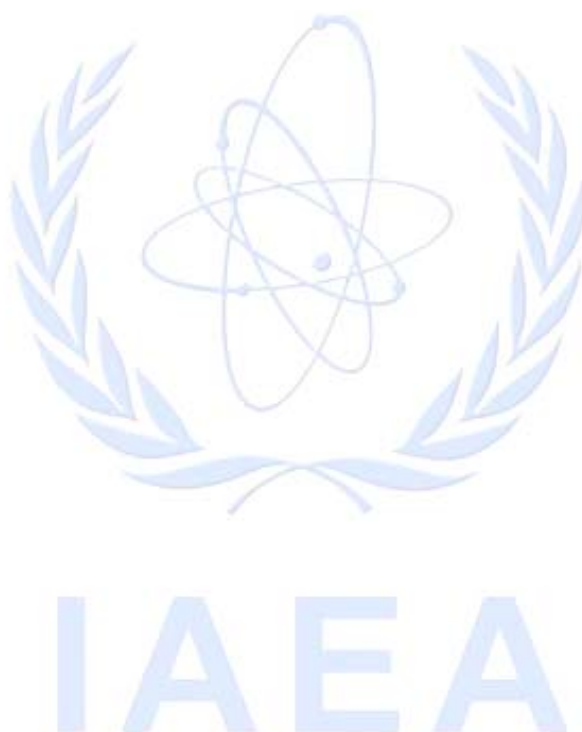
**CHAIR:**

**Prof. Hiroshi Matsuda**

**National Center of Neurology and Psychiatry, Japan**

<b>09:00-10:00</b>	<b>Clinical Diagnosis of Alzheimer's disease</b>  ILO: 1. Understand the pathophysiology of Alzheimer's disease. 2. Discuss the risk factors of Alzheimer's disease. 3. Discuss the role of nuclear medicine imaging in Alzheimer's disease	Dr. Yuma Yokoi (PMDA, Department of Psychiatry, NCNP)
<b>10:00-11:00</b>	<b>Clinical Diagnosis of Dementia with Lewy Bodies</b>  ILO: 1. Understand the pathophysiology of Dementia with Lewy Bodies. 2. Discuss the risk factors of Dementia with Lewy Bodies. 3. Discuss the role of nuclear medicine imaging in Dementia with Lewy Bodies	Dr. Tadashi Tsukamoto (Department of Neurology, NCNP)
<b>11:00-12:00</b>	<b>MRI diagnosis of Dementia</b>  ILO: 1. Discuss the role of nuclear medicine imaging and MRI in Dementia	Dr. Noriko Sato (Department of Radiology, NCNP)
<b>12:00-13:30</b>	<b>Lunch Break</b>	
<b>13:30-14:30</b>	<b>PET/MRI Molecular imaging</b>  ILO: 1. Discuss the role of PET/MRI nuclear medicine imaging in Alzheimer's disease	Prof. Hidehiko Okazawa ( Biomedical Imaging Research Center, Fukui University)
<b>14:30-15:30</b>	<b>Molecular Imaging</b>  ILO: 1. Understand the pathophysiology of Alzheimer's disease. 2. Discuss the risk factors of Alzheimer's disease. 3. Discuss the role of molecular imaging in Alzheimer's disease	Dr. Yoko Shigemoto (Department of Radiology, NCNP)

<b>15:30-16:30</b>	<b>PET measures</b>  ILO: 1. Understand the significance of PET measurements/ quantification factors used in PET brain imaging. 2. Integrate the concepts of radiopharmaceuticals in brain imaging within the context of best practices of the nuclear technology on the brain imaging	Dr. Kyoji Okita (IBIC, NCNP)
<b>End of session 3</b>		
<b>17:00- Excursion and Dinner</b> (Venue: Tokyo Tower and Japanese Restaurant near Tokyo Tower)		



**Thursday, 1 August 2019**

**Multimedia hall (Library and Conference Center 1F, NCNP)**

**SESSION 4 (Movement Disorder)**

**CHAIR:**

**Prof. Hiroshi Matsuda**

**National Center of Neurology and Psychiatry, Japan**

<b>09:00-10:00</b>	<b>Clinical diagnosis, Medical Treatment</b>  ILO: 1. Understand the pathophysiology of Movement disorders. 2. Discuss the utilization of nuclear medicine imaging modalities in the evaluation of movement disorders	Dr. Noriko Nishikawa (Department of Neurology, NCNP)
<b>10:00-11:00</b>	<b>Deep Brain Stimulation</b>  ILO: 1. Discuss the utilization of Deep Brain Simulation in the evaluation of movement disorders	Dr. Yuiko Kimura (Department of Neurosurgery, NCNP)
<b>11:00-12:00</b>	<b>MRI diagnosis of movement disorders</b>  ILO: 1. Discuss the utilization of MRI in the evaluation of movement disorders	Dr. Yukio Kimura (Department of Radiology, NCNP)
<b>12:00-13:30</b>	<b>Lunch Break</b>	
	<b>Blood flow and Metabolism</b>  ILO: 1. Review the significance of Blood flow and metabolism in the management of movement disorders	Prof. Hiroshi Matsuda (IBIC,NCNP)
	<b>Role of MIBG</b>  ILO: 1. Review the significance of MIBG in the management of movement disorders	Prof. Hiroshi Matsuda (IBIC,NCNP)
	<b>Role of DaT SPECT</b>  ILO: 1. Review the significance of DAT SPECT in the management of movement disorders	Prof. Hiroshi Matsuda (IBIC,NCNP)

**END OF SESSION 4**

**Friday, 2 August 2019**

**Multimedia hall (Library and Conference Center 1F, NCNP)**

**SESSION 5 (Neuropathology and Radiochemistry)**

**CHAIR:**

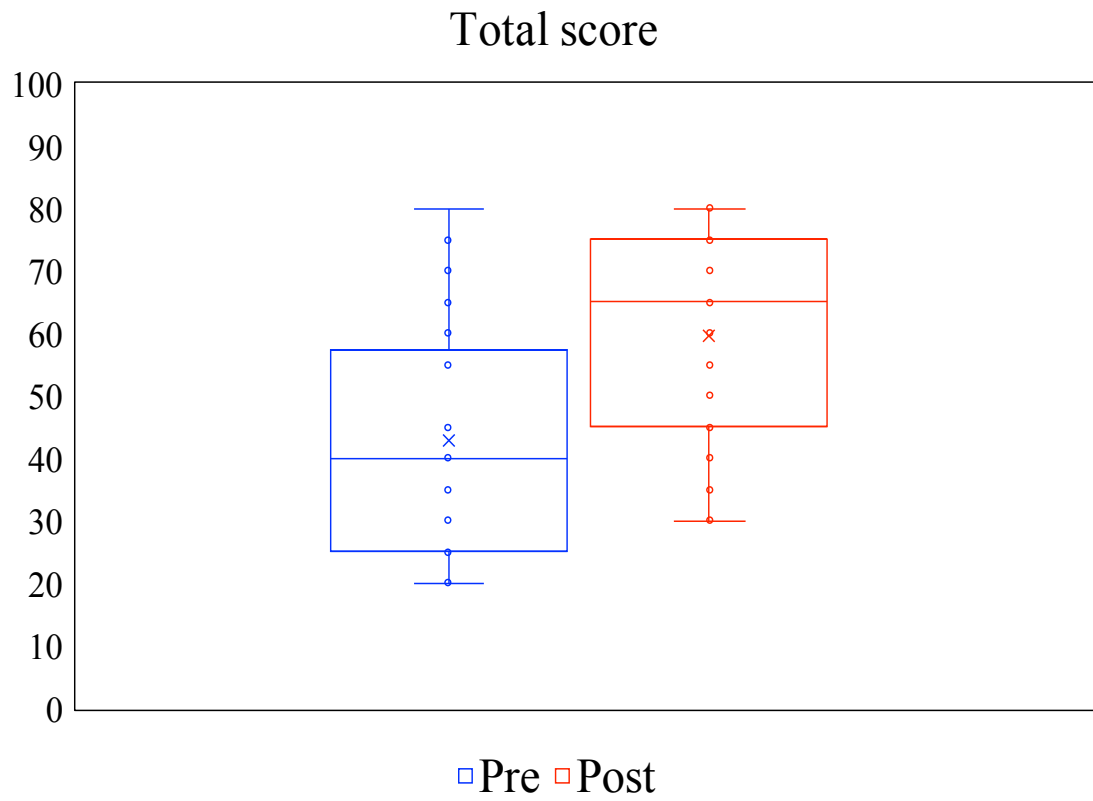
**Prof. Hiroshi Matsuda**

**National Center of Neurology and Psychiatry, Japan**

<b>09:00-10:00</b>	<b>Neuropathology of neurodegenerative diseases</b>  ILO: 1. Understand the pathophysiology of neurodegenerative disorders 2. Discuss the utilization of nuclear medicine imaging modalities in the evaluation of neurodegenerative disorders	Dr. Yuko Saito (Department of Neuropathology, NCNP)
<b>10:00-11:00</b>	<b>Radiochemistry and Pharmacy</b>  ILO: 1. Recognize the significance of radiopharmaceuticals used in neurodegenerative disorder imaging. 2. Integrate the concepts of radiopharmaceuticals in brain imaging within the context of best practices of the nuclear technology on the brain imaging"	Dr. Koichi Kato (IBIC, NCNP)
<b>End of Session 5</b>		
<b>11:00-12:00</b>	Closing Remarks Post course evaluation	Prof. Hiroshi Matsuda (IBIC,NCNP)

## Average total scores in Pre- and Post-course evaluation

Pre- 42.8    Post- 60.8



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## Pictures



Participants and NCNP staffs with Prof. Jun Hatazawa (President of Japanese Society of Nuclear Medicine)



Lecture



Reception dinner party



Excursion to Tokyo tower

This workshop is accredited by the UEMS- EACCME (European Union of Medical Specialists - European Accreditation Council for Continuing Medical Education) with 24 European CME credits.

