# IAEA/RCA Regional Training Course on Theragnostics and Dementias

**December 4-8, 2017**

**Osaka University Graduate School of Medicine,**
**Osaka, Japan**

## Local Course Director

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## IAEA TECHNICAL OFFICER

**Mr. PASCUAL Thomas NB**

# PROGRAM

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## Monday 4 December 2017

**AM: Cancer board hall (Oncology center 5F)**
**PM: Multimedia hall (CoMIT 1F)**

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<td>10:00-10:30</td>
<td>Opening remarks<br>Pre-Course Evaluation</td>
<td>Pascual, Thomas (Technical Officer, IAEA)<br>Prof. Jun Hatazawa<br>Course Director</td>
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## SESSION 1

**Chair:**
**Dr. Frederik Giesel**
**University Hospital Heidelberg**
**Heidelberg, Germany**

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<td>10:30-11:20</td>
<td>Introduction of theragnostics<br><br>ILO:<br>1. Review the concept and overview of theragnostics.<br><br>2. Understand the basic principle of BNCT.</td>
<td>Prof. Jun Hatazawa<br>Osaka University, Osaka, Japan</td>
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<td>11:20-12:00</td>
<td>Basic principle of theragnostics<br><br>ILO:<br>1. Recognize the significance of radiopharmaceuticals used in theragnostics.<br><br>2. Integrate the concepts discussed in relation to best practices of theragnostics.</td>
<td>Dr. Toru Shiga<br>Hokkaido University, Sapporo, Japan</td>
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<td>12:00-13:30</td>
<td>Lunch Break</td>
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<td>13:30-14:20</td>
<td>Theragnostics: Neuroendocrine tumors<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for neuroendocrine tumors.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for neuroendocrine tumors.</td>
<td>Dr. Yuji Nakamoto, Kyoto University, Kyoto, Japan</td>
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| | **End of session 1** | |
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| | **SESSION 2**<br><br>**Chair:**<br>**Prof. Jun Hatazawa**<br>**Osaka University, Osaka, Japan** | |
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| 14:30-15:20 | Brain perfusion SPECT for dementia<br><br>ILO:<br>1. Summarize the radiopharmaceuticals and typical findings of each dementia in brain perfusion imaging.<br><br>2. Recognize the typical pattern of dementia SPECT. | Dr. Hiroshi Matsuda National Center of Neurology and Psychiatry, Tokyo, Japan |
| 15:20-15:40 | Coffee Break | |
| 15:40-16:20 | Statistical Parametric Analysis in Nuclear Medicine<br><br>ILO:<br>1. Discuss the utilization of statistical image analysis in dementia.<br><br>2. Recognize the limitations of statistical image analysis and importance of visual analysis. | Dr. Hiroki Kato Osaka University, Osaka, Japan |
| 16:20-17:00 | Case presentation of Brain perfusion SPECT<br><br>ILO:<br>1. Discuss the key point of SPECT image interpretation in dementia.<br><br>2. Recognize the limitations of statistical image analysis and importance of visual analysis. | Prof. Eku Shimosegawa Osaka University, Osaka, Japan |
| | **End of session 2** | |
| | **17:30- Welcome Reception**<br>(Venue: Minerva, Second floor of Icho Kaikan) | |

## Tuesday, 5 December 2017

**AM: Multimedia hall (CoMIT 1F)**
**PM: Cancer board hall (Oncology center 5F)**

## SESSION 3

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| **09:00-12:00** | Parametric image analysis of brain images (including software practice): <br><br> ILO: <br><br> 1. Describe appropriate ways of report writing in neurological cases with CT or MR interpretation. <br><br> 2. Discuss the role of Brain Imaging using clinical cases for image interpretation and its relevance in clinical practice. | Dr. Tadashi Watabe Osaka University, Osaka, Japan <br><br> Dr. Hiroki Kato Osaka University, Osaka, Japan |

## End of session 3

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| **12:00-13:00** | Lunch Break | |

## SESSION 4

**Chair:**
**Dr. Pascual, Thomas (Technical Officer, IAEA)**

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| **13:00-13:30** | Theragnostics: Neuroendocrine tumors (2) <br><br> ILO: <br> 1. Recognize the radiopharmaceuticals used in diagnosis and radionuclide therapy for neuroendocrine tumors. <br><br> 2. Learn from the clinical case presentation of DOTATOC imaging and Lu-Therapy. | Dr. Frederik Giesel (University Hospital Heidelberg, Heidelberg, Germany) |
| **13:30-14:20** | Alzheimer's Disease <br><br> ILO: <br> 3. Understand the pathophysiology of Alzheimer's disease. <br><br> 4. Discuss the role of nuclear medicine imaging in Alzheimer's diseases. | Prof. Kazunari Ishii (Kinki University, Osaka, Japan) |

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| **14:20-15:10** | PET and SPECT in Dementias (other than Alzheimer's disease)<br><br>ILO:<br>1. Understand the pathophysiology of dementias.<br><br>2. Discuss the role of nuclear medicine imaging in dementias. | Dr. Takashi Kato (National Center for Geriatrics and Gerontology, Aichi, Japan) |
| **15:10-15:30** | Coffee Break | |
| **15:30-16:10** | Case presentation of PET and SPECT about dementia (1)<br><br>ILO:<br>1. Recognize the utility of PET and SPECT probes in dementias.<br><br>2. Discuss the role of PET and SPECT imaging in dementias. | Prof. Hiroshi Toyama (Fujita Health University, Aichi, Japan) |
| **16:10-16:50** | Case presentation of PET and SPECT about dementia (2)<br><br>ILO:<br>1. Understand the utility of nuclear medicine in dementias.<br><br>2. Discuss the clinical relevance of nuclear medicine imaging in dementias. | Prof. Toshimitsu Momose (International University of Health and Welfare, Chiba, Japan) |
| **End of session 4** | | |

| **Wednesday, 6 December 2017**<br><br>**AM: Multimedia hall (CoMIT 1F)** | | |
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| **SESSION 5** | | |
| **09:00-12:00** | Parametric image analysis of brain images (including software practice):<br><br>ILO:<br><br>1. Perform the statistical image analysis and write report by yourself.<br><br>2. Discuss the role of Brain Imaging using clinical cases for image interpretation and its relevance in clinical practice | Dr. Hiroki Kato<br>Osaka University,<br>Osaka, Japan |
| **End of session 5** | | |
| **12:00-14:00** | Lunch Break | |
| **14:00-17:00** | Technical visit | |

## Thursday 7 December 2017

**AM: Multimedia hall (CoMIT 1F)**
**PM: Meeting room B,C (Icho Kaikan 3F)**

## SESSION 6:

**Chair:**
**Prof. Jun Hatazawa**
**Osaka University, Osaka, Japan**

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| **9:30-10:10** | Theragnostics: Brain tumor<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for brain tumor.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for brain tumor. | Dr. Frederik Giesel (University Hospital Heidelberg, Heidelberg, Germany) |
| **10:10-10:50** | Theragnostics: gastrointestinal tumors<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for gastrointestinal tumors.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for gastrointestinal tumors. | Prof. UkihideTateishi (Tokyo Medical and Dental University, Tokyo, Japan) |
| **10:50-11:30** | Theragnostics: lung cancer<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for lung cancer.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for lung cancer. | Dr. Hirofumi Fujii (National cancer center, Tokyo, Japan) |

## END OF SESSION 6

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| **11:30-13:10** | Lunch Break |

## SESSION 7:

**Chair:**
**Dr. Frederik Giesel**
**University Hospital Heidelberg**
**Heidelberg, Germany**

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| **13:10-14:00** | Theragnostics: thyroid<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for thyroid.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for thyroid. | Dr. Tatsuya Higashi (National Institute of Radiological Sciences, Chiba, Japan) |
| **14:00-14:40** | Theragnostics: liver tumors (TACE and SIRT)<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for liver tumors.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for liver tumors. | Dr. Keigo Osuga (Osaka University, Osaka, Japan) |
| **14:40-15:00** | Coffee Break | |
| **15:00-15:50** | Theragnostics: malignant lymphoma<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for malignant lymphoma.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for malignant lymphoma. | Dr. Mitsuaki Tatsumi (Osaka University, Osaka, Japan) |

## END OF SESSION 7

## Friday 8 December 2017

### Multimedia hall (CoMIT 1F)

## SESSION 8

**CHAIR:**
**Dr. Tadashi Watabe**
**Osaka University, Osaka, Japan**

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| **09:00-09:40** | Theragnostics: pediatric cancer<br><br>ILO:<br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for pediatric cancer.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for pediatric cancer. | Dr. Keiichiro Yoshinaga (National Institute of Radiological Sciences, Chiba, Japan) |
| **09:40-10:30** | Theragnostics: Prostate cancer<br><br>ILO:<br><br>1. Recognize the radiopharmaceuticals used in PET and SPECT imaging for prostate cancer.<br><br>2. Understand the preparation and clinical regimen of the therapy using radiopharmaceuticals for prostate cancer. | Dr. Frederik Giesel (University Hospital Heidelberg, Heidelberg, Germany) |
| **10:30-11:10** | Future application of theragnostics | Prof. Seigo Kinuya (Kanazawa University, Kanazawa, Japan) |

## End of Session 8

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| **11:10-12:00** | Closing Remarks<br>Post course evaluation | Pascual, Thomas (Technical Officer, IAEA)<br>Prof. Jun Hatazawa<br>Course Director |

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