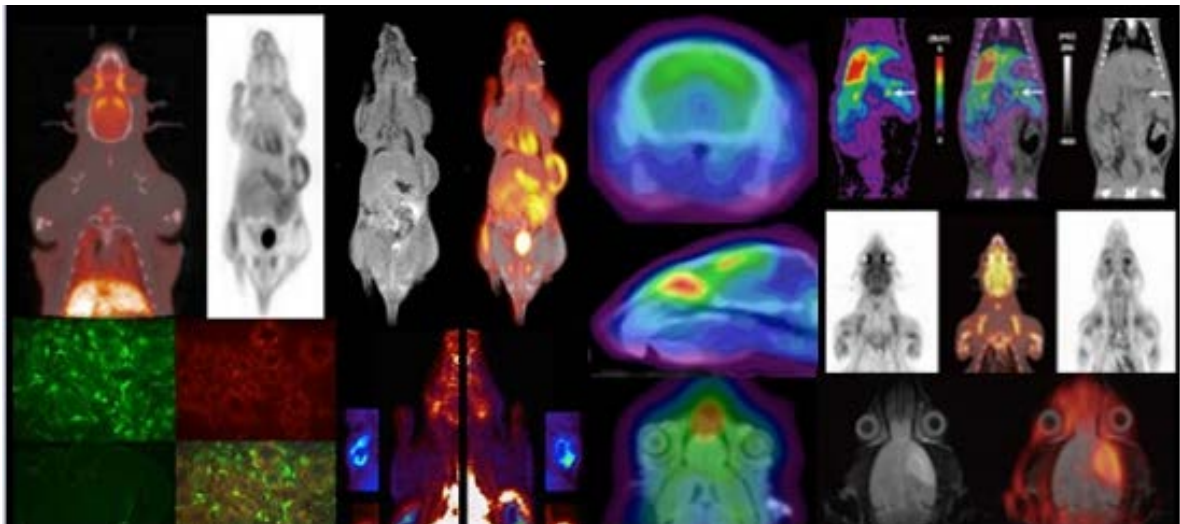




Medical Imaging Center for Translational Research(TMIC)

Osaka University
Graduate School of Medicine

*—Imaging the molecular pathogenesis of the disease
and the truth of life —*



Medical Imaging Center for Translational Research Director

Noriyuki Tomiyama



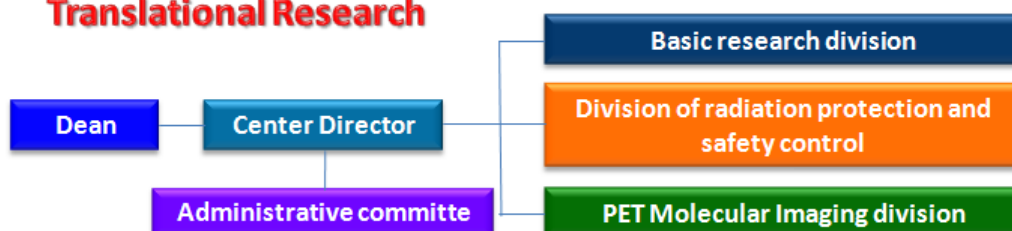
Three years have passed since the establishment of the Medical Imaging Center for Translational Research (TMIC) through the integration of the radioactive isotope facility and PET Molecular Imaging Center in 2016. The center is composed of three departments: Basic Research, PET Molecular Imaging, and RI Management. Each department plays an important role and is used by many groups as a base for research and education. In the PET molecular imaging department, in vivo imaging can be performed from small animals to primates. Some PET probes, which have been newly developed at TMIC, have already advanced to clinical trials at Osaka University Medical Hospital. TMIC has become a center for drug discovery and molecular imaging in Japan. At TMIC, pre-clinical PET experiments are conducted under a reliability standard system based on Article 43 of the Pharmacopoeia Act, and can be used as materials for applications for pharmaceutical manufacturing and marketing approval. This highly reliable environment has also helped to obtain highly accurate experimental data, and many groups of TMIC users have reported many research publications (30 papers from 8 departments within this five years). Recently, nuclear medicine treatment using α -ray nuclide astatine has attracted attention, and various joint researches are being developed at TMIC.

To foster educational activities, an agreement was concluded in 2017 between the International Atomic Energy Agency (IAEA) and the Graduate School of Medicine on the promotion, education and dissemination of nuclear medicine education. As an educational base, TMIC is used for education and training of doctors and researchers overseas. In fact, trainees from overseas conducted preclinical research at TMIC, and successfully got international awards and a paper publication. TMIC is also used for MD medical student programs and basic research assignments for medical students, leading to presentations at international conferences and papers.

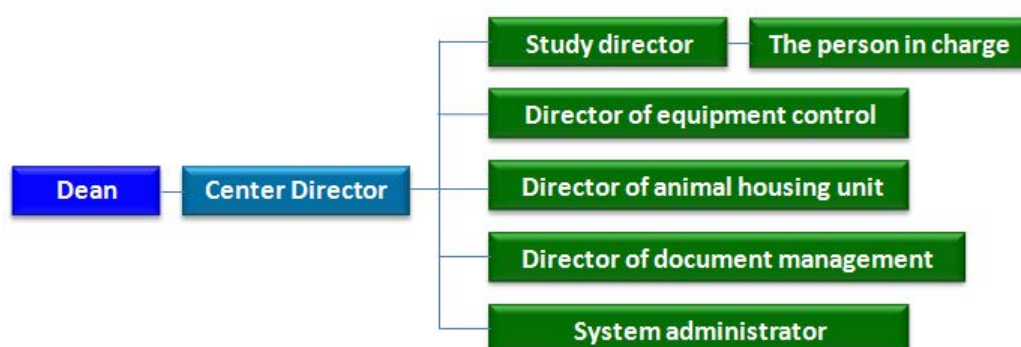
I hope that TMIC will continue to develop as a center for imaging, therapeutic research and education.

August 1st, 2019

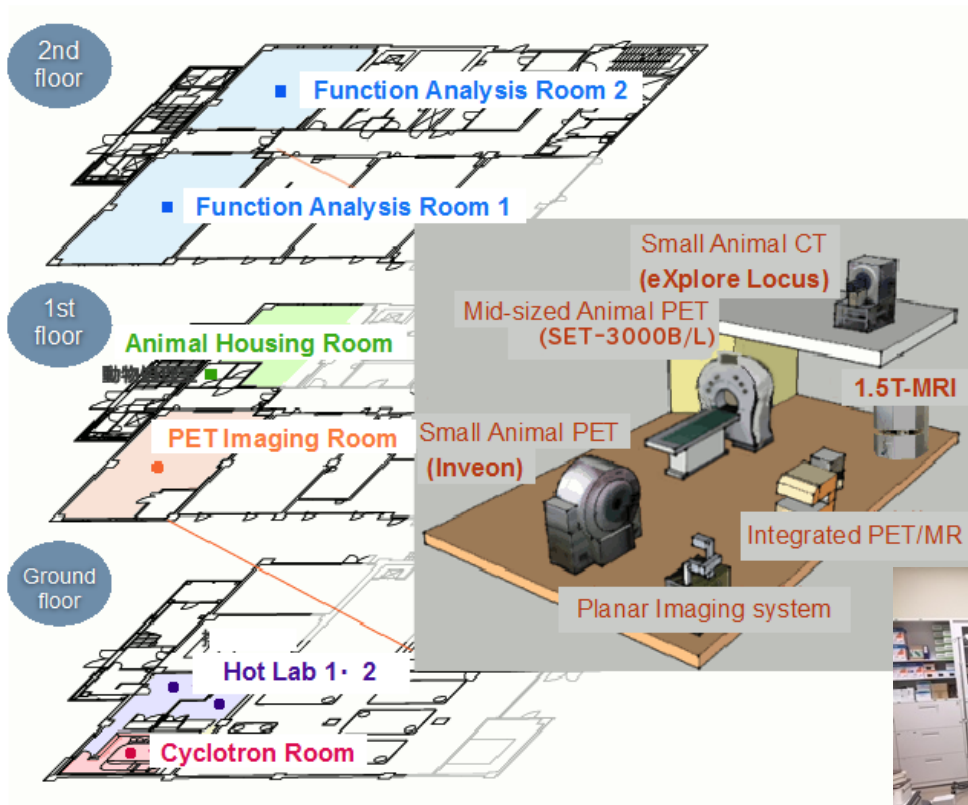
Organization of Medical Imaging Center for Translational Research



Organization of Reliability Standards



General Features (PET Molecular Imaging division)



Small Animal PET/CT



Medium to large animal PET scanner SET-3000B/L (SHIMAZU)

General Features (Basic research division)



Liquid scintillation Counter AccuFlexLSC7400 (HITACHI Aloka)



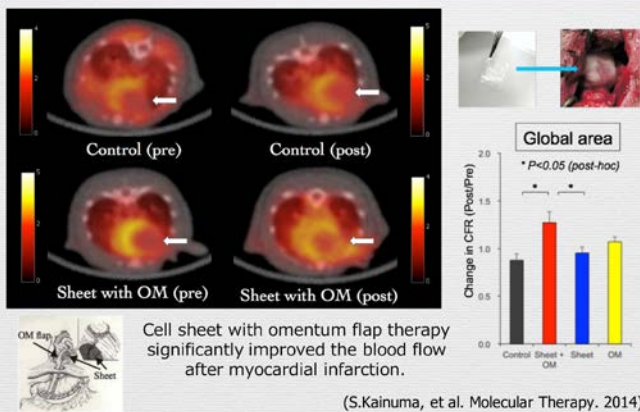
Gamma Cell Gamma Cell40 (NORDION)

Image scanner Typhoon FLA7000(G&E)



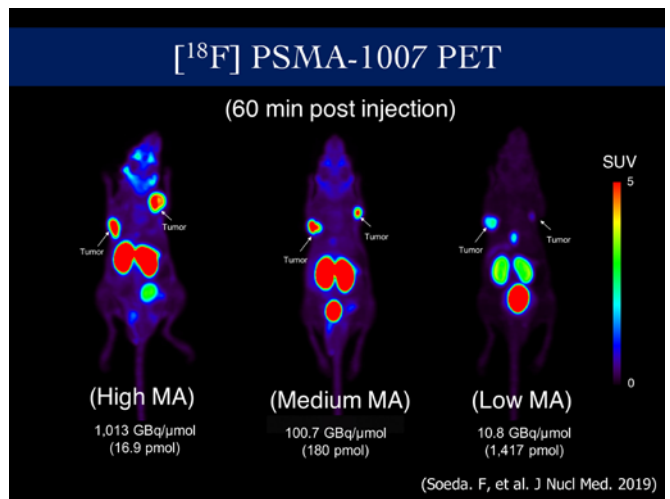
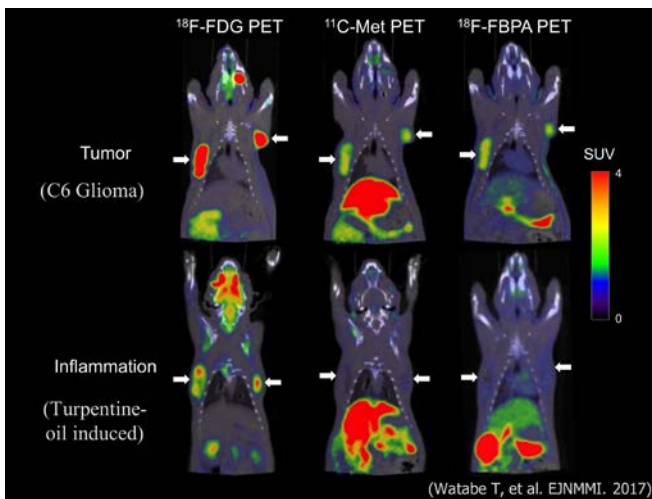
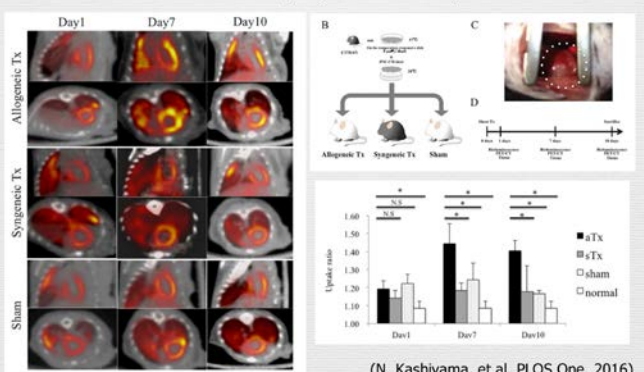
Experimental Images in PET Molecular Imaging division

Myocardial Perfusion PET : $^{13}\text{N-NH}_3$

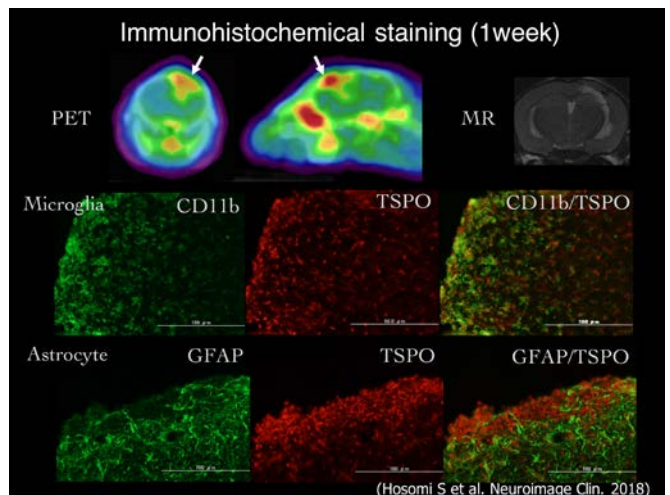
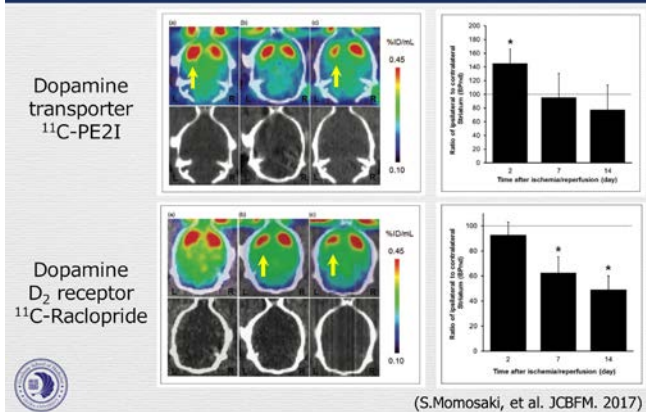


$^{18}\text{F-DPA714}$ PET: iPS cell sheet

Visualization of Activated Macrophages in the Transplanted iPS-cell sheet.



MCA ischemia model



Detailed information is uploaded on the center website. (<http://www.pet.med.osaka-u.ac.jp>)

< Contact >

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