

Clinical Positron Emission Tomography/Magnetic Resonance Imaging: Acquisition and Quantification

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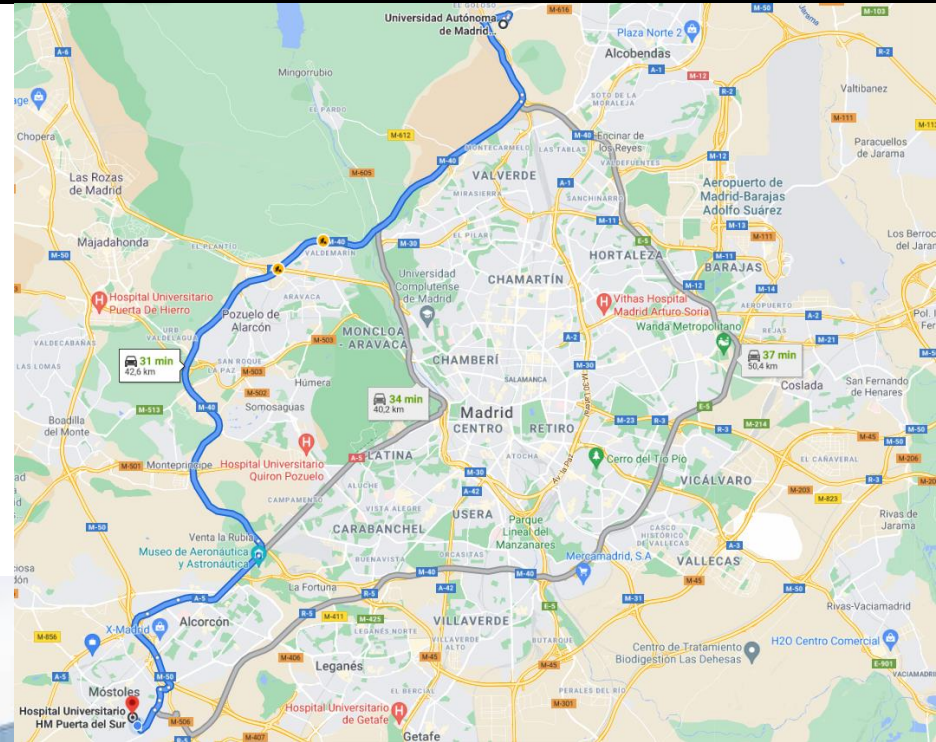
Pain and Neuroinflammation Imaging Lab – Athinoula A. Martinos Center for Biomedical Imaging

PET/MR

Check-in and Introduction



- Location
HM Puerta del Sur Hospital
First PET/MR in Spain
Shuttle service



PET/MR

Imaging Theory and Applications



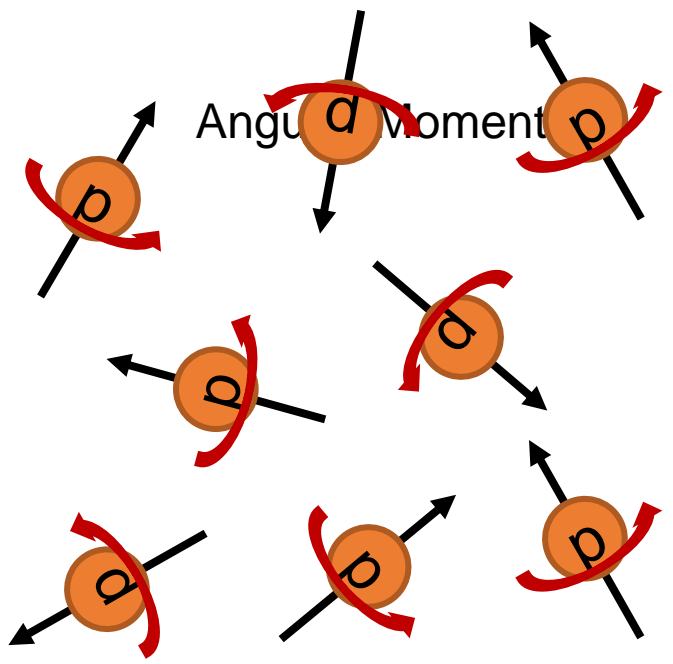
- Combination of different modalities on the same gantry to share the same patient table
- PET/MR Physical Principles
- Simultaneous or sequential acquisition of images
- Complementary information

PET/MR Magnetic Resonance

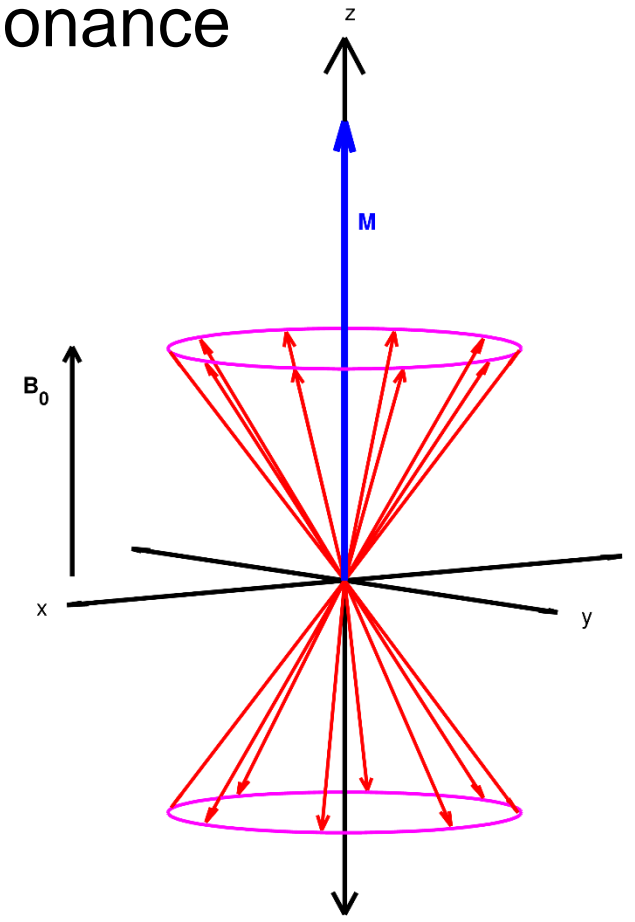


- Hydrogen nuclear magnetic resonance

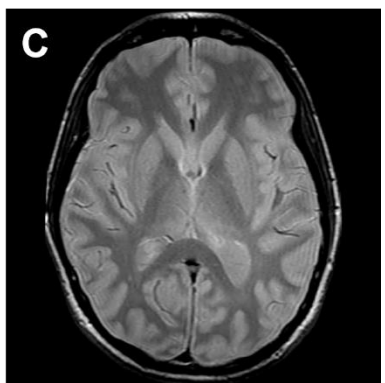
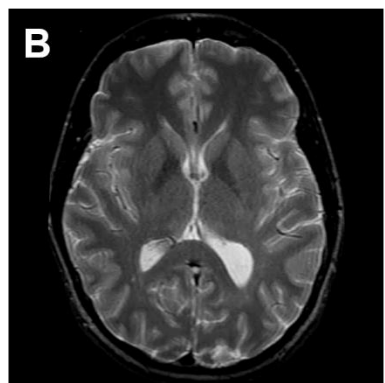
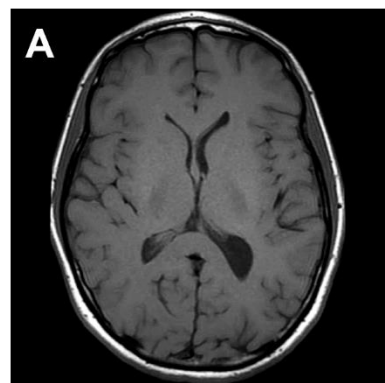
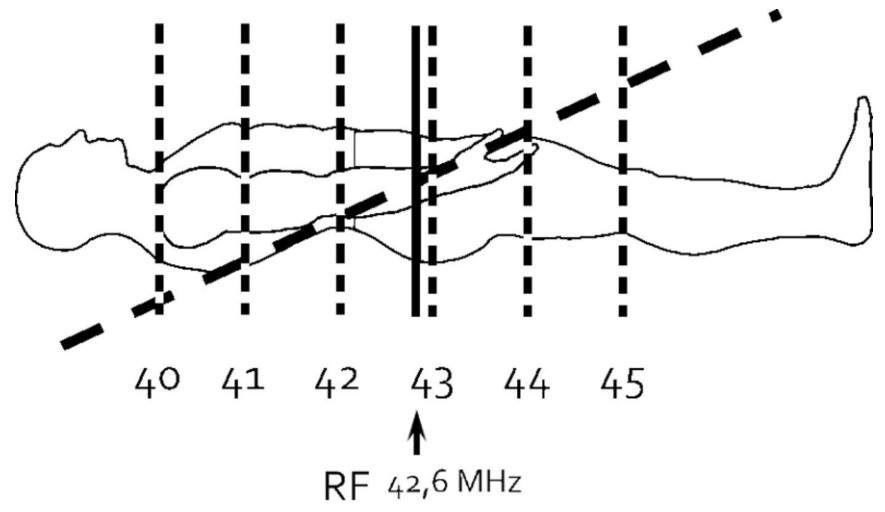
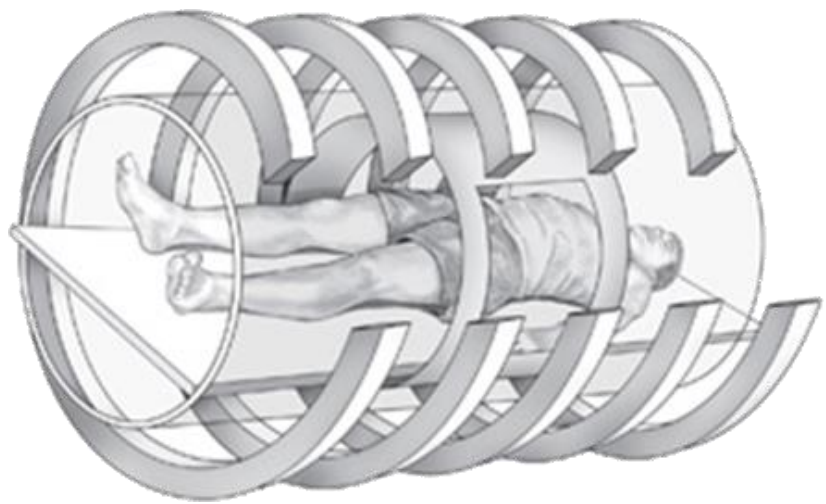
Small net magnetic field



External Magnetic Field



PET/MR Magnetic Resonance Imaging

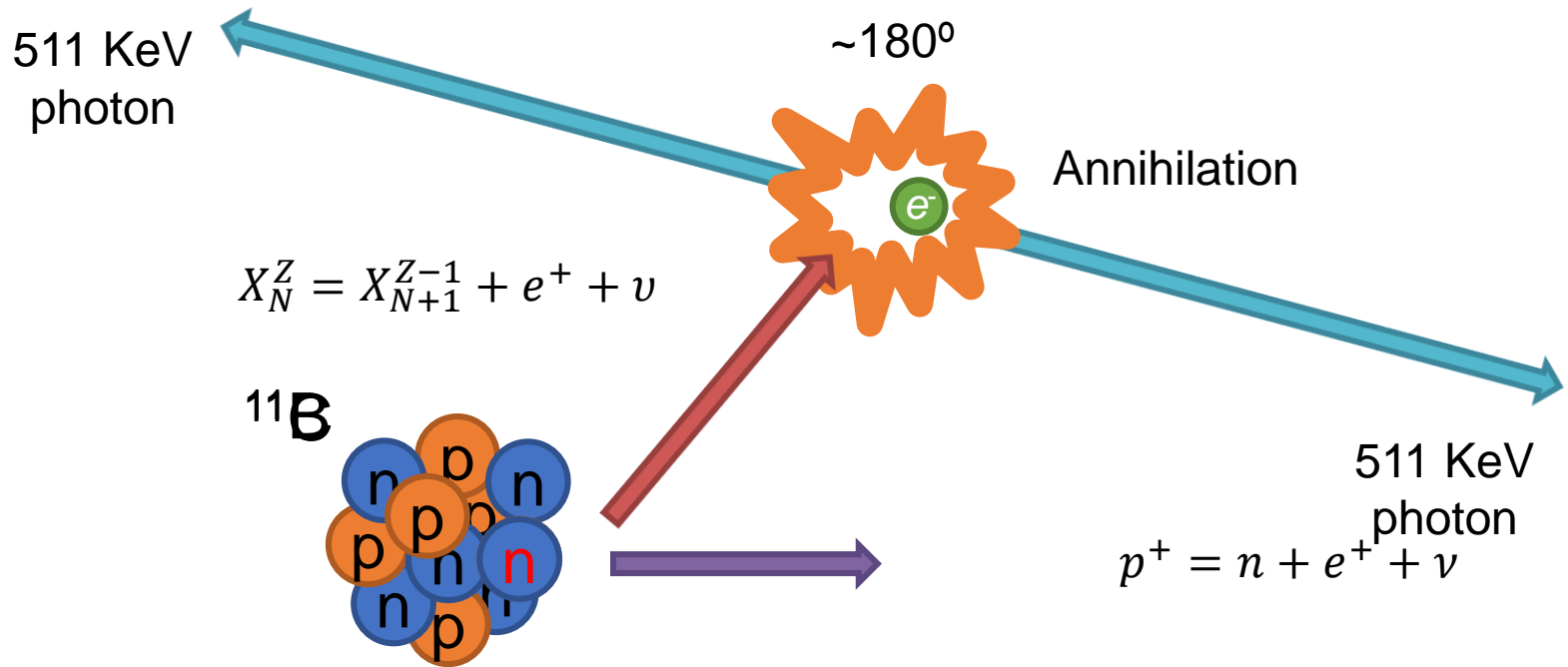


PET/MR

Positron Emission

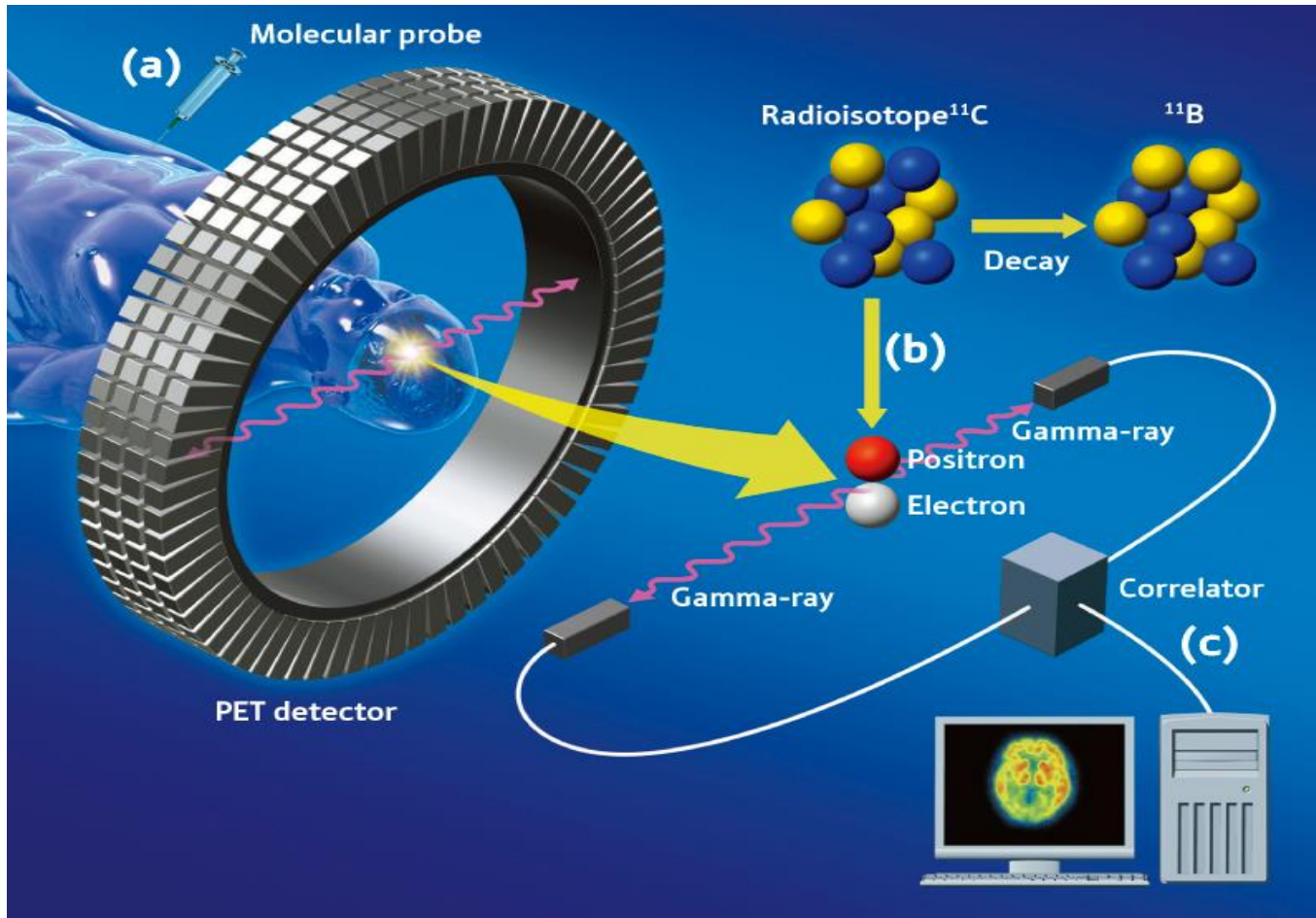


- Beta decay and positron annihilation

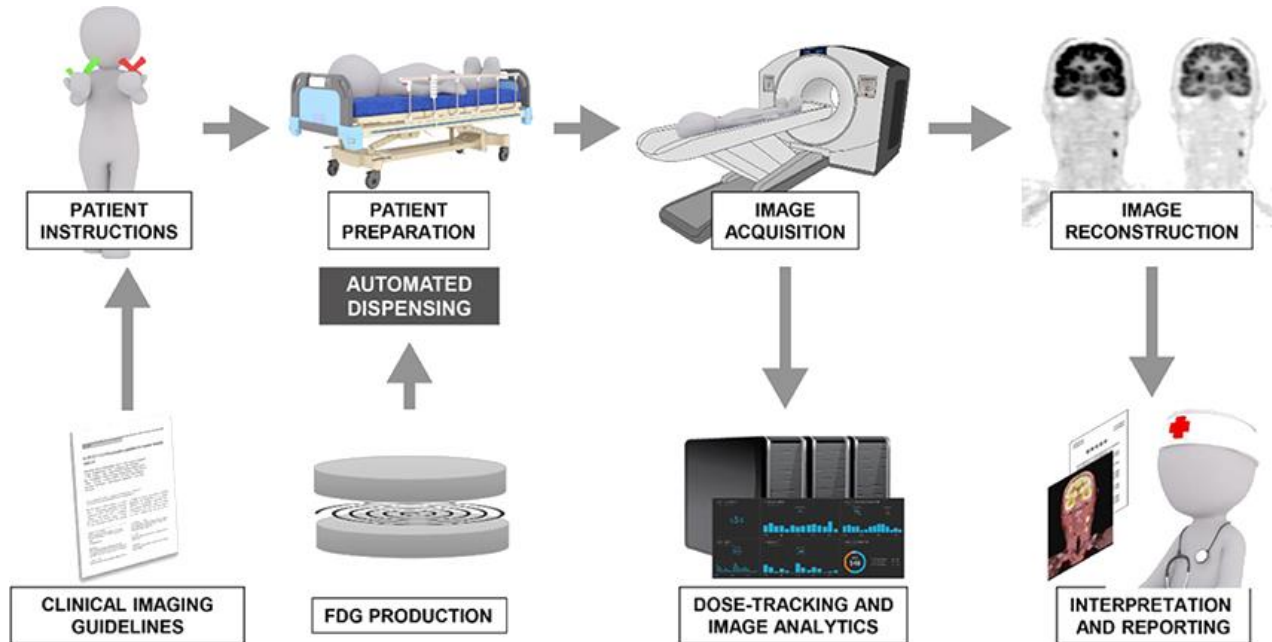


PET/MR

Positron Emission Tomography

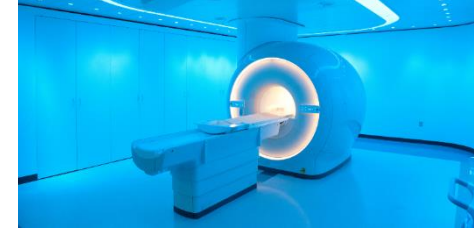


PET/MR Clinical Scanner Visit

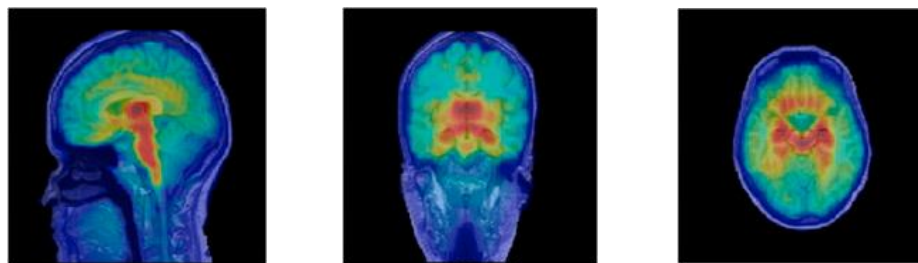


PET/MR

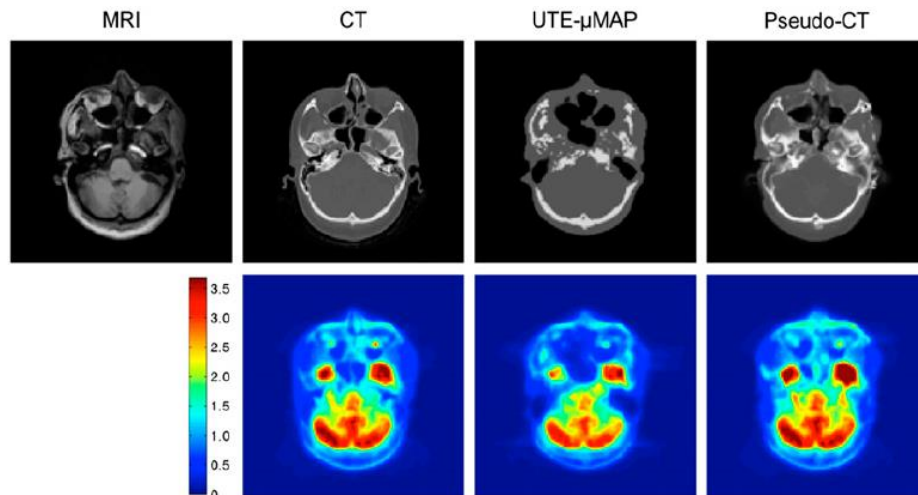
Data Visualization and Processing



- Data Visualization
 - LUT usage, window/level usage, modalities Fusion...



- Data Processing
 - Registration, ROI delimitation, feature extraction...



PET/MR

Tentative Schedule



- **14:30** Check-in and Introduction
- **15:00** PET/MR Imaging Theory and Applications
- **15:45** PET/MR Clinical Scanner Visit
- **16:15** PET/MR Data Visualization and Processing
Bring your laptop with 3D Slicer¹ installed!
- **17:00** Farewell

¹ <https://www.slicer.org/>

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