

# Modular PET scanning system that can be integrated into a MRI system

Stanford researchers have designed a modular PET scanning system that can be integrated into a MRI system. The proposed removable PET insert geometry enables a stand-alone MRI system to achieve large-field-of-view scanning, multi-bed body PET+MR studies appropriate for imaging any part of the body (e.g. the thorax) with large axial coverage.

In a conventional combined PET + MRI system, the two systems are permanently integrated together. This invention is lower cost and more flexible since it can be inserted into an existing stand-alone MRI system. However, current PET inserts to achieve PET+MRI have limited scanning capacity (e.g. head only). A key advantage of this invention is its ability to scan any part of the body.

## Stage of Development

- Lab-scale prototype

### Figure:

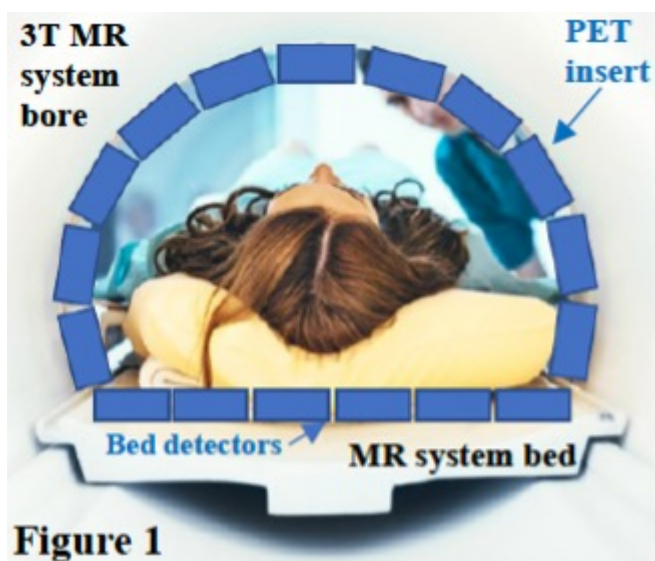


Figure 1

**Description** – PET insert

*Image credit* - Molecular Imaging Instrumentation Lab (MIIL)

## Applications

- **Dual modality - PET and MRI imaging**

## Advantages

- **Modular** – can be integrating into existing MRI systems
- **Lower cost:**
  - Does not require use of expensive cryogenics like helium-3
  - Does not require the use of magnetic fields (distinct from adiabatic demagnetization technologies)
- **Simplified process**
- **Technical advantages** such as minimal stray magnetic field

## Innovators

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