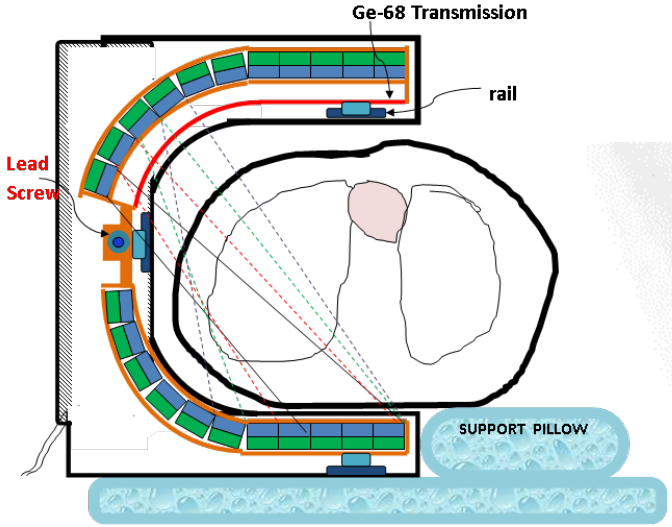
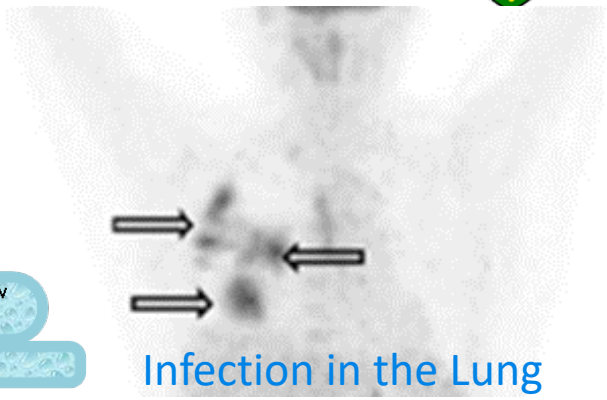
LMI: Lung Molecular Imager

Project Goals

There is a critical need for rapid evaluation and risk stratification of patients with COVID-19 that require care in the intensive care unit (ICU), many of which end up on ventilators with complicating acuter respiratory distress syndrome (ARDS) mediated by inflammation. Transporting highly Infectious Patient from ICU to Radiology is Almost Impossible. **We propose to develop a portable PET scanner for molecular imaging of lungs in the ICU.**





Infection in the Lung

Resources Needed

- Machine shop for fabrication of phantoms
- Mechanical Engineers for optimization of design
- Phantom and preclinical testing and validation of system to be performed in the Yale Translational Research Imaging Center

PI/Group

Albert J. Sinusas, MD (Yale)

Yale Translational Research Imaging Center (Y-TRIC)

Farhad Daghighian, PhD (Prescient Imaging)

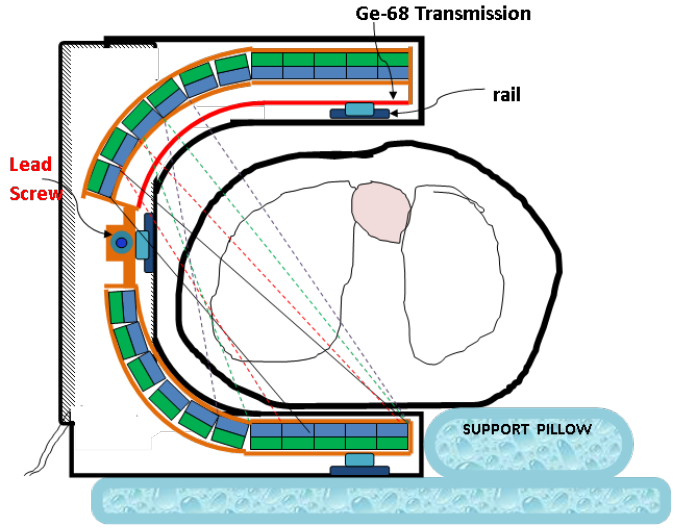
http://prescient-imaging.com/

LMI: Lung Molecular Imager

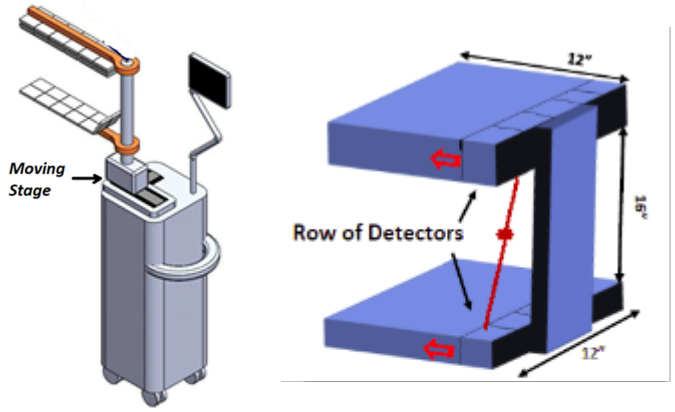
Portable PET Scanner for Imaging COVID-19 Patients in ICU

Current Approach

This is a collaborative project between Faculty at the Yale University School of Medicine and engineers at Prescient Imaging a start up company located in Southern California, with support of medical physicist at the University of Pennsylvania.



Dr. Farhad Daghighian of Prescient Imaging will be leading the hardware development efforts. **Dr. Albert Sinusas**, Director of Y-TRIC and Clinical Advanced Cardiovascular Imaging at Yale, will perform phantom, preclinical and clinical evaluation of the lung molecular imaging (LMI) system. **Dr. Joel Karp** of University of Pennsylvania will serve as a consult for development of reconstruction algorithms and time-of-flight reconstructions.



Mechanical Engineering:

- Need mechanical engineering support for design of cart and movement of detector gantry.