

Department of Nuclear Engineering

UC Berkeley

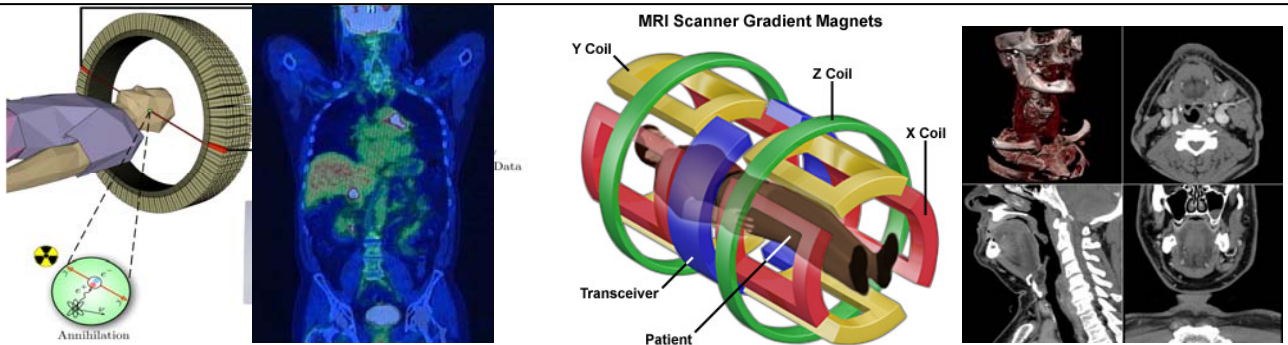
NE-107 - Introduction to Imaging

Prof. K. Vetter

T, Th 12:30-14:00

Two 80 min lectures per week, 3 units

Prerequisites: Basic atomic and nuclear physics, basic interaction of radiation with matter, basic knowledge of radiation detection and measurements.



This course introduces students to the fundamental concepts in imaging. Imaging is a widely used concept in biomedical research as well as disease diagnostics and therapy. It also finds applications in other areas such as astrophysics and homeland security or nuclear non-proliferation. We will focus on fundamental physics concepts in imaging that relies on electromagnetic radiation. This includes X-ray imaging and computed tomography (CT), nuclear emission imaging such as Single Photon Emission Tomography (SPECT) and Positron Emission Tomography (PET), and Magnetic Resonance Imaging (MRI).