AbstractID: 2635 Title: PET Site Planning and Radiation Safety

PET and PET/CT imaging are rapidly becoming standard-of-care for the diagnosis and staging of many medical conditions. This has led to a dramatic increase in the number of PET/CT installations. The design of such facilities, involving aspects of both nuclear medicine and radiology practice, presents some novel problems to the medical physicist. To address these difficulties, the designer needs to thoroughly understand the workflow in such facilities, the nature of the studies that are performed, the way in which to estimate patient workloads, and the computational approaches to radiation shielding design for high-energy photon emitters. These topics will be discussed and the basic design data for high-energy photon shielding will be reviewed. The AAPM has established a task group on PET and PET/CT Shielding Requirements. The preliminary report from this task group will be discussed and specific examples for the design of PET shielding will be given.

Educational Objectives:

1. To provide an overall understanding of the workflow, exam procedures, patient workloads, and radiation safety practices at PET and PET/CT imaging facilities.
2. To review the approaches and necessary data for calculating shielding requirements for PET isotopes.
3. To discuss the preliminary report of the AAPM task group on PET and PET/CT Shielding Requirements and provide some specific examples of the methods described in that report.