AbstractID: 7919 Title: Shielding Design Workshop with Practical Problems II

The application of the structural shielding design techniques and goals as outlined in AAPM Task Group Report 108: *PET and PET/CT Shielding Requirements* Medical Physics (Vol. 33., Issue 1 (2006)) will be the basis for this practical course. Actual facility designs will be used as the example calculations of required shielding for PET/CT installations. As the use of PET and PET/CT units expands rapidly in the medical arena, the requirements for providing adequate radiation protection for both occupational personnel in these facilities and the public in uncontrolled areas around them necessitate the involvement of a qualified medical physicist. The many areas involved in implementing a PET/CT program including the Hot Lab, Patient Uptake Rooms, Patient Restrooms, Scan Rooms, and Disposal areas will be used as practical examples of typical structural shielding designs and evaluation methods.

Educational Objectives:

1. Understand the exposure factors to be used for currently used PET isotopes to determine required structural shielding to meet exposure limits for occupational personnel and the public.
2. Understand the effectiveness of existing and additional structural shielding materials that provide radiation protection and methods to calculate the required amounts of these materials.
3. Understand the methods to be used in performing the shielding calculations of PET and PET/CT installations to insure adequate shielding to be provided to meet applicable state and ALARA requirements.