C3 - PET/CT Acceptance Testing and Quality Assurance and Quantitative PET/CT Imaging	
Osama Malawi – Chair (USA) Roger Fulton (USA) Cecil Robilotta (Brazil)	Based on AAPM TG 126 - PET/CT Acceptance Testing and Quality Assurance and AAPM TG 145 Quantitative Imaging Initiative: Quantitative PET/CT Imaging

The use of PET/CT imaging has consistently increased over the past few years primarily due to this imaging modality's ability to merge functional and anatomical information in a single imaging session thereby improving the radiologist's confidence in patient management and the medical oncologist in the assessment of a patient's treatment response. These improvements however depend on whether the scanner is properly calibrated and tuned. In this regard, a quality control/assurance (QC/QA) program must be performed at regular intervals to ensure the proper functioning of the equipment and to identify any degradation in performance before it has a significant impact on image quality. For a PET/CT system, this means that the operational integrity of the system is checked to ensure that all detectors and associated electronics are working properly. In addition, some of the system calibrations should be checked at regular intervals. The purpose of an effective quality control program is to catch potential problems early before they become more serious and may require repeat scans of the patients. The QC procedures become especially important if it is expected that the PET system produces accurate quantitative values such as SUVs that some clinicians use along with the images for patient management. PET scanner acceptance testing and accreditation are components of a QA/QC program. In this session we will describe PET/CT scanner QA and QC procedures and focus on acceptance testing of these systems as well as discuss accreditation criteria as per the American college of radiology (ACR). In addition the work of the AAPM task groups TG 145 and TG 126 will also be discussed and some of the challenges will be described. Factors affecting PET image quantification and current methods to mitigate these effects will also be described. The session will also include talks on basic physics of PET/CT imaging, data acquisition, and image generation as well as the emerging technologies in this imaging modality.

April 17th - Sunday	
8:00 - 9:00 am	Registration
9:00 - 9:15 am	Welcome and Introduction -
9:15 - 10:15 am	PET/CT basics - Cecil Chow Robilotta – University of Sao Paulo
10:15 - 10:45 am	Break
10:45 - 11:45 am	PET QA/QC and TG updates - Osama Mawlawi - MD Anderson Cancer Center
11:45 - 12:45 am	PET/CT quantification and artifacts - Cecil Chow Robilotta– University of Sao Paulo
12:45 - 2:00 pm	Lunch
2:00 - 3:00 pm	PET motion mitigation techniques - Roger Fulton - Westmead Hospital
3:00 - 3:30 pm	PET acceptance testing - Osama Mawlawi - MD Anderson Cancer Center
3:30 - 4:00 pm	Break
4:00 - 4:30 pm	PET accreditation - Osama Mawlawi- MD Anderson Cancer Center
4:30 - 5:30 pm	PET recent technology updates - Osama Mawlawi- MD Anderson Cancer Center