Quantitative Imaging Biomarkers Alliance RSNA

Application for QIBA Project Funding

Title of Proposal: QIBA FDG-PET/CT Digital Reference Object Project		
QIBA Committee/Subgroup: FDG PET/CT		
NIBIB Task Number(s) which this project addresses: 1, 2, 3 in Technical Validation Topic A.I. 'Define the variability problem, using reference objects'		
Project Coordinator or Lead Investigator Information:		
Last Name: Kinahan	First Name: Paul	Degree(s): PhD
Institution/Company: University of Washington		

Project Description: Construct a common reference DICOM PET/CT test image (Digital reference Object or DRO) as if generated by each vendor's PET/CT scanner. This will then be read on PET/CT display stations to check SUV computation fidelity and region of interest (ROI) analysis performance. This is motivated by the vendor-specific variations in the standardized uptake value (SUV) calculations.

It is well known that variations in the implementation of DICOM standards produce substantial quantitative differences in SUVs for the same image on different display stations. In addition, the behavior of ROI analysis tools (e.g. due to image interpolation) is rarely, if ever, quantitatively understood.