AbstractID: 2299 Title: The Advanced Technology QA Consortium (ATC)

Advanced technology clinical trials in radiation therapy have driven the need to acquire voluminous imaging datasets as well as radiotherapy treatment planning information for patients enrolled in these trials. Institutions participating in these trials must be able to submit imaging modalities as well as RT modalities (RT Structure Set, RT Plan, RT Dose, and RT image) to QA centers responsible for evaluating the plans and correlating dosimetric measures with patient outcomes. The NCI-sponsored Advanced Technology QA Consortium (ATC), which consists of the Image-Guided Therapy QA Center (ITC), Resource Center for Emerging Technologies (RCET), Radiological Physics Center (RPC), Quality Assurance Review Center (QARC), and the Radiation Therapy Oncology Group (RTOG) Headquarters Dosimetry Group, has been active in the development of an infrastructure to facilitate the digital data submission and QA review of a patient's treatment planning and verification data. Data review capabilities include web-based tools, which allow visualization of images, structure sets, dose distributions and dose volume histograms. The ATC treatment planning-verification (TPV) database represents the most comprehensive dataset available for patients treated with advanced technologies and will provide researchers the capability to access volumetric dose distributions, which can be evaluated with reference to segmented, volumetric patient image data and be correlated with the protocol outcome in order to develop robust dose-response models. Clinical physicists play a key role in support of these activities, particularly in achieving institutional credentialing and protocol compliance for these advanced technology clinical trials. Therefore, it is essential that they stay fully aware of the latest developments by the ATC and the advanced technology clinical trials.

Educational Objectives:
 (1) Participants will be presented with an overview of the ATC and its mission.
 (2) Participants will understand which RTP vendors provide RTOG or DICOM export capability that is ATC compliant and how this is achieved.
 (3) Participants will find out what digital data are required by the ATC supported protocols.
 (4) Participants will learn how to submit digital data to the ATC.
 (5) Participants will understand how to become credentialed for 3DCRT, IMRT, and brachytherapy protocols requiring digital data submissions.
 (6) Participants will learn the status of the current ATC supported protocols.