Since publication of the 2004 update to AAPM Task Group No. 43 Report (TG-43U1) and its 2007 supplement (TG-43U1S1), 11 new low-energy photon-emitting brachytherapy sources have become available. Many of these sources have satisfied the AAPM prerequisites for routine clinical purposes and are posted on the Brachytherapy Source Registry managed jointly by the AAPM and the Imaging and Radiation Oncology Core Houston Quality Assurance Center (IROC Houston). Given increasingly closer interactions among physicists in North America and Europe, the AAPM and the Groupe Européen de Curiethérapie-European Society for Radiotherapy & Oncology (GEC-ESTRO) have prepared another supplement/report containing recommended brachytherapy dosimetry parameters. This report (TG-43U1S2) was published in the September 2017 issue of Medical Physics. The proposed educational session will summarize this TG-43U1S2 report, present consensus datasets approved by the AAPM and GEC-ESTRO, outline methods used to formulate these consensus datasets, and review recommendations to vendors of brachytherapy sources and treatment planning systems. Also covered will be reference data for brachytherapy dosimetry investigations such as radionuclide source spectra and half-lives, reference dose scoring media, and TLD methodological corrections. Finally, observations on the behavior of consensus dosimetry parameters as a function of radionuclide, and the influence of consensus dataset grid size will be discussed.

Learning Objectives:
1. understand the method for deriving a consensus dataset and see 11 practical examples
2. become familiar with recommendations to vendors of brachytherapy sources and treatment planning systems
3. identify reference data for brachytherapy dosimetry investigations such as radionuclide source spectra and half-lives, reference dose scoring media, and TLD methodological corrections