Abstract ID: 17262    Title: Understanding exposure and deviation indices

As digital radiography systems began to be developed, manufacturers independently developed methods and terminology to express an exposure to their detectors. With each manufacturer having a different scheme, users quickly became confused when moving between equipment. The International Electrotechnical Commission (IEC) and AAPM both realized that there was a problem. Both organization simultaneously produced documents defining terminology and methods for a universal exposure index for general radiology. There was discuss between the groups, but differences between both documents emerged.

This lecture will discuss the terminology and calibration methods in both the AAPM Task Group 116 Report and IEC 62494-1, explain differences, and what it means in the clinic. Included will be practical issues related to implementation of the Exposure Index (EI) and the Deviation Index (DI), and how they related to the goals outlined in the TG 116 report.  Concluding with discussion on experimental results on how the EI and DI index varies with different clinical techniques.

Learning Objectives:
1. Understand AAPM recommendations,
2. Understand the IEC standard,
3. Understand factors that affect Exposure and Deviation Index values.