

1106-A0-136

Kyle Myers*, Division of Imaging and Applied Mathematics, Office of Science and Engineering Laboratories, Center for Devices and Radiological Health, US FDA. *Mathematical challenges in the evaluation of medical imaging.*

A wide variety of advanced medical imaging systems are under development by academia and industry with a broad range of performance characteristics and intended uses. New methods for supporting image interpretation using computer-aided diagnosis algorithms are also being developed for a broad range of diseases, organs, and imaging modalities. The evaluation of imaging devices and computer-aided diagnosis algorithms presents unique mathematical challenges owing to the large data sets involved and the need to consider the role of the human reader. This talk will discuss these challenges and the role of the FDA's Center for Devices and Radiological Health's imaging research program in bringing new medical imaging technologies to U.S. patients. (Received July 28, 2014)