C2 - Adapting Traditional Clinical Medical Physics to Digital Radiography	
Charles Willis - Chair (USA) J. A. Seibert (USA) Larry Filipow (USA)	Routine Testing of CR and DR Radiographic Systems

Digital radiography (DR) will ultimately replace conventional screen-film radiography. This workshop examines the impact of digital imaging technology on the Medical Physicist's traditional roles, and describes new opportunities in clinical and academic service. Broad topics of discussion include Comparisons of CR and DR, QC in the Digital Environment, and Professionalism. The new digital technology comes at a premium cost. Two competing technologies, CR and DR, have specific advantages in certain settings, but distinctions between the two are disappearing. Tests for DR systems can be extrapolated from conventional radiography; however, some must be modified to be meaningful. Full-field digital mammography is an example of how conventional testing has been adapted to digital systems. When DR systems are integrated into a PACS, specific accommodations are required to assure image fidelity from acquisition to display, and measurements based on pixel values are dependent on location in the imaging chain. The DICOM header contains a wealth of image information, and the Medical Physicist should know how to exploit this. Reject analysis can be adapted to the digital environment. A Medical Physicist's training and experience provides significant value during the conversion to digital operations. In-depth knowledge of the technology helps in the selection and purchase of appropriate DR systems. Knowledge of and adherence to radiation regulations permits proper and effective implementation via routine testing and commissioning of DR systems. Medical Physicists have a key responsibility for ensuring that clinical staff are properly educated as to how DR technology works and how to achieve "best practices". DR can easily promote unnecessary radiation. The Medical Physicist can assist in maintaining oversight of DR practice and performance. For example, the Medical Physicist can help to establish regional Diagnostic Reference Levels (DRLs) to achieve and maintain optimized image quality and minimized patient dose.

April 16th - Saturday	
8:00 – 9:00	Registration
9:00 - 9:15 am	Welcome – Charles Willis - UT M. D. Anderson Cancer Center
9:15 - 9:45 am	The cost of implementing digital imaging - Larry Filipow – University of Alberta
9:45 - 10:15 am	CR or DR? Does it matter? – Anthony Seibert – UC Davis
10:15 - 10:45 am	Break
10:45 - 11:15 am	A model for initial testing of DR systems - Charles Willis - UT M. D. Anderson Cancer Center
11:15 - 11:45 am	Objective measurements of DR performance in a digital environment - Charles Willis - UT M. D. Anderson Cancer Center
11:45 - 12:15 am	Assuring digital radiography image fidelity from acquisition to display - Anthony Seibert – UC Davis
12:15 am - 12:45 pm	Ten things techs and radiologists don't understand about DR (and the consequences) - Charles Willis - UT M. D. Anderson Cancer Center
12:45 - 2:00 pm	Lunch
2:00 - 2:30 pm	Professionalism in training technologists and radiologists - Larry Filipow – University of Alberta
2:30 - 3:00 pm	Mining the DICOM header - Anthony Seibert – UC Davis
3:00 - 3:30 pm	Reject analysis in a digital imaging operation - Charles Willis - UT M. D. Anderson Cancer Center
3:30 – 4:00 pm	Break
4:00 - 4:30 pm	Establishing regional DRLs for digital radiography - Larry Filipow – University of Alberta
4:30 - 5:00 pm	An American approach: MQSA for FFDM - Anthony Seibert – UC Davis
5:00 - 5:30 pm	Vendor-specific requirements for testing of FFDM - Larry Filipow – University of Alberta