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**MEDICAL DISPLAYS**


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Wednesday, May 23 / 9:00 – 10:20 am / Room 103

**Chair:**

**Tom Kimpe**, Barco-Medical Imaging Systems, Kortrijk, Belgium

**Co-Chair:**

**Eli Peli**, Schepens Eye Research Institute, Harvard Medical School, Boston, MA, U.S.A.

**15.1: *Invited Paper*: Influence of 8-bit vs. 11-bit Digital Medical Displays on Observer Performance and Visual Search (9:00)**

*E. Krupinski, H. Roehrig, J. Fan  
University of Arizona, Tucson, AZ, U.S.A.*

8- vs. 11-bit medical displays was evaluated. Six radiologists viewed 100 chest images. There was no significant difference in the ROC Az as a function of bit-depth. An average Az with 8 bits was 0.8284 and with 11-bits was 0.8253. There was a significant difference in viewing time favoring the 11-bit displays.

**15.2: *Distinguished Paper*: Assessment of Temporal Blur-Reduction Methods Using a Computational Observer that Predicts Human Performance (9:20)**

*H. Liang, S. Park, B. Gallas, A. Badano, K. Myers  
Food and Drug Administration, Rockville, MD, U.S.A.*

A method to assess the impact of techniques to improve the temporal response of LCDs based on measured or modeled temporal characteristics with a contrast-sensitive computational observer that predicts human performance will be reported. A method to compare different devices and temporal blur-reduction approaches will be discussed.

**15.3: Specificities of a Psychophysical Test Room Dedicated to Medical-Display Applications (9:40)**

*C. Marchessoux, T. Kimpe  
BARCO Medical Imaging Systems, Kortrijk, Belgium*

Specifications for implementing a test room for medical-display applications will be presented. The main use is to perform psychophysical studies in a controlled, normalized environment compliant with relevant standards. Such standards and norms exist for CRT displays but need to be adapted for studies using medical LCDs.

**15.4: The Visually Impaired Prefer TV Viewing Using a Contrast-Enhancement Consumer Product (10:00)**

*M. Fullerton, E. Peli  
Harvard Medical School, Boston, MA, U.S.A.*

Digivision image-enhancement technology was previously shown to benefit those with visual impairment. A device marketed for home-theater viewers with normal sight was found to benefit viewers with visual impairment, even with the standard settings, suggesting that the higher enhancement, not accessible from the user interface, may benefit the population even more.

**BREAK (10:20–10:40)**

**AUTHOR INTERVIEWS (6:30–7:30)**