



FINAL PROGRAM AT A GLANCE

Second Americas Display Engineering & Applications Conference



October 24 – 27, 2005

Doubletree Hotel & Executive Meeting Center
Portland, Oregon, U.S.A.

Tutorials

Monday, October 24 / 8:00 am – 5:30 pm

- T0.1: **Overview of Display Technologies and Applications**
Kimberly Allen, iSuppli Corp.
- T1.1: **Designing Cost-Effective LCD Products**
David Eccles, EcclesEng
- T1.2: **Display Design for Mobile-Phone Products**
James Zhuang, Motorola
- T1.3: **Projector Design Issues/System Considerations**
Matthew Brennesholtz, Insight Media
- T2.1: **PC-Based Control of Displays**
Ian Miller, Samsung Information Systems America
- T2.2: **Requirements for Plug and Play**
Jim Webb, DisplayLab
- T2.3: **LCD-TV Electronics**
Richard McCartney, National Semiconductor Corp.
- T3.1: **OLEDs: Status Report and Flexible Displays**
Eric Forsythe, Army Research Laboratory
- T3.2: **Color Considerations for AMLCDs**
Gabriel Marcu, Apple Computer
- T3.3: **Flat-Panel-Display Measurement Techniques and Concerns**
Ed Kelley, NIST

Instructor Interviews (5:30-6:15 pm)

Session 1: Keynote Session

Tuesday, October 25 / 8:30 – 10:10 am

- 1.1: **Keynote 1: The Universal Display – From Large to Small: How LCDs Do It All**
Brian Berkeley, V.P. LCD Business, Samsung Electronics, Asan, Korea
- 1.2: **Keynote 2: Living without Paper: The Next Step for the Man-Machine Interface**
Bert Keely, Architect, Mobile PCs and Tablet Technology, Microsoft Corp., Redmond, WA, U.S.A.

Session 2: Flat-Panel Measurement Standards

Tues., Oct. 25 / 10:30 am – 12:10 pm / Multnomah Room

- 2.1: **Invited Paper: Daylight- and Sunlight-Readability Measurement Methods**
Ed Kelley, NIST, Boulder, CO, U.S.A.
- 2.2: **High-Performance Display Testing**
Phillip Downen, Westar Display Technologies, Inc., Saint Charles, MO, U.S.A.
- 2.3: **Motion Artifacts: Performance Issues and How VESA Is Addressing Them**
Joe Miseli, Sun Microsystems, Menlo Park, CA, U.S.A.

Session 3: Military and Avionics Displays

Tues., October 25 / 10:30 am – 12:10 pm / Holladay Room

- 3.1: **Invited: Technology Challenges for Military and Avionics Displays**
Darrel Hopper, Air Force Research Lab., Wright-Patterson AFB, OH, U.S.A.
- 3.2: **Recent Trends in NVIS Requirements**
Greg Grabski, Korry Electronics, Seattle, WA, U.S.A.
- 3.3: **Evaluation of an Active-Matrix Electrophoretic-Ink Display for Aerospace Defense Applications**
Frederick M. Meyer, Denise L. Aleva, Darrel G. Hopper, Air Force Research Laboratory, Wright-Patterson AFB, OH, U.S.A.
Sam Longo, L3/Link Simulation & Training WPAFB, OH, U.S.A.
Terry Trissell, General Dynamics, WPAFB, OH, U.S.A.

Session 4: Backlight Technology

Tuesday, October 25 / 1:30 – 3:10 pm / Multnomah Room

- 4.1: **Invited Paper: LED Backlights: Boost to LCD TV**
Munisamy Anandan, Organic Lighting Technologies, del Valle, TX, U.S.A.
- 4.2: **Abridgement of Fluorescent-Lamp Technology for AMLCD Backlighting**
Richard P. Webster, LCD Lighting, Inc., Orange, CT, U.S.A.
- 4.3: **Recent Advances in LED Technology for LCD Backlighting**
Francis Nguyen, OSRAM Opto Semiconductors, San Jose, CA, U.S.A.

Session 5: HUD & HMDs

Tuesday, October 25 / 1:30 – 3:10 pm / Holladay Room

- 5.1: **Invited Paper: Head-Mounted Displays: Designing for the User**
James Melzer, Kaiser Electro-Optics, Carlsbad, CA, U.S.A.
- 5.2: **Displays for Driver Assistive Systems for Highway Vehicles**
Lee Alexander, Pi-Ming Cheng, Max Donath, Alec Gorjestani, Bryan Newstrom, and Craig Shankwitz, University of Minnesota, Minneapolis, MN, U.S.A.
- 5.3: **Primordial Soldier**
Randy L. Milbert, Primordial, Saint Paul, MN, U.S.A.

Session 6: Human Factors and Visual Science I: Gray Levels

Tuesday, October 25 / 3:40 – 5:20 pm / Multnomah Room

- 6.1: **Invited Paper: Resolution Is Not Enough: The Emotional Content of the Cinema Image**
Steven Poster and Glen Kennel, Texas Instruments, Dallas, TX, U.S.A.
- 6.2: **Visual System Processes Underlying the Visibility of Contouring Artifacts**
Scott Daly and Xiaofan Feng, Sharp Microelectronics of the Americas, Camas, WA, U.S.A.
- 6.3: **High-Dynamic-Range Imaging Pipeline**
Helge Seetzen and Greg Ward, Sunnybrook Technologies, Vancouver, BC, Canada
Lorne Whitehead, University of British Columbia, Vancouver, BC, Canada

Session 7: Industrial Displays

Tuesday, October 25 / 3:40 – 5:20 pm / Holladay Room

- 7.1: **Invited Paper: Solution-Processed OLED Emitters for Active-Matrix Full-Color Displays**
Gang Yu, DuPont Displays, Inc., Santa Barbara, CA, U.S.A.
- 7.2: **Softcopy Exploitation Display Hardware Performance Standard**
Michael Grote, National Geospatial Intel. Agency, Gaithersburg, MD, U.S.A.
- 7.3: **TFT-LCD Technology for Industrial Applications**
Noel Giamello, Sharp Microelectronics of the Americas, Camas, WA, U.S.A.

Session 8: Panel and Mounting Standards

Wednesday, October 26 / 8:15 – 9:55 am / Multnomah Room

- 8.1: **Invited Paper: Displays and Mounting Ergonomics**
Joel Hazzard, Ergotron, Inc., Alviso, CA, U.S.A.
- 8.2: **Benefits of VESA Notebook and Monitor Standards**
Joe Goodart, Dell Computer Corp., Austin, TX
- 8.3: TBA

Session 9: Emerging Technology

Wednesday, October 26 / 8:15 – 9:55 am / Holladay Room

- 9.1: **Invited Paper:** Flexible Displays: Present Work and Future Direction
Ghassan Jabbour, Flexible Display Center, Arizona State University, Tempe, AZ, U.S.A.
- 9.2: **The Potential Application of Electronic Paper**
Amy Chen, SiPix Imaging, Inc., Fremont, CA, U.S.A.
- 9.3: **iMOD Displays for Mobile Applications**
Gang Xu, Qualcomm, San Jose, CA, U.S.A.

Session 10: Current Display-Interface Standards

Wed., October 26 / 10:30 am – 12:10 pm / Multnomah Room

- 10.1: **Invited Paper:** VESA Digital Packet Video Link (DPVL) Standard and Its Applications
Kai Schleupen, Steve Millman, Takashi Matsui, Rainer Feuerstein, and Patrick Borberg, IBM T.J. Watson Research Center, Yorktown Heights, NY, U.S.A.
- 10.2: **An Overview of the VESA MDDI Standard**
George Wiley, Ali Mesri, Brian Steele, Qualcomm, San Jose, CA, U.S.A.
- 10.3: **Assuring Interoperability of HDMI Interface Standards**
Mike Martin, Tektronix, Inc., Beaverton, OR, U.S.A.

Session 11: Technologies for Portable Displays

Wed., October 26 / 10:30 am – 12:10 pm / Holladay Room

- 11.1: **Invited Paper:** Low-Power Displays for Mobile Devices
Holly Gates, E-Ink Corp., Cambridge, MA, U.S.A.
- 11.2: **PenTile Matrix Displays and Drivers**
Candice Brown Elliott, Clairvoyante, Inc., Sebastopol, CA, U.S.A.
- 11.3: **Mobile-Device Business Size and Forward-Looking Cellular-Phone Market Trends**
Victor Yin, Motorola, Libertyville, IL, U.S.A.

Session 12: Future Display Interfaces

Wed., October 26 / 1:30 – 3:10 pm / Multnomah Room

- 12.1: **Invited Paper:** Overview of DisplayPort
Bruce Montag, Dell Computer Corp., Austin, TX, U.S.A.
- 12.2: **DisplayPort Electrical/Protocol**
Alan Kobayashi, Genesis Microchip, Alviso, CA, U.S.A.
- 12.3: **Panel Discussion: Q & A**
Bill Lempesis, VESA, Milpitas, CA, U.S.A.

Session 13: Late-News Papers

Wed., October 26 / 1:30 – 3:10 pm / Holladay Room

- 13.1: **Invited Paper:** The Last Three Feet
Mark Thomas, ATI Research, Redmond, WA, U.S.A.
- 13.2: **PlayAnywhere: A Compact Computer-Vision-Based Tablettop Interactive Display**
Andy Wilson, Microsoft Research, Redmond, WA, U.S.A.
- 13.3: **High Performance Display Testing**
Philip Downen, Westar Display Technologies, St. Charles, MO, U.S.A.

Session 14: The Impact of PC/TV Convergence on Standards

Wed., October 26 / 3:55 – 5:35 pm / Multnomah Room

- 14.1: **Invited Paper:** PC/TV Convergence
Robert Myers, Hewlett-Packard Co., Fort Collins, CO, U.S.A.
- 14.2: **Reconciling EDID Requirements in a Converged World**
Alain D'Hautecourt, ViewSonic Corp., Walnut, CA, U.S.A.
- 14.3: TBA

Session 15: Human Factors II: Colors

Wednesday, October 26 / 3:55 – 5:35 pm / Holladay Room

- 15.1: **Invited Paper:** Color-Matching Issues in Multi-Primary Displays
Michael Brill, Datacolor, Lawrenceville, NJ, U.S.A.
James Larimer, NASA/AMES Research Cent, Half Moon Bay, CA, U.S.A.
- 15.2: **Optimal Rendering for Color Matrix Displays**
Louis Kerofsky and Dean Messing, Sharp Laboratories of the America, Camas, WA, U.S.A.
- 15.3: **An Application of Optimal Rendering to Visually Mask Defective Subpixels**
Dean Messing and Louis J. Kerofsky, Sharp Laboratories of the Americas, Camas, WA, U.S.A.

Session 16: Digital-TV Systems

Thurs., Oct. 27 / 8:15 am – 9:55 am / Willamette Ballroom

- 16.1: **Invited Paper:** Designing Electronics for the Human Visual System
Craig Verbeck, Pixelworks, Inc., Tualatin, OR, U.S.A.
- 16.2: **System-on-Silicon Solution for High-Quality HDTV Video Deinterlacing and Frame-Rate Conversion for Flat-Panel Displays**
Markus Schu, Peter Rieder, Christian Tuschen, Gunter Scheffler, and Heinz Bonnenberg, Micronas GmbH, Munich, Germany
- 16.3: **Silicon TV Tuners Will Replace Can Tuners as Transistors Replaced the Vacuum Tube**
Ramon Cazares, Xceive Corp., Santa Clara, CA, U.S.A.

Session 17: Medical Displays

Thursday, October 27 / 8:15 – 9:55 am / Pacific NW Ballroom

- 17.1: **Invited Paper:** Current Challenges in Medical Displays
Aldo Badano, CDRH/FDA, Rockville, MD, U.S.A.
- 17.2: **Solving the Problem of Defective Pixels in LCDs by Making Defects Invisible**
Tom Kimpe, Stefan Coulier, and Etienne Dorval, Barco-Medical Imaging Systems, Kortrijk, Belgium
- 17.3: **Studying the Effect of Physics-Based Enhancement on LCDs (IBM's 9.2 Mpixel) and CRTs (Barco's 5 Mpixel) on X-Ray Mammograms Acquired Using Fuji Field Digital Mammography and Ultrasound (FFDMUS) System**
Ananth Poolla, Yajie Sun, and J.S. Suri, Fischer Imaging, Denver, CO, U.S.A.

Session 18: Large-Area Displays

Thurs., October 27 / 10:30 am – 12:10 pm / Multnomah Room

- 18.1: **Invited Paper:** Making Dreams a Reality for the Large-Area LCD Market
Tom Spears, Sharp Microelectronics of the Americas, Camas, WA, U.S.A.
- 18.2: **Using Adaptive Image Contrast-Enhancement Technique (ACET) to Improve the Moving-Picture Quality of TFT-LCD TV Modules**
K-H. Liu, C-L. Wu, C-C. Yu, M-W. Huang, J-Y. Huang, W-T. Tseng, H-T. Yu, Chunghwa Picture Tubes, Ltd., Taoyuan, Taiwan
- 18.3: **TDEL Evolution: Moving Large-Area iEL Toward Commercialization**
Vince Pugliese, iFire Technology, Inc., Toronto, Ontario, Canada

Session 19: Stereoscopic and 3-D Displays

Thurs., Oct. 27 / 10:30 am – 12:10 pm / Pacific NW Ballroom

- 19.1: **Invited Paper:** Changes in the Stereoscopic Display Industry
Boyd MacNaughton, MacNaughton, Inc., Beaverton, OR, U.S.A.
- 19.2: **Single-Lens Single-Chip 3-D Projector**
Chris Ward, Lightspeed Design Group, Bellevue, WA, U.S.A.
- 19.3: **The StereoMirror: A High-Performance Stereoscopic 3-D Display Design**
Scott Robinson, Adi Abileah, and Patrick Green, Planar Systems, Inc., Beaverton, OR, U.S.A.

Session 20: Projection Displays

Thurs., October 27 / 1:30 – 3:10 pm / Willamette Ballroom

- 20.1: **Invited Paper:** Gjallar: A Protocol for Software Controllable Projection Devices
Brant Sears, InFocus Systems, Wilsonville, OR, U.S.A.
- 20.2: **Four-Primary-Color LCOS Projection System**
M-D. Chou, S-M. Wu, S-J. Chiou, and C-N. Mo, Chunghwa Picture Tubes, Ltd., Taoyuan, Taiwan
- 20.3: **LCOS Projection Display on Users Preferred Image Quality and Temperature Measurement for Microdisplays**
C-C. Chen, S-M. Wu, and C-N. Mo, Chunghwa Picture Tubes, Ltd., Taoyuan, Taiwan
R. Lue, eLCOS Microdisplay Technology, Inc., Taipei, Taiwan, R.O.C.

Session 21: Desktop Monitors and TVs

Thurs., October 27 / 1:30 – 3:10 pm / Pacific NW Ballroom

- 21.1: **Invited Paper:** Overview of U.S. Market Trends in Large-Format LCD Monitors and TVs
Rob Baumgartner, Planar Systems Inc., Beaverton, OR, U.S.A.
- 21.2: **Developments in TFT-LCDs and Their Impact on the Evolving TV and Desktop-Monitor Markets**
Sweta Dash, iSuppli Corp., Santa Clara, CA, U.S.A.
- 21.3: **Software-Managed Displays: Not Just an OSD Replacement**
Scott Anderson, Portrait Displays, Inc., Pleasanton, CA, U.S.A.

Session 22: Dynamic Signage

Thurs., October 27 / 3:55 – 5:35 pm / Willamette Ballroom

- 22.1: **Invited Paper:** Display Systems for Use in Digital Signage Applications
John Fogarty, Clarity Visual Systems, Wilsonville, OR, U.S.A.
- 22.2: **Large-Format Digital Display Applications that Pay for Themselves: The Magic of Narrowcasting at Universities**
Candace Petersen, InFocus Corp., Wilsonville, OR, U.S.A.
- 22.3: **Cholesteric LCDs: Applications, Interface, and Integration**
Duene Marhefka, Nick Miller, Todd Ernst, Keith Bellamy, Joel Domino, and Asad Khan, Kent Displays, Inc., Kent, OH, U.S.A.

Session 23: Touch Panels and Enhancement Films

Thurs., October 27 / 3:55 – 5:35 pm / Pacific NW Ballroom

- 23.1: **Invited Paper:** Integrating Touch Screens and Optical Films: When, Where, and How?
Shane DeWitt, 3M Touch Systems, Methuen, MA, U.S.A.
- 23.2: **Selecting Resistive Touch Panels to Match the LCD and User Application**
Bruce DeVisser, Fujitsu Components America, Inc., Sunnyvale, CA, U.S.A.
- 23.3: **A Versatile Touch Technology**
Gerald Morrison, SMART Technologies, Inc., Calgary, Alberta, Canada