



SOCIETY FOR INFORMATION DISPLAY  
METROPOLITAN DETROIT CHAPTER

# Vehicle Displays & Interfaces 2011

## 18th Annual Symposium

OCTOBER 20 & 21, 2011 | FAIRLANE CENTER, UNIVERSITY OF MICHIGAN - DEARBORN, MICHIGAN | <http://www.sidmembers.org/StaticContent/DE//18thvd.html>

### Organizing Committee:

Mr. Mark Larry  
Co-General Chair

Mr. Steven Stringfellow  
Co-General Chair

Mr. Robert Drury  
Co-General Chair

Mr. Werner Eckardt  
Co-Program Chair

Mr. Silviu Pala  
Co-Program Chair

Mr. Bruce Banter

Dr. Vivek Bhise

Dr. Vyacheslav Birman

Mr. Michael Boyd

Mr. Robert Donofrio

Dr. Darrel G. Hopper

Prof. Jerzy Kanicki

Mr. David Rousseau

Dr. John Troxell

Mr. Nick Vergith

Mr. Scott Griesmann

### Exhibitors:

Continental Automotive

Digital Dash Limited

Konica Minolta Sensing Materials

Market Tech, Inc.

Microvision

Monotype Imaging

Multek

Nanofilm

Osram Opto Semiconductors

Sharp Microelectronics of the Americas

SHOEI Co, Ltd.

SMK Electronics Corp.

Westboro Photonics

### Panelists (Session 6):

**Linda Angell**  
(VTECH)

**Bruce Banter**  
(Tech-DP)

**Michael Flannagan**  
(UMTRI)

**Louis Tijerina**  
(Ford Technical Expert on Human Factors)

### Sponsors:



## AGENDA

### THURSDAY, OCTOBER 20, 2011

- 8:00 am – 8:30 am **REGISTRATION AND REFRESHMENTS**
- 9:00 am – 5:00 pm **TABLETOP EXHIBITS OPEN**
- 8:30 am – 8:35 am **WELCOMING REMARKS**  
Silviu Pala, *Denso International America, Southfield, MI*
- 8:35 am – 9:20 am **KEYNOTE ADDRESS - Advanced Display Technologies are Blurring the Boundary Between Design and HMI and Have Become a Differentiator for Automotive OEMs**  
Jim Buczkowski, *Ford Motor Company, Dearborn, MI*
- 9:20 am – 10:05 am **KEYNOTE ADDRESS - Advanced Driver HMI Technologies Require New Display Solutions**  
Bert Wolfram, *Continental Corporation, Auburn Hills, MI*
- 10:05 am – 10:45 am **Refreshment Break (Tabletop Area)**
- SESSION 1: Automotive Market & Technology Tutorial (10:45 am – 12:00 pm)**  
Co-Chairs: **M. Boyd**, *Yazaki North America, Canton, MI*; **J. Troxell**, *Consultant, Sterling Heights, MI*
- 10:45 am – 11:15 am **1.1 INVITED ADDRESS**  
**Automotive Display Market Update**  
J. White, *iSuppli Corporation, Santa Clara, CA*
- 11:15 am – 12:00 pm **1.2 TUTORIAL - Touch Screen Technology**  
G. Walker, *IMS Research, Milpitas, CA*
- 12:00 pm – 1:30 pm **LUNCH (Tabletop Exhibits Open)**
- SESSION 2: Display, Sensing and Lighting Technologies Applicable to Vehicle Applications (1:30 – 2:50 pm)**  
Co-Chairs: **D. Rousseau**, *OSRAM Opto Semiconductors, Northville, MI*; **D. Harbach**, *Peterbilt Motors Company, Denton, TX*
- 1:30 pm – 1:50 pm **2.1 Study of LCD Edge Stain Using the VALC Process**  
D. Won, J. Kim, C. Shin, S. Park, and J.Yoon, *LG Display Co., Ltd., Gumi City, Korea*
- 1:50 pm – 2:10 pm **2.2 Scanned Beam Laser Technology Combined with Direct Green Laser Diodes Offers a Configurable Automotive HUD Solution with Superior HMI Performance**  
L. Evans and M. Freeman, *MicroVision, Inc., Redmond, WA*
- 2:10 pm – 2:30 pm **2.3 DMS Display for HUD Imager Applications**  
E. Buckley, *Pixtronix, Inc., Andover, MA*
- 2:30 pm – 2:50 pm **2.4 Spatial 3D Touch Recognition Based On Integritouch Capacitive InCell Technology**  
A. Kopietz, *Elektrosil Systeme der Elektronik GmbH, Hamburg, Germany*
- 2:50 pm – 3:20 pm **Refreshment Break (Tabletop Area)**
- SESSION 3: Application Issues with Vehicular Displays and Lighting (3:20 – 4:40 pm)**  
Co-Chairs: **V. Birman**, *Continental Corporation, Auburn Hills, MI*; **B. Donofrio**, *Display Device Consultants LLC, Ann Arbor, MI*
- 3:20 pm – 3:40 pm **3.1 Unique Reconfigurable Display Specifications And Applications For Commercial Vehicles**  
D. Harbach, *Peterbilt Motors Company, Denton, TX*
- 3:40 pm – 4:00 pm **3.2 Optical Measurements for Physico-Realistic Rendering of Displays**  
V. Leroux, *ELDIM, Herouville, Saint Clair, France*
- 4:00 pm – 4:20 pm **3.3 Displays for Challenging Environments**  
P. Moorhouse, *OPTIS North America, Troy, MI*
- 4:20 pm – 4:40 pm **3.4 Automotive Application of a 2D OpenVG Graphics Engine to Deliver a High Performing User Interface**  
L. Huffman, *Visteon Corporation, Van Buren Township, MI*

### FRIDAY, OCTOBER 21, 2011

- 8:00 am – 8:30 am **REGISTRATION AND REFRESHMENTS**
- 9:00 am – 12:00 pm **TABLETOP EXHIBITS OPEN**
- SESSION 4: Human Vehicle Interface (HMI) and System Solutions (8:00 am – 9:50 am)**  
Co-Chairs: **V. Bhise**, *University of Michigan, Ann Arbor, MI*; **J. Greenberg**, *Ford Motor Company, Dearborn, MI*
- 8:30 am – 8:50 am **4.1 Enhancing Touchscreen Experience by Adding Proximity Detection and Haptics Feedback**  
C. Rouaissia, *SEMTECH, Neuchatel, Switzerland*
- 8:50 am – 9:10 am **4.2 Anti-fingerprint Coating Applications for Automotive Touchscreen Displays**  
B. Wilson and D. Fiore, *North American Coating Laboratories, Mentor, OH*
- 9:10 am – 9:30 am **4.3 A Novel HMI for Automotive Infotainment using a Short-Throw Projector**  
T. Pryor, *Digital Dash Ltd., Hamilton, ON, Canada*
- 9:30 am – 9:50 am **4.4 Font Improvements in Cockpit Displays and their Relevance to Automobile Safety**  
S. Matteson, *Monotype Imaging, Woburn, MA*
- 9:50 am – 10:15 pm **Refreshment Break (Tabletop Area)**
- SESSION 5: Advanced Display Technologies (10:15 am – 11:55 am)**  
Co-Chairs: **B. Banter**, *Tech-D-P Inc., Northville, MI*; **J. Kanicki**, *University of Michigan, Ann Arbor, MI*
- 10:15 am – 10:45 am **5.1 Tutorial - a-InGaZnO Thin Film Transistors Active Matrix Flat Panel Displays**  
J. Kanicki, *University of Michigan, Ann Arbor, MI*
- 10:45 am – 11:15 am **5.2 Invited Address - Advantage of New Material Technology for Automotive Display**  
M. Kitamura, B. Petku, T. Makii and H. Asano, *Sharp Corporation, Mie, Japan*
- 11:15 am – 11:35 am **5.3 Analytical Models of Synchronized Dual-Gate a-IGZO TFTs**  
G. Baek and J. Kanicki, *University of Michigan, Ann Arbor, MI*
- 11:35 am – 11:55 am **5.4 Solution-Processed Zinc Oxide-Based Thin Film Transistors for Display Backplanes**  
W. Hu and R.L. Peterson, *University of Michigan, Ann Arbor, MI*
- 11:55 am – 1:00 pm **LUNCH (Pizza and drinks)**

### SESSION 6: PANEL DISCUSSION

#### Displays for Situation Awareness-What and How to Achieve It (1:00 - 3:30 pm)

Co-Moderators: **J. Greenberg**, *Ford Motor Company, Dearborn, MI*; **S. Pala**, *Denso International America, Southfield, MI*

Confirmed Panelists: **Linda Angell**, *VTECH*; **Bruce Banter**, *Tech-DP*; **Michael Flannagan**, *UMTRI*; **Louis Tijerina**, *Ford Technical Expert on Human Factors*