

**SID VEHICLE DISPLAYS AND INTERFACES 2018**  
**25<sup>th</sup> ANNUAL SYMPOSIUM & EXPO**  
**PROGRAM**

September 25-26, 2018  
Burton Manor Conference Center  
Livonia, MI

**TUESDAY, SEPTEMBER 25, 2018**

7:30 – 8:30 am      **REGISTRATION AND REFRESHMENTS**

9:00 am – 5:00 pm   **TABLETOP EXHIBITS OPEN**

8:30 – 9:00 am      **Welcoming Remarks**  
**25<sup>th</sup> Anniversary Presentation**  
**Local SID Chapter Awards**  
Bob O'Brien, *Display Supply Chain Consultants, Ann Arbor, MI*  
Silviu Pala, *Automotive Display, Southfield, MI*

9:00 – 9:45 am      **KEYNOTE ADDRESS**  
**Voice of the Customer: Displays as a Trust Enabler**  
Kristin Kolodge, Executive Director of Driver Interaction and Human  
Machine Interface (HMI)  
*J.D. Power, Troy, MI*

9:45 – 10:00 am    **Refreshment Break**

**SESSION 1: AUTOMOTIVE MARKET (10:00 – 11:00 am)**

*Co-Chairs:*      Silviu Pala, *Denso International America, Southfield, MI*  
                         Michael Boyd, *Yazaki North America, Canton, MI*

10:00 – 10:20 am    **INVITED ADDRESS**  
**1.1                    Evolving Technologies and Supply Chain in**  
**Automotive Display Segments**  
Brian Rhodes, *IHS Markit, Southfield, MI*

10:20 – 10:40 am    **INVITED ADDRESS**  
**1.2                    Automotive Touch, ADAS, Touchless Control, Smart Windows Market**  
**Forecast**  
Jennifer Colegrove, *Touch Display Research, Inc., Santa Clara, CA*

10:40 – 11:00 am    **INVITED ADDRESS**  
**1.3                    Global Display Industry Markets and Technologies**  
Bob O'Brien, President  
*Display Supply Chain Consultants, Ann Arbor, MI*

**SESSION 2: EXHIBITOR PRESENTATIONS (11:00 am – 12:30 pm)**

*Co-Chairs:* Bruce Banter, *Tech-D-P Inc., Northville, MI*  
Eric Miciuda, *Continental Corporation, Auburn Hills, MI*

12:30 – 2:00 pm      **LUNCH**

**SESSION 3: Poster Presentations (2:00 – 2:45 pm)**

*Co-Chairs:* David Lambert, *Panasonic, Newark, NJ*

- P.1      New Grade of Automotive Optically Clear Adhesives Enable Future Applications**  
Will Edmonds and Olivier Wang, *3M, St. Paul, MN*
- P.2      UV-durable, Water Repellent Coatings for Automotive Applications**  
Janet Maxwell, *Daikin Automotive Innovation Center, Wixom, MI*
- P.3      UV/Moisture Dual Curing Silicone Optical Bonding Resins for Automotive Display**  
Robert 吴博, *Dongguang Polomo New Materials Technology Development, Dongguan, Guangdong, China*
- P.4      Improvement the Automotive Photo Alignment Image Sticking by Optimizing the Crosslinking of Alignment Layer**  
Zhongyi Wan, Jiandong Wang, Fan Tian, Xiongping Li, *Tianma Corporation, Shanghai, China*
- P.5      Polyurethane OCA Suitable for Optical Bonding with Plastic Cover Materials**  
Yuke Yabuta, *BANDO Chemical Industries, Ltd., Tokyo, Japan*
- P.6      Functional Films for Vehicle Displays Application**  
Nizamidin Jappar, *Kimoto Tech, Cedartown, GA*

2:45 – 3:00 pm      **Refreshment Break**

**SESSION 4: New Display Solutions (3:00 – 6:00 pm)**

*Co-Chairs:* Bob O'Brien, *Display Supply Chain Consultants, Ann Arbor, MI*  
Jerzy Kanicki, *University of Michigan, Ann Arbor, MI, USA*

- 3:00 – 3:20 pm      **Carbon Fiber TIM Thermal Solution Investigation**  
**4.1      For Maximizing System Power**  
Hiroyuki Ryoson and Sergey Bolotov, *Dexerials Corporation, Shimotsuke, Tochigi, Japan*  
Robert Wilder, *Dexerials Corporation, Detroit, MI*  
Jingting Wu, *Dexerials Corporation, San Jose, CA*

Pengwei Sun and Brian Chu, *Infineon Technologies AG, El Segundo, CA*  
Alfred Hesener, *Infineon Technologies AG, Munich, Bavaria, Germany*

- 3:20 – 3:40 pm  
**4.2**      **Advanced Performance a-Si TFT-LCD Display for High Standard Automotive Applications**  
Baosheng Feng, Yongli Yao, Jiandong Wang, Fan Tian, Meilin Wang, Xiongping Li, *Tianma Corp., Shanghai, China*
- 3:40 – 4:00 pm  
**4.3**      **Effects of a-Si TFT's Leakage Current on Vehicle Image Sticking**  
Fucheng Lv, Wenjun Dai, Jiandong Wang, Yang Yu, Fan Tian, Xiongping Li, *Tianma Microelectronics CO, Shanghai, China*
- 4:00 – 4:20 pm  
**4.4**      **Requirements on the Characterization of Optical Display Attributes for Automotive Applications**  
Ingo Rotscholl, Udo Kruger, *TechnoTeam Bildverarbeitung GmbH, Ilmenau, Germany*
- 4:20 – 4:40 pm  
**4.5**      **A-Si TFT LCDs Freeform Design for Automotive Application**  
Shumian Xu, Wenjun Dai, Meilin Wang, *Tianma Micro-Electronics Group, Shanghai, China*
- 4:40 – 5:00 pm  
**4.6**      **Advanced Compensation Technology for AMOLED Automotive Displays**  
SJ Tang, *Ignis Innovation Inc., Waterloo, Ontario, Canada*
- 5:00 – 5:20 pm  
**4.7**      **Mini-LED Enhanced High Dynamic Range LCD for Automotive Displays**  
Yuge Huang, Guanjun Tan, Shin-Tson Wu, *College of Optics and Photonics, University of Central Florida, Orlando, FL*
- 5:20 – 5:40 pm  
**4.8**      **The Curved Automotive Displays; Its Materials and Process 2018**  
Takeshi Mori, *SCREEN Laminatech Co., Ltd., Osaka, Japan*
- 5:40 – 6:00 pm  
**4.9**      **Hard Coated Plastic Film for Cover Lens of Flat and 3D Shape Display**  
Shintaro Ozaki, *Riken Technos, Japan*

## **SESSION 5: Featured Speaker Followed by Open Audience Interaction**

*Moderator:* Bob O'Brien, *Display Supply Chain Consultants, Ann Arbor, MI*

- 6:00– 7:15 pm      **Design of Automation Behavior and Interfaces in Support of Human-Machine Teaming**  
Dr. Nadine Sarter, *University of Michigan, Ann Arbor, MI*
- 7:30 – 9:00 pm      **Optional Dinner at Burton Manor**  
**Additional Charge (See Registration Form)**

## WEDNESDAY, SEPTEMBER 26, 2018

7:30 – 8:00 am **REGISTRATION AND REFRESHMENTS**

9:00 am – 12:00 pm **TABLETOP EXHIBITS OPEN**

### **TUTORIAL (8:00 -8:30 am)**

**8:00 – 8:30 am**      **Spectral Factors Influencing Visibility and Appearance of Automotive Displays**

John Bullough, *Lighting Research Center, Rensselaer Polytechnic Inst., Troy, NY*

### **SESSION 6: METROLOGY (8:30 -10:10 am)**

*Co-Chairs:*      Kimberly Peiler, *OSRAM Opto Semiconductors, Inc., Novi, MI*,  
Vyacheslav Birman, *Continental Corporation, Auburn Hills, MI*

8:30 – 8:50 pm      **Curved Display Metrological Challenges**

**6.1**

Michael Becker, Jürgen Neumeier, Martin Wolf, *Instrument Systems GmbH, Munich, Germany*

8:50 – 9:10 am

**6.2**

**Border Fade Pattern for a Segmented Active Polarizer Dimmable Lens**

Brian Hayden, Paul Weindorf, Elijah Auger, *Visteon Corporation, MI*

Pedro Coutino Soto, *AlphaMicron Inc., Kent, OH*

9:10 – 9:30 am

**6.3**

**Comprehensive Display Measurement**

Kevin Lange, *Konica Minolta Sensing Americas Inc., Ramsey, NJ*

Michael Becker, *Instrument Systems GmbH, Munich, Germany*

9:30 – 9:50 am

**6.4**

**Understanding and Applying Standards-Based Display Testing for Camera Monitoring Systems**

Matt Scholz, *Radiant Vision Systems, Redmond, WA*

9:50 – 10:10 am

**6.5**

**Influence of the Top Polarizer of a Vehicle Display on its Luminance, Color Gamut and Viewing Angle Performances under Variable Illumination Conditions**

Pierre Boher and Theirry Leroux, *ELDIM, Hérouville St. Clair, France*

10:10 – 10:20 am

**Refreshment Break (Tabletop Exhibits Open)**

**SESSION 7: Touch/Driver Interface (10:20 am – 11:40 am)**

- Co-Chairs:* Bruce Banter, *Tech-D-P Inc., Northville, MI*  
Drew Harbach, *Paccar, Denton, TX*
- 10:20 – 10:40 am      **Touch and Display Integration for Human Interfaces in Automotive Vehicles**  
**7.1**  
Petr Shepelev, *Synaptics Inc., San Jose, CA*
- 10:40 – 11:00 am      **Linear Correlating Infrared Touch Screens**  
**7.2**  
Rob McCulloch, Guy Duxbury, Albert David, *A D Metro, Ottawa, Ontario, Canada*
- 11:00 – 11:20 am      **Bringing Conformable Plastic OLEDs to Car Interiors – Benefits and Manufacturing**  
**7.3**  
Simon Jones, *FlexEnable Ltd., Cambridge, UK*
- 11:20 am – 11:40 am      **Localized Haptic Feedback under Flexible Displays for Vehicle Mechanical Button Replacement**  
**7.4**  
Mesut Eraslan, Mukulyarma Penmatcha, *Flex Innovation Labs, Milpitas, CA*
- 11:40 – 1:30 pm      **LUNCH**

**SESSION 8: HUD (1:30 pm – 2:50 pm)**

- Co-Chairs:* Ross Maunders, *FCA USA LLC, Auburn Hills, MI*  
Dan Cashen, *DAQRI, Rochester Hills, MI*
- 1:30 – 1:50 pm      **EviyOS® Technology for Automotive Exterior Projection**  
**8.1**  
Kevin Kruse, *OSRAM Opto Semiconductors Inc., Novi, MI*
- 1:50 – 2:10 pm      **Mass Production of Holographic Transparent Components for Automotive Applications**  
**8.2**  
Ryder Nesbitt, *Luminit LLC, Torrance, CA*
- 2:10 – 2:30 pm      **Head UP Display Challenges Lead to New Solutions**  
**8.3**  
Steve Pankratz, *3M, St. Paul, MN*
- 2:30 – 2:50 pm      **Opportunities and Challenges to Achieve a Cluster-less Vehicle Through the Use of a HUD Only Implementation**  
**8.4**  
Joseph Pullukat and Shinichi Tanaka, Applications Engineering Department  
*NS International, Ltd., Troy, MI*

**SESSION 9: OPTICAL ADHESIVES/FILMS (2:50 pm – 5:10 pm)**

*Co-Chairs:* Ross Maunders, *FCA USA LLC, Auburn Hills, MI*  
Mark Larry, *Ford Motor Company, Detroit, MI*

- 2:50 – 3:10 pm  
**9.1**  
**Room Temperature Curable Liquid Optically Clear Adhesives for Automotive Display**  
Brandon Swatowski and Makoto Yoshitake, *Dow Chemical, Midland, MI*
- 3:10– 3:30 pm  
**9.2**  
**Anti-Reflection Films for Displays to Match Piano Black Bezels and Lamination onto Curved Surfaces**  
Jingting Wu, *Dexerials America Corporation, San Jose, CA*  
Toyoshima Tadaaki, *Dexerials Corporation, Shimotsuke, Tochigi, Japan*
- 3:30– 3:50 pm  
**9.3**  
**Direct Laminated Reflective Polarizer Film: Improving Vehicle LCD Display Quality**  
John VanDerlofske, *3M, St. Paul, MN*
- 3:50– 4:10 pm  
**9.4**  
**Evaluation of Cover Glass Surface Treatment Options for Auto Interior Displays**  
Antoine Lesuffleur and Cheng-Chung Li, *Corning Incorporated, Corning, NY*
- 4:10– 4:30 pm  
**9.5**  
**Ultra-Thin Cu-Doped Ag for Flexible Transparent Electrodes Featuring High Transmission and Stabilities**  
Chengang Ji, 2017 Award Recipient, *University of Michigan, Ann Arbor, MI*  
  
Cheng Zhang, Qingyi Cui, Zhong, Zhang, L. Jay Guo, *University of Michigan, Ann Arbor, MI*  
  
Heyan Wang and Zhengang Lu, *Harbin Institute of Technology, Harbin, China*  
  
Jianhua Wu and Yue Yan, *Beijing Institute of Aeronautical Materials, Beijing, China*
- 4:30– 4:50 pm  
**9.6**  
**oDLC Coatings on Infotainment Displays**  
Paul Markoff Johnson, *Intevac, Inc., Santa Clara, CA*
- 4:50– 5:10 pm  
**9.7**  
**Active Circular Polarizer OLED E-Mirror**  
Paul Weindorf, Qais Sharif, Elijah Auger, Brian Hayden, *Visteon Corporation, MI*  
  
Pedro Coutino Soto, *AlphaMicron Inc., Kent, OH*