

PRELIMINARY PROGRAM

2012 SID INTERNATIONAL SYMPOSIUM

June 5–8, 2012 (Tuesday – Friday)
Boston Convention and Exhibition Center
Boston, Massachusetts USA

Session 1: Annual SID Business Meeting

Tuesday, June 5, 2012 / 8:00 – 8:20 am / Ballroom West

Session 2: Opening Remarks / Keynote Addresses

Tuesday, June 5, 2012 / 8:20 – 10:20 am / Ballroom West

- 2.1: **Keynote 1: Recent Breakthroughs for Larger-Sized OLED Displays and Their Application to OLED TV**
Byung Chul Ahn, LG Display Co., Ltd.
- 2.2: **Keynote 2: Photonic Display Transformation for Continuous Growth of the Display Industry**
Sung Tae Shin, Samsung Electronics, Co., Ltd.
- 2.3: **Keynote 3: Computational Displays: New Opportunities for Interactive, Light Sensitive, and 3D Displays**
Ramash Raskar, MIT Media Lab

Session 3: Oxide TFTs (*Active-Matrix Devices*)

Tuesday, June 5, 2012 / 10:50 am – 12:10 pm / Ballroom East

Chair: *Mike Hack, Universal Display Corp.*

Co-Chair: *Jerzy Kanicki, University of Michigan*

- 3.1: **Invited Paper: Amorphous-Oxide TFTs: Progress and Issues**
Arokia Nathan, University College London, London, UK
- 3.2: **An Integrated Gate Driver Circuit Employing Depetion-Mode IGZO TFTs**
Zhongyuan Wu, BOE Technology Group Co., Ltd., Beijing, China
- 3.3: **High-Speed Shift Register for High-Resolution AMDs with Self-Aligned Coplanar a-IGZO TFTs**
Jin Jang, Kyung Hee University, Seoul, Korea
- 3.4: **Late-News Paper: Physical Model and Simulation Platform for High-Level Instability-Aware Design of Amorphous-Oxide Semiconductor Thin-Film Transistors**
Woojoon Kim, Kookmin University, Seoul, Korea

Session 4: Blue-Phase Liquid Crystal 1 (*Liquid-Crystal Technology*)

Tuesday, June 5, 2012 / 10:50 am – 12:10 pm / Ballroom West

Chair: *Shin Tson Wu, University of Central Florida*

Co-Chair: *Matthew E. Sousa, 3M*

- 4.1: **Low-Voltage and Hysteresis-Free Blue-Phase LCD with Vertical Field Switching**
Hui Chuan Cheng, University of Central Florida, Orlando, FL USA
- 4.2: **Polymer-Stabilized Blue-Phase Material Driven at Low Voltage**
Tetsuji Ishitani, Semiconductor Energy Laboratory Co., Ltd., Kanagawa, Japan
- 4.3: **Frequency Effects on Blue-Phase Liquid Crystals**
Yan Li, University of Central Florida, Orlando, FL USA
- 4.4: **New Materials for Polymer-Stabilized Blue Phase**
Michael Wittek, Merck KGaA, Darmstadt, Germany

Session 5: Stereoscopic Display Applications (*3D/Applications*)

Tuesday, June 5, 2012 / 10:50 am – 12:10 pm / Room 205AB

Chair: *Jyrki Kimmel, Nokia Research Center*

Co-Chair: *Adi Aibileah, Planar Systems, Inc.*

- 5.1: **A Novel Wide-View Design for Stereoscopic 3D LCDs**
Chia Chiang Hsiao, Shenzhen China Star Optoelectronics Technology Co., Ltd., Shenzhen, China
- 5.2: **Switchable 2D/3D Display Using Prism Conversion Module**
Wallen Mphopo, Beijing University, Beijing, China
- 5.3: **Active Light-Field Rendering in Multi-View Display Systems**
Juyong Park, Samsung Electronics Co., Ltd., Gyeonggi-do, Korea
- 5.4: **The Autostereoscopic System with Diffractive Optical Elements**
Qing-Long Deng, National Chiao Tung University, Tainan City, Taiwan

Session 6: Innovations in FPD Analysis (*Display Measurement*)

- 33.3: **Improved Blue-Phosphorescent OLEDs with a Linearly Graded Mixed-Host Architecture**
Sang Min Lee, University of Rochester, Rochester, NY USA
- 33.4: **A New Class of Host Materials for Blue-Phosphorescent Organic EL Devices**
Mark Brown, CSIRO Materials Science and Engineering, Clayton, Australia

Session 34: Ferroelectric and Antiferroelectric LC Effects (*Liquid-Crystal Technology*)

Wednesday, June 6, 2012 / 3:30 – 4:50 pm / Ballroom West

Chair: *Michael Wand, LC Vision, LLC*

- 34.1: **Deformed-Helix Ferroelectric Display with Low Driving Voltage and Fast Response Time**
Qi Guo, Hong Kong University of Science and Technology, Kowloon, Hong Kong
- 34.2: **Electro-Optical Response of Compensated Helix Ferroelectric: Continuous Gray Scale, Fastest Response, and Lowest Control Voltage Demonstrated to Date**
Igor Kompanets, Lebedev Physical Institute of RAS, Moscow, Russia
- 34.3: **Fast Orthoconic Antiferroelectric Liquid Crystals for Field-Sequential-Color Applications**
Mattias Wessling, Orhocone AB, Gothenburg, Sweden

Session 35: 3D Lightfield Imaging and Displays (*3D / Display Systems*)

Wednesday, June 6, 2012 / 3:30 – 4:50 pm / Room 205AB

Chair: *Jean-Pierre Guillou, Apple, Inc.*

Co-Chair: *Brian T. Schowengerdt, University of Washington*

- 35.1: **Invited Paper: Envisioning a Light-Field Ecosystem**
Kurt Akeley, Lytro, Mountain View, CA USA
- 35.2: **Generation Method of Orthoscopic Elemental Image Array from a Sparse Camera Array**
Qiong Hua Wang, Sichuan University, Chengdu, China
- 35.3: **Computational Photography**
William Freeman, Massachusetts Institute of Technology, Boston, MA USA

Session 36: Image-Quality Enhancement (*Display Electronics*)

Wednesday, June 6, 2012 / 3:30 pm – 4:50 pm / Room 205C

Chair: *Haruhiko Okumura, Toshiba Corp.*

Co-Chair: *Hyoungsik Nam, Kyung Hee University*

- 36.1: **Invited Paper: Trends of Future Image-Quality Enhancement with Case Studies**
Jaehye You, Hongik University, Seoul, Korea
- 36.2: **Enhanced Local Pixel Compensation with Clipping Suppression and Global Luminance Preservation**
Daniel Schafer, Saarland University Campus, Saarbruecken, Germany
- 36.3: **Adaptive Denoising Based on Image Region Analysis**
Sung In Cho, Pohang University of Science and Technology, Pohang, Korea
- 36.4: **Subjective and Objective Visual-Quality Evaluation of 4K Video Using AVC and HEVC Compression**
Sachin Deshpande, Sharp Laboratories of America, Camas, WA USA

Session 37: Projected-Capacitive Touch Panels (*Touch and Interactive Displays*)

Wednesday, June 6, 2012 / 3:30 – 4:50 pm / Room 210A

Chair: *Jefferson Han, Perceptive Pixel*

Co-Chair: *Joo Hyung Lee, Samsung Mobile Display*

- 37.1: **An In-Cell-Capable Capacitive Touch-Screen Controller with 41-dB SNR and Integrated Display Driver IC for 480 x 864 LTPS Displays**
Murat Ozbas, Synaptics, Inc., Rochester, NY USA
- 37.2: **A 10.4-in. On-Cell Touch-Panel LCD with Correlated Noise Subtraction Method**
Hiroshi Haga, NLT Technologies, Ltd., Kanagawa, Japan
- 37.3: **A 10-Touch Capacitive-Touch Sensor Circuit with the Time-Domain Input-Node Isolation.**
Jae-seung Lee, Pohang University of Science and Technology, Gyeonggi-do, Korea

Session 38: Printed Displays and Electronics II (*Printed Displays and Electronics/Flexible Displays*)

Wednesday, June 6, 2012 / 3:30 – 4:50 pm / Room 210B

Chair: *Jin Jang, Kyung Hee University*

Co-Chair: *Ruiqing Ma, Universal Display Corp.*

- 38.1: **Highly Thermally Stable OFETs Fabricated with Liquid-Crystalline Organic Semiconductors**
Hiroaki Iino, Tokyo Institute of Technology, Yokohama, Japan
- 38.2: **Color Filters on a Flexible Glass Substrate Fabricated by Roll-to-Roll Processing**
Takayoshi Nirengi, Dai Nippon Printing Co., Ltd., Chiba, Japan