

PRELIMINARY PROGRAM

2005 SID INTERNATIONAL SYMPOSIUM

MAY 24 – 27, 2005 (Tuesday – Friday)
HYNES CONVENTION CENTER
BOSTON, MASSACHUSETTS, USA

Session 1: Annual SID Business Meeting
Tuesday, May 24, 2004 / 8:00 – 8:30 am / Ballrooms A/B

Session 2: Keynote Session / Display of the Year Awards
Tuesday, May 24 / 8:30 – 10:30 am / Ballrooms A/B

Session 3: Flexible Active-Matrix Displays
Tuesday, May 24 / 10:50 am – 12:30 pm / Ballroom A

- 3.1: **Invited Paper: Rollable QVGA Active-Matrix Displays Based on Organic Electronics**
G. Gelinck, Polymer Vision / Philips Research Laboratories, Eindhoven, The Netherlands
- 3.2: **Invited Paper: High-Performance OTFTs on Flexible Substrate**
J. Jang, Kyung Hee University, Seoul, Korea
- 3.3: **Large-Area Full-Color Transmissive a-Si TFT-LCD Using Low-Temperature Processes on Plastic Substrates**
M. Hong, Samsung LCD Business, San Jose, CA, USA
- 3.4: **Flexible Active-Matrix Displays**
S. Burns, Plastic Logic, Ltd., Cambridge, UK
- 3.5: **Invited Paper: Recent Progress in Large-Sized High-Performance Organic TFT Array**
M. Hong, Samsung LCD Business, San Jose, CA, USA

Session 4: White OLEDs
Tuesday, May 24 / 10:50 am – 12:10 pm / Ballroom C

- 4.1: **Triple-Peak White OLED for Improved Efficiency and Color Gamut**
D. Winters, Eastman Kodak Co., Rochester, NY, USA
- 4.2: **Highly Efficient Top-Emitting White Organic EL Devices**
S-F. Hsu, National Chiao Tung University, Hsinchu, Taiwan
- 4.3: **Optimized RGBW Pixel Arrangements for AMOLED Displays**
M. Miller, Eastman Kodak Co., Rochester, NY, USA
- 4.4: **Invited Paper: Large-Area White OLEDs**
Anil Duggal, GE Corporate R&D, Schenectady, NY, USA

Session 5: Measurement and Modeling
Tuesday, May 24 / 10:50 am – 12:10 pm / Room 302

- 5.1: **Characterization of Inhomogeneous Retarders**
M. Becker, Display-Metrology & Systems, Karlsruhe, Germany
- 5.2: **New Technique for Measuring the Jones Matrix for a Polarization Medium at Oblique Light Incidence**
Y. Saitoh, Fuji Photo Film, Kanagawa, Japan
- 5.3: **Determination of LC Polar Anchoring Energy by Electrical Measurement**
V. Chigrinov, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong
- 5.4: **Advanced Tools for Modeling of 2-D Optics of LCDs**
V. Chigrinov, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong

Session 6: LCD Manufacturing: Considerations and Simulations
Tuesday, May 24 / 10:50 am – 12:30 pm / Room 304

- 6.1: **Roll-to-Roll Manufacturing Considerations for Flexible Cholesteric LCD Media**
G. Mccollough, Eastman Kodak Co., Rochester, NY, USA
- 6.2: **Layer-Thickness Simulation for Static Thin-Film Deposition on Gen 6 / Gen 7 Substrates**
A. Lopp, Applied Films GmbH & Co., Alzenau, Germany
- 6.3: **Impact of CVD Film Deposition on Pitch Change**
S. Hoysan, Corning Incorporated, Corning, NY, USA
- 6.4: **Effects on Seal Material Resulting from a Pre-Assembly Temperature Difference between the TFT and CF Substrate**
S. Hoysan, Corning Incorporated, Corning, NY, USA
- 6.5: **Mechanical Integrity of Total LCD Panel**
S. Gulati, Corning Incorporated, Corning, NY, USA

Session 7: 3-D and Novel Technologies
Tuesday, May 24 / 10:50 am – 12:30 pm / Room 311

- 7.1: **Invited Paper: True 3-D Display Technology**
B. Schowengerdt, University of Washington, Seattle, WA, USA
- 7.2: **A Turn-Type Color 3-D Display System Using LEDs**
Y. Sakamoto, Kanazawa Institute of Technology, Ishikawa, Japan
- 7.3: **Autostereoscopic Swing 3-D Display**
H. Nam, Samsung SDI, Yongin, Korea
- 7.4: **Design of 2-D/3-D Switchable Displays**
W. Ijzerman, Philips Research Laboratories, Eindhoven, The Netherlands
- 7.5: **Invited Paper: FogScreen: An Immaterial Interactive Screen**
I. Rakkolainen, FogScreen, Inc., Santa Barbara, CA, USA

Session 8: Inorganic EL

Tuesday, May 24 / 10:50 am – 12:10 pm / Room 312

- 8.1: **Invited Paper: TDEL: Technology Evolution in Inorganic Electroluminescence**
X. Wu, iFire Technology, Inc., Toronto, Ontario, Canada
- 8.2: **Sphere-Supported TFEL Technology**
A. Kitai, McMaster University, Hamilton, Ontario, Canada
- 8.3: **Flexible IR-Emitting ZnS:ErF₃ ACTFEL Devices**
N. Shepherd, U.S. Army Research Laboratory, Adelphi, MD, USA
- 8.4: **Blue-Emitting Barium Thioaluminat Phosphors by Sputtering of Composite Targets**
A. Kosyachkov, iFire Technology Inc., Toronto, ON, Canada

Session 9: High-Image-Quality AMLCDs

Tuesday, May 24 / 2:00 – 3:00 pm / Ballroom A

- 9.1: **Dynamic Burn-In Prevention for LCDs with Large-Area Flicker Cancellation**
W. Furtner, SP3D Chip Design GmbH, Starnberg, Germany
- 9.2: **A New Driving Method to Compensate for Row Line-Signal Propagation Delays in an AMLCD**
R. McCartney, National Semiconductor Corp., Santa Clara, CA, USA
- 9.3: **A 32-in. WXGA LCD TV Using OCB Mode, LTPS TFTs, and Blinking-Backlight Technology**
K. Nishiyama, Toshiba Matsushita Display Technology Co., Ltd., Ishikawa, Japan

Session 10: OLED Device Structures

Tuesday, May 24 / 2:00 – 3:20 pm / Ballroom C

- 10.1: **Broadband-Emitting Microcavity OLED Device**
Y-S. Tyan, Eastman Kodak Co., Rochester, NY, USA
- 10.2: **Invited Paper: Examining Microcavity OLEDs Having Two Metal Mirrors**
C-C. Wu, National Taiwan University, Taipei, Taiwan
- 10.3: **Black Electrode for OLEDs**
C-I. Chao, ITRI, Chutung, Taiwan
- 10.4: **High-Performance and Innovative OLED Structures**
C. Prat, Thomson Multimedia, Cesson Sevigne, France

Session 11: LCD Systems

Tuesday, May 24 / 2:00 – 3:00 pm / Room 302

- 11.1: **Invited Paper: Ferroelectric Liquid Crystals as a Material for Volumetric Displays**
I. Kompanets, Lebedev Physical Institute of RAS, Moscow, Russia
- 11.2: **High-Contrast Wide-Viewing-Angle LCD Light Filter**
J. Pirs, Josef Stefan Institute, Ljubljana, Slovenia
- 11.3: **Wavelets for Displaying Gray Shades in LCDs**
T. Ruckmongathan, Raman Research Institute, Bangalore, India

Session 12: Display Materials in Manufacturing

Tuesday, May 24 / 2:00 – 3:20 pm / Room 304

- 12.1: **A New Durable Soil-Resistant Optical Film for Front-Surface Protection of FPDs**
W. Coggio, 3M Co., St. Paul, MN, USA
- 12.2: **Column-Spacers on High Resolution Flexible Color Filter for LCD by a Roll-to-Roll Process**
A. Sonehara, Technology Research Association For Advanced Display Materials (TRADIM), Tokyo, Japan
- 12.3: **UV-Curable Barrier Sealants**
D. Herr, National Starch & Chemical Co., Bridgewater, NJ, USA
- 12.4: **Characterization of Dryers for OLED/PLED Applications**
P. Battilana, SAES Getters S.p.A., Lainate, Italy

Session 13: Medical Displays

Tuesday, May 24 / 2:00 – 3:20 pm / Room 311

- 13.1: **Invited Paper: Medical Imaging and the Performance of Softcopy Displays**
H. Roehrig, University of Arizona, Tucson, AZ, USA
- 13.2: **Viewing-Angle Compensation of IPS and VA Medical AMLCDs**
A. Badano, CDRH/FDA, Rockville, MD, USA
- 13.3: **MTF and NPS Study of High-Resolution LCDs and CRTs for Mammography**
J. Suri, Fischer Imaging Corp., Denver, CO, USA
- 13.4: **A Study of CRT (5-Mpixel) vs. LCD (9-Mpixel) Displays for Breast Lesion Detection in Full-Field Digital Mammography and Ultrasound (FFDMUS) Data Sets via Image-Enhancement Algorithms**
A. Poolla, Fischer Imaging, Denver, CO, USA

Session 14: Plasma-Display Structures

Tuesday, May 24 / 2:00 – 3:20 pm / Room 312

- 14.1: **Invited Paper: Development of Plasma-Tube-Array Technology for Extra-Large-Area Displays**
K. Awamoto, Fujitsu Laboratories, Ltd., Asakashi, Japan
- 14.2: **Discharge Characteristics of a New Structure ACPDP Using Thick-Film Ceramic Sheet Technology**
N. Kikuchi, Noritake Co., Ltd., Fukuoka, Japan
- 14.3: **A 25-in. SMPDP with Fine Pitch and High Resolution**
Y. Tang, Southeast University, Nanjing, China
- 14.4: **Plasma-Display Panel with Ridged Dielectric Layer between Sustaining Electrodes**
S-H. Son, Samsung Advanced Institute of Technology, Suwon, Korea

Session 15: Amorphous-Silicon AMLCDs with Integrated Drivers

Wednesday, May 25 / 9:00 – 10:20 am / Ballroom A

- 15.1: **High-Resolution Integrated a-Si Row Driver Circuits**
C. H. Kim, BOE HYDIS Tehnology Co., Ltd., Ichon, Korea
- 15.2: **A 2.0-in. a-Si:H TFT-LCD with Low-Noise Integrated Gate Driver Circuit**
J. Jang, Kyung Hee University, Seoul, Korea
- 15.3: **Reliable Integrated a-Si Gate Driver for 2.2-in. QVGA TFT-LCD**
W-C. Wang, Wintek Corp., Taiwan, R.O.C.
- 15.4: **Invited Paper: Design of Integrated Drivers with a-Si TFTs for Small Displays: Basic Concepts**
T. Kretz, THALES Avionics LCD, Moirans, France

Session 16: OLED Displays I

Wednesday, May 25 / 9:00 – 10:20 am / Ballroom C

- 16.1: **Invited Paper: An Alternative Approach for Large-Sized AMOLEDs**
H-K. Chung, Samsung SDI, Yongin, Korea
- 16.2: **Development of 1.5-in. Full-Color Double-Sided AMOLED with Novel Array Design**
C-W. Ko, AU Optronics Corp., Hsinchu, Taiwan, R.O.C.
- 16.3: **Interactive Passive-Matrix Polymer OLED Display**
A. Sempel, Philips Research Laboratories, Eindhoven, The Netherlands
- 16.4: **A 14.1-in. WXGA Polymer LED Display with a-Si TFT**
A. Saafir, Samsung Electronics, Yongin City, Korea

Session 17: Wide-Viewing-Angle LCDs I

Wednesday, May 25 / 9:00 – 10:20 am / Room 302

- 17.1: **Invited Paper: Multi-Domain VA LCDs Featuring Wide Gray-Scale Viewing Range with Suppressed Color Wash-Out**
H. Yoshida, Fujitsu Display Technologies Corp., Kawasaki, Japan
- 17.2: **Invited Paper: Recent Advancements and Future Possibilities of IPS TFT-LCDs**
K. Kondo, Hitachi, Ltd., Hitachi, Japan
- 17.3: **A New MVA-LCD by PI Print-less Technology**
S. Tanuma, Fujitsu Display Technologies, Atsugi, Japan
- 17.4: **Improved PVA Mode with High Transmittance and Aperture Ratio**
C-S. Lee, Sanayi System Co., Ltd., Incheon, Korea

Session 18: Backlights I

Wednesday, May 25 / 9:00 – 10:20 am / Room 304

- 18.1: **Adaptive Dimming Technique with Optically Isolated Lamp Groups**
T. Shiga, The University of Electro-Communications, Tokyo, Japan
- 18.2: **Architectural Choices in a Scanning Backlight for Large LCD TVs**
A. A. S. Sluyterman, Philips Lighting B.V., Eindhoven, The Netherlands
- 18.3: **Life Aspects of HCFL Light Sources in LCD-Backlighting Applications**
H. Gielen, Philips Lighting BV, Roosendaal, The Netherlands
- 18.4: **Low-Fill-Factor Wire-Grid Polarizers for LCD Backlighting**
X-D. Mi, Eastman Kodak Co., Rochester, NY, USA

Session 19: Motion-Blur Characterization

Wednesday, May 25 / 9:00 – 10:20 am / Room 311

- 19.1: **LCD Visual Quality Analysis by Moving-Picture Simulation**
T-W. Su, AU Optronics Corp., Hsinchu, Taiwan
- 19.2: **Evaluation of Motion Artifacts and Evolving Compensation Techniques for LCD Monitors**
J. Miseli, Sun Microsystems, Menlo Park, CA, USA
- 19.3: **Correlation between Perceived Motion Blur and MPRT Measurement**
J. Someya, Mitsubishi Electric Corp., Nagaokakyo, Japan
- 19.4: **Generalization of Parameters Representing Magnitudes of Motion Artifacts**
K. Oka, Otsuka Electronics Co., Ltd., Koga-gan, Japan

Session 20: Plasma-Display Discharge

Wednesday, May 25 / 9:00 – 10:00 am / Room 312

- 20.1: **Micro-Discharge Arrays for High-Resolution PDPs**
S-O. Kim, National Chiao Tung University, Hsinchu, Taiwan, R.O.C.
- 20.2: **Dependence of the Discharge Characteristics and Efficacy on the Base Vacuum Level for PDPs Made Using an In-Vacuum Sealing-Pumping System**
S. J. Kwon, Kyungwon University, Seongnam, Korea
- 20.3: **Experimental Study on Temperature-Dependent Characteristics of Temporal Dark Boundary Image Sticking in 42-in. ACPDPs**
J. W. Han, Kyungpook National University, Daegu, Korea

Session 21: Poly-Si Circuit Integration I

Wednesday, May 25 / 10:40 – 11:40 am / Ballroom A

- 21.1: **Common-Decoder Architecture for Compact and Power-Saving Poly-Si Data-Driver Circuits**
H. Kageyama, Hitachi, Ltd., Tokyo, Japan
- 21.2: **A Low-Voltage P-Type Poly-Si Integrated Driving Circuit for Active-Matrix Displays**
W-J. Nam, Seoul National University, Seoul, Korea
- 21.3: **An Improved Dynamic Ratio Less-Shift-Register Circuit Suitable for LTPS TFT-LCD Panels**
T. Miyazawa, Hitachi Displays, Ltd., Mobara, Japan

Session 22: Phosphorescent OLEDs

Wednesday, May 25 / 10:40 am – 12:00 pm / Ballroom C

- 22.1: **Invited Paper: Phosphorescent Approaches to Achieving High-Efficiency Monochromatic and White Electroluminescence**
M. Thompson, University of Southern California, Los Angeles, CA, USA
- 22.2: **Novel Triplet Host Materials: High-Performance Made Easy**
H. Becker, Covion Organic Semiconductors GmbH, Frankfurt, Germany
- 22.3: **High-Efficiency Electrophosphorescent OLEDs Using Semitransparent Ag As the Anode**
H. Peng, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong
- 22.4: **Progress of Red-Phosphorescent Dendrimer OLEDs**
J. Pillow, CDT Oxford, Ltd., Cambridge, UK

Session 23: LC Alignment

Wednesday, May 25 / 10:40 am – 12:00 pm / Room 302

- 23.1: **Ink-Jet Printing of Linearly Photopolymerizable Polymer As Alignment in LCDs**
L. Wang, Dalarna University/Swedish LCD Center, Borlange, Sweden
- 23.2: **High Pretilt Angles by Nano-Structured Surfaces and Their Applications**
F. Yeung, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong
- 23.3: **A Novel Mono-Domain Alignment Method for FLCs Applied to Half-V-Shape-Mode Field-Sequential-Color Displays**
M. Okabe, Dai Nippon Printing Co., Ltd., Chiba, Japan
- 23.4: **Characteristics and Reliabilities of the Ion-Beam-Irradiated Polyimide As an LC Alignment Layer**
J. G. You, BOE TFT-LCD SBU, Gyeonggi-do, Korea

Session 24: Display Drive Technology and Integration

Wednesday, May 25 / 10:40 am – 12:00 pm / Room 304

- 24.1: **A Programmable Analog Reference Memory for Adaptive Gamma Curve Correction**
T. Blyth, Alta Analog, Inc., Campbell, CA, USA
- 24.2: **A 10-bit Source Driver with Resistor-Resistor-String Digital-to-Analog Converter**
O-K. Kwon, Hanyang University, Seongdong, Korea
- 24.3: **Line Drive Technology: An Advanced TERES with the Integration of High-Voltage Sustain and Scan Circuits into ICs**
S. Tomio, Fujitsu Hitachi Plasma Display, Ltd., Kawasak, Japan
- 24.4: **A 510-kB SOG DRAM for Frame-Memory-Integrated Displays**
Hiroshi Haga, NEC Corp., Sagamihara, Japan

Session 25: Spatial and Temporal Color

Wednesday, May 25 / 10:40 am – 12:00 pm / Room 311

- 25.1: **STColor: Hybrid Spatial-Temporal Color Synthesis for Enhanced Display Image Quality**
L. D. Silverstein, VCD Sciences, Inc., Scottsdale, AZ, USA
- 25.2: **A Wide-Gamut High-Aperture Mobile Spectrum Sequential LCD**
S. Roosendaal, Philips Research Laboratories, Eindhoven, The Netherlands
- 25.3: **Spectrum Sequential LCD**
M. Jak, Philips Research Laboratories, Eindhoven, The Netherlands
- 25.4: **Six-Primary-Color 23-in. WXGA LCD Using Six-Color LEDs**
H. Sugiura, Mitsubishi Electric Corp., Nagaokakyo, Japan

Session 26: Plasma-Display Efficiency

Wednesday, May 25 / 10:40 am – 12:00 pm / Room 312

- 26.1: **Invited Paper: The Effect of Cell Geometry and Plasma Loss on the Luminous Efficiency in ACPDPs**
T. J. Kim, Seoul National University, Seoul, Korea
- 26.2: **A New Structure and Driving Scheme for High Luminous Efficacy in WXGA PDPs**
J-Y. Kim, Samsung SDI, Yongin, Korea
- 26.3: **A New Driving Waveform for Improving Luminance and Luminous Efficiency of ACPDPs with Large Sustain Gap under High Xe Content**
B-G. Cho, Kyungpook National University, Daegu, Korea
- 26.4: **Invited Paper: Recent Development of Blue Phosphors for PDP Application**
S. Zhang, Daiden Co., Ltd., Miyaki, Japan

Session 27: Poly-Si Circuit Integration II

Wednesday, May 25 / 3:30 – 4:30 pm / Ballroom A

- 27.1: **Novel Structures of Storage and Submicron LDD in CMOS Panels**
J-Y. Yang, LG Philips R&D Center, Kyunggi-do, Korea
- 27.2: **Characterizations of Flash Memory on Glass Using LTPS TFT with an Ultra-Low-Roughness Poly-Si/SiO₂ Interface**
H-T. Chen, ITRI, Hsinchu, Taiwan, R.O.C.
- 27.3: **e-Skin IT Device**
C-H. Liou, ITRI, Hsinchu, Taiwan, R.O.C.

Session 28: Wide-Viewing-Angle LCDs II

Wednesday, May 25 / 3:30 – 4:50 pm / Ballroom C

- 28.1: **Optically Compensated IPS-LCD for TV Applications**
D. Kajita, Hitachi Materials Research Laboratory, Ibaraki, Japan
- 28.2: **Super-Wide-View In-Plane-Switching LCD with Positive and Negative Uniaxial A-Film Compensation**
X. Zhu, University of Central Florida, School of Optics/CREOL, Orlando, FL, USA
- 28.3: **Multidomain Vertically Aligned Nematic LCDs Using Switchable Pixel Walls**
A. Nieuwkerk, Philips Electronics B.V., Eindhoven, The Netherlands
- 28.4: **OCB-WV Film for Fast-Response-Time and Wide-Viewing-Angle LCD TVs**
Y. Ito, Fuji Photo Film Co., Ltd., Kanagawa, Japan

Session 29: LC-Based Microdisplays

Wednesday, May 25 / 3:30 – 4:50 pm / Room 302

- 29.1: **Unified Study of Twisted-Nematic Reflective Modes for LCoS**
J. Xue, Sheridian Corp, Vancouver, WA, USA
- 29.2: **Reflective Polarization-Independent LC Phase Modulator with Polymer Wall**
P. Bos, Kent State University, Kent, OH, USA
- 29.3: **A 1450-ppi Field-Sequential System-on-Glass LCD Capable of Operating Over a Wide Temperature Range**
K. Takatori, NEC Corp., Sagamihara, Japan
- 29.4: **Invited Paper: LCoS Microdisplay Manufacturing Issues: Wafers and Glass**
S. Worthington, Hana Microdisplay Technologies, Inc., Twinsburg, OH, USA

Session 30: OLED Manufacturing: Printing

Wednesday, May 25 / 3:30 – 4:50 pm / Room 304

- 30.1: **New Nozzle-Printing Method for Large-Sized Organic EL Device**
M. Masuchi, Dai Nippon Screen Manufacturing Co., Ltd., Kyoto, Japan
- 30.2: **Flexible OLEDs with Gravure Printing and Its Application**
H. Nakajima, Dai Nippon Printing Co., Ltd., Chiba, Japan
- 30.3: **Gen 7 FPD Ink-Jet Equipment**
D. Albertalli, Litrex Corp., Pleasanton, CA, USA
- 30.4: **Vertical Inline Deposition Technology for Full-Color OLED Production**
M. Bender, Applied Films GmbH & Co., Alzenau, Germany

Session 31: Novel Displays

Wednesday, May 25 / 3:30 – 5:10 pm / Room 311

- 31.1: **Development of Six-Primary-Color LCD**
Y-C. Yang, Samsung Electronics, YongIn-City, Korea
- 31.2: **A5-Sized Electronic-Paper Display for Document Viewing**
H. Gates, E-Ink Corp., Cambridge, MA, USA
- 31.3: **Viewing-Angle-Controllable LCD Using Variable Optical Compensator and Variable Diffuser**
Y. Hisatake, Toshiba Corp., Saitama, Japan
- 31.4: **Low-Cost Display-Based Photonic Touch Interface with Advanced Functionality**
D. Tulbert, STRIKE Technologies, Inc., Newmarket, Canada
- 31.5: **Development of a Combined Liquid Crystal and Fine-Pitch Light-Source Display**
N. Koma, Sanyo Epson Imaging Devices Corp., Gifu, Japan

Session 32: MgO for Plasma Displays

Wednesday, May 25 / 3:30 – 4:50 pm / Room 312

- 32.1: **Correlation between Wall Charge of a MgO Film Discharge Delay Time**
M-S. Lee, Samsung SDI, Kyunggi-do, Korea
- 32.2: **MgO Protective Layer Using Single-Crystal Nano-Powders in ACPDPs**
Y-S. Kim, LG Electronics, Inc., Seoul, Korea
- 32.3: **High-Efficiency Hybrid PDP**
J-H. Park, Hongik University, Seoul, Korea,
- 32.4: **Influence of H₂ Addition to Xe-Ne Gas Mixtures for Voltage Lowering in ACPDPs**
T. Okada, Pioneer Corp., Yamanashi, Japan

Session 33: TFT Processing & Devices

Wednesday, May 25 / 5:10 – 6:40 pm / Ballroom A

- 33.1: **A 3.2-in. LCD Panel Using a-Si TFT Formed with a Novel Selective and Dispersive Transfer Technique**
Y. Onozuka, Toshiba Corp., Kawasaki, Japan
- 33.2: **Investigation of the Fin-Like TFT Structure in LTPS Devices**
H. Yin, Samsung Advanced Institute of Technology, Suwon, Korea
- 33.3: **Source-Gated Transistors in a-Si for Active-Matrix Displays**
F. Balon, University of Surrey, Guildford, UK
- 33.4: **An LTPS Active-Matrix Process without Ion Doping**
H. Baur, University of Stuttgart, Stuttgart, Germany

Session 34: OLED Displays II

Wednesday, May 25 / 5:10 – 6:40 pm / Ballroom C

- 34.1: **Ultra-Thin Encapsulation for Large-Area OLED Displays**
J. J. W. M. Rosink, Philips Research Laboratories, Eindhoven, The Netherlands
- 34.2: **Optical Simulation of OLED Devices and Its Application for Determination of Emitting Zone**
H. Kuma, Idemitsu Kosan Co., Ltd., Sodegaura, Japan
- 34.3: **High-Resolution Full-Color Polymer Light-Emitting Devices Using Photolithography**
T. Tachikawa, Dai Nippon Printing Co., Kashiwa, Japan

Session 35: Fringe-Field Effects in Microdisplays

Wednesday, May 25 / 5:10 – 6:40 pm / Room 302

- 35.1: **Eliminating Fringe-Field Effects of Vertically Aligned LCoS by Using Circularly Polarized Light**
K-H. F. Chiang, National Chiao Tung University, Hsinchu, Taiwan, R.O.C.
- 35.2: **Improvement on Fringe Field in VA-Mode LCoS Panels**
J. Peng, Taiwan Micro Display Corp., Hsinchu, Taiwan, R.O.C.
- 35.3: **Fringe Fields in Advanced High-Pixel-Count VAN LCoS Devices**
D. Cuypers, TFCG / IMEC, Ghent, Belgium
- 35.4: **Three-Dimensional Optical Analyses of Fringing Effect in Small Color Pixels**
B. Zhang, The Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong

Session 36: Backlights II

Wednesday, May 25 / 5:10 – 6:40 pm / Room 304

- 36.1: **High-Efficiency Mercury-Free Flat Light Source for LCD Backlighting**
J. K. Lee, Seoul National University, Seoul, Korea
- 36.2: **Pinholes in the External Electrode Fluorescent Lamps**
H. Song, Kwangwoon University, Seoul, Korea
- 36.3: **Novel Diffuser for LCD Backlighting Application**
H-C. Guo, ITRI, Hsinchu, Taiwan, R.O.C.
- 36.4: **Design of High-Uniformity LED Backlight**
S. Lim, Dankook University, Cheonan, Korea

Session 37: Display Measurements

Wednesday, May 25 / 5:10 – 6:40 pm / Room 312

- 37.1: **Estimating Display Modulation by 2-D Fourier Transform: A Preferred Method**
T. Fiske, Rockwell Collins San Jose, San Jose, CA, USA
- 37.2: **Performance Limitations with QWP Reference Targets for Reflective-LCD Measurements**
L. Collier, DisplayCheck, Exeter, RI, USA
- 37.3: **Determining Optimal Process Conditions to Maximize LCoS Imager Lifetime**
M. Flynn, Aurora Systems, Inc., San Jose, CA, USA
- 37.4: **Production-Line Characteristics of LC Cells**
S. Valyukh, Swedish LCD Center, Borlange, Sweden

Session 38: AMOLEDs I

Thursday, May 26 / 9:00 - 10:20 am / Ballroom A

- 38.1: **Optical Feedback for AMOLED Display Compensation Using LTPS and a-Si:H Technologies**
D. Fish, Philips Research Laboratories, Redhill, UK
- 38.2: **A 302-ppi High-Resolution AMOLED Using Laser-Induced Thermal Imaging**
K-J. Yoo, Samsung SDI, Yongin, Korea
- 38.3: **LTPS AMOLED Displays Incorporating High-Contrast Top-Emitting OLEDs**
Y-H. Yeh, ERSO/ITRI, Chung, Taiwan, R.O.C.
- 38.4: **A 6-bit AMOLED with RGB Adjustable-Gamma-Compensation LTPS TFT Circuit**
Y. Matsueda, Samsung SDI, Yongin, Korea

Session 39: LCoS Projection

Thursday, May 26 / 9:00 – 10:20 am / Ballroom C

- 39.1: **Invited Paper: Why Analog Silicon May Be Best for LCoS Digital TV**
M. L. Jepsen, Sausalito, CA, USA
- 39.2: **Silicon X-tal Reflective Display (SXRD): A New Display Device for Projection Displays**
S. Hashimoto, Sony Corp., Kanagawa, Japan
- 39.3: **Fast VAN LCoS Microdisplay**
J. Anderson, Hana Microdisplay Technologies, Inc., Twinsburg, OH, USA
- 39.4: **Fast-Switching VA-Mode LCoS for Single-Panel Application**
E. Liao, Taiwan Microdisplay Corp., Chunan, Taiwan, R.O.C.

Session 40: LED Backlights

Thursday, May 26 / 9:00 – 10:20 / Room 304

- 40.1: **Integrated a-Si Color Sensor on LCD Panel for LED Backlight System**
K-C. Lee, Samsung Electronics, Co., Ltd., Kyunggi-do, Korea
- 40.2: **RGB Color Control System for LED Backlights in IPS-LCD TVs**
A. Konno, Hitachi Materials Research Laboratory, Hitachi, Japan
- 40.3: **Power Minimization of LED Backlight in a Color-Sequential Display**
W. C. Cheng, University of Southern California, Rosemead, CA, USA
- 40.4: **Design and Analysis of Tapered Waveguides as Collimators for LED Backlighting**
D. Nesterenko, Samsung Advanced Institute of Technology, Yongin, Korea

Session 41: Attention and Data Visualization

Thursday, May 26 / 9:00 – 10:20 am / Room 311

- 41.1: **Invited Paper: How Might the Rules that Govern Visual Search Constrain the Design of Visual Displays?**
J. Wolfe, Harvard Medical School, Cambridge, MA, USA
- 41.2: **The Effect of Edge Filtering on Vision Multiplexing**
H. Apfelbaum, Schepens Eye Research Institute, Boston, MA, USA
- 41.3: **Invited Paper: High-Dynamic-Range Displays for High-Fidelity Archaeological Site Reconstruction**
A. Chalmers, University of Bristol, Bristol, UK
- 41.4: **Meta-Information Visualization in Geographic Information Systems**
J. Pfautz, Charles River Analytics, Inc., Cambridge, MA, USA

Session 42: Display Phosphors

Thursday, May 26 / 9:00 – 10:20 am / Room 312

- 42.1: **Invited Paper: Nanophosphors for Display Applications**
A. Vecht, Aron Vecht and Associates, London, UK
- 42.2: **Invited Paper: Influence of Lanthanide Level Location on the Performance of Phosphors**
P. Dorenbos, Delft University of Technology, Delft, The Netherlands
- 42.3: **Wavelength Tunable Emission from II-VI Phosphors Excited by Electron Beams or UV Light for Display Applications**
R. Withnall, University of Greenwich, Chatham, UK
- 42.4: **Enhanced Photoluminescence of (Y,A)V(O,S)₄:Eu³⁺ (A = Sr, Ba) Compared with YVO₄:Eu³⁺**
S. I. Mho, Ajou University, Suwon, Korea

Session 43: System on Glass

Thursday, May 26 / 10:40 am – 12:00 pm / Ballroom A

- 43.1: **A Flexible 8-bit Asynchronous Microprocessor Based on LTPS TFT Technology**
N. Karaki, Seiko-Epson Corp., Suwa, Japan
- 43.2: **Invited Paper: Low-Power System-on-Glass LCD Technologies**
H. Asada, NEC Corp., Sagami, Japan
- 43.3: **Integration of Reliability with High-Current Drivability by using SELAX Technology for High-Resolution (>300 ppi) System-in-Displays**
Y. Toyota, Hitachi Central Research Laboratory, Tokyo, Japan
- 43.4: **A Novel Integrated dc-dc Converter Using LTPS TFT**
S-H. Yeh, AU Optronics Corp, Hsinchu, Taiwan, R.O.C.

Session 44: Polysilicon Integration for AMOLEDs

Thursday, May 26 / 10:40 – 11:40 am / Ballroom C

- 44.1: **A 1.8-in. QVGA AMOLED Display with New Driving Method and Ultra-Slim Technology**
W. K. Kwak, Samsung SDI, Yongin, Korea
- 44.2: **New Driving Method with Current Subtraction Pixel Circuit for AMOLED Displays**
J. Yamashita, Sony Micro Systems Network Co., Kanagawa, Japan
- 44.3: **High-Aperture-Ratio AMOLED Pixel Design Employing V_{DD} Line Elimination for Reducing OLED Current Density**
W-J. Nam, Seoul National University, Seoul, Korea

Session 45: LC Materials and Components

Thursday, May 26 / 10:40 – 11:40 am / Room 302

- 45.1: **High-Contrast Homeotropic Alignment of Difluoro-Tolane Liquid Crystals**
C.-H. Wen, University of Central Florida, Orlando, FL, USA
- 45.2: **Electro-Optics of Liquid Crystals Doped with Ferroelectric Nano-Powder**
C. I. Cheon, Liquid Crystal Institute, Kent State University, Kent, OH, USA
- 45.3: **Compensated TN-LCD with Color Perfection Film**
M. Paukshto, Optiva, Inc., South San Francisco, CA, USA

Session 46: Video Processing & Overdrive Technology

Thursday, May 26 / 10:40 am – 12:00 pm / Room 304

- 46.1: **Adaptive Video Converters: A New Family of Video Conversion ICs for High-Definition A/V Systems**
N. Balram, National Semiconductor Corp., Santa Clara, CA, USA
- 46.2: **LifePix Image-Enhancement Features for Mobile Displays**
P. De Greef, Philips Electronics, Eindhoven, The Netherlands
- 46.3: **Software-Processed Edge- and Level-Adaptive Overdrive (SELAO) Method for High-Quality Motion Pictures**
M. Baba, Toshiba Corp., Kawasaki, Japan
- 46.4: **Improved Technology for Motion-Artifact Elimination in LCD Monitors: Advanced DCC**
S. W. Lee, Samsung Electronics, Yongin, Korea

Session 47: Human Factors and Projection Displays

Thursday, May 26 / 10:40 am – 12:00 pm / Room 311

- 47.1: **Invited Paper: Image-Quality Comparison of PDPs, LCDs, CRTs, and LCoS Projection Displays**
I. Heynderickx, Philips Research Laboratories, Eindhoven, The Netherlands
- 47.2: **Luminance Management for Seamless Multi-Projector Displays**
A. Majumder, University of California at Irvine, Irvine, CA, USA
- 47.3: **Suppression of Color Breakup in Color-Sequential Multi-Primary Projection Displays**
D. Eliav, Genoa Color Technologies, Inc., Herzliya, Israel
- 47.4: **Invited Paper: Wobulation Doubling the Resolution of Projection Displays**
W. Allen, Hewlett-Packard Co., Corvallis, OR, USA

Session 48: Color CRTs

Thursday, May 26 / 10:40 – 3:20 pm / Room 312

- 48.1: **Development of a 32-in. Wide-Deflection-Angle CRT (125°)**
S-C. Shin, Samsung SDI, Ulsan, Korea
- 48.2: **New Thermal Compensation System for a Tension-Mask CRT**
K. Ha, Samsung SDI, Ulsan, Korea
- 48.3: **Finite-Element Modeling Technique and Optimal Bead Design of Frame in CRTs**
H-S. Oh, Samsung SDI, Suwon, Korea
- 48.4: **Development of High-Contrast CRT Based on Nano Pigment Screen Technique**
M-S. Kim, Samsung SDI, Co., Ltd., Ulsan, Korea

Session 49: AMOLEDs II

Thursday, May 26 / 2:00 – 3:20 pm / Ballroom A

- 49.1: **A 14.1-in. Full-Color AMOLED Display with a Top-Emission Structure and a-Si TFT Backplane**
J-H. Jung, Samsung Electronics, Kyunggi-do, Korea
- 49.2: **A 2-in. AMOLED with a-Si:H TFT using PVP Gate Insulator on Plastic Substrate**
J. J. Kyung Hee University, Seoul, Korea
- 49.3: **A 200-dpi Transparent a-Si TFT Active-Matrix Phosphorescent OLED Display**
Y-J. Tung, Universal Display Corp., Ewing, NJ, USA
- 49.4: **Two-TFT Pixel Circuit with Non-Uniformity Suppress Function for Voltage Programming AMOLED Displays**
H. Akimoto, Hitachi, Ltd., Kokubunji, Japan

Session 50: Flexible Displays

Thursday, May 26 / 2:00 – 3:20 pm / Ballroom C

- 50.1: **Single-Substrate Encapsulated Cholesteric LCDs: Coatable, Drapable, and Foldable**
I. Shiyanovskaya, Kent Displays, Inc., Kent, OH, USA
- 50.2: **Cholesteric Liquid-Crystal Micro-Capsules with a Perpendicular Alignment Shell for Photo-Addressable Electronic Paper**
N. Hiji, Fuji Xerox Co., Ebina, Japan
- 50.3: **Electro-Optical Performance of Bending Ultra-Flexible Film-like Display**
Y-R. Lin, ERSO/ITRI, Hsinchu, Taiwan, R.O.C.
- 50.4: **Flexible Encapsulated Cholesteric LCDs by Polymerization-Induced Phase Separation**
T. Schneider, Kent Displays, Inc., Kent, OH, USA

Session 51: Motion-Blur Analysis and Reduction

Thursday, May 26 / 2:00 – 3:20 pm / Room 304

- 51.1: **Temporal Impulse Response and Bandwidth of Displays in Relation to Motion Blur**
M. Klompenhouwer, Philips Research Laboratories, Eindhoven, The Netherlands
- 51.2: **Mastering the Moving Image: Refreshing TFT-LCDs at 120 Hz**
B-W. Lee, Samsung Electronics, Yongin, Korea
- 51.3: **Motion-Adaptive Edge Compensation to Decrease Motion Blur of Hold-Type Display**
T. Kurita, NHK Science & Technical Research Labs, Setagaya, Japan
- 51.4: **Quantitative Analysis of LCD Motion Blur and Performance of Existing Approaches**
H. Pan, Sharp Laboratories of America, Camas, WA, USA

Session 52: Projection Illumination I

Thursday, May 26 / 2:00 – 3:20 pm / Room 311

- 52.1: **A New Driving Scheme for AC-Type Ultra-High-Pressure Mercury Lamp with Highly Stabilized Light Output**
K. Sugaya, Ushio, Inc., Himeji, Japan
- 52.2: **Long-Life UHP Lamps for Consumer Applications**
H. Moench, Philips Research Laboratories, Aachen, Germany
- 52.3: **High-Power InGaN Blue-Laser Diodes for Displays**
T. Kozaki, Nichia Corp., Tokushima, Japan
- 52.4: **High-Speed Green-Frequency-Converted Semiconductor Laser for Projection Displays**
U. Steegmuller, OSRAM OS, Regensburg, Germany

Session 53: Carbon-Nanotube Emitters

Thursday, May 26 / 2:00 – 3:20 pm / Room 312

- 53.1: **Fabrication of CNT Emitter Array with Polymer Insulator**
K. Nishimura, Mitsubishi Electric Co., Amagasaki, Japan
- 53.2: **Characteristics of Field Emission from Printed Carbon Nanotubes by Physical Surface Treatments**
Y-D. Lee, KIST, Seoul, Korea
- 53.3: **Invited Paper: CNT FEDs for Large-Area and HDTV Applications**
E. J. Chi, Samsung SDI, Yongin, Korea
- 53.4: **A New Coated CNT Cathode Using an ITO Ink**
M. Muroyama, Sony Corp., Atsugi, Japan

Session 54: Flexible-Ultra-Low-Power Displays

Thursday, May 26 / 3:40 – 5:00 pm / Ballroom A

- 54.1: **Flexible Electrophoretic Displays with Ink-Jet-Printed Active-Matrix Backplanes**
J. Daniel, Palo Alto Research Center, Palo Alto, CA, USA
- 54.2: **Thin Plastic Electrophoretic Displays Fabricated by a Novel Process**
I. French, Philips Research Laboratory, Redhill, UK
- 54.3: **A Flexible 2-in. QVGA LTPS-TFT Electrophoretic Display**
H. Kawai, Seiko-Epson Corp., Suwa, Japan
- 54.4: **A 4.1-in. Top-Emission AMOLED on Flexible Metal Foil**
J. Jang, Kyung Hee University, Seoul, Korea

Session 55: OLED Materials I

Thursday, May 26 / 3:40 – 5:00 pm / Ballroom C

- 55.1: **Invited Paper: The Isomerism of the Alq₃ Molecule: Evidence from Structural, Thermal, and Photophysical Investigations**
W. Bruetting, University of Augsburg, Augsburg, Germany
- 55.2: **Bipyridyl Oxadiazoles as a New Class of Durable and Efficient Electron-Transporting Materials**
M. Ichikawa, Shinshu University, Nagano, Japan
- 55.3: **Development of Novel Wet-Type Buffer Materials for OLEDs**
G. Ono, Nissan Chemical Industries, Ltd., Funabashi, Japan
- 55.4: **A Novel Hole-Injection Layer with the Ability of Forming Hydrophobic-Hydrophilic Patterns**
Y. Iizumi, Dai Nippon Printing Co., Ltd., Chiba, Japan

Session 56: Other Non-Emissive Displays

Thursday, May 26 / 3:40 – 5:00 pm / Room 302

- 56.1: **Invited Paper: High-Quality Images on E-Ink Displays**
M. Johnson, Philips Research Laboratories, Eindhoven, The Netherlands
- 56.2: **Computational Modeling of Pigment Dispersions in Electrophoretic Display**
H. Kodama, Mitsubishi Chemical Group, Aoba, Japan
- 56.3: **Electrowetting Light Valves with Greater than 80% Transmission, Unlimited Viewing Angle, and Video Response**
J. Heikenfeld, Extreme Photonix LLC, Cincinnati, OH, USA
- 56.4: **Naturally White Electrochromic Display Using Organic/Inorganic Nanocomposite Pulp**
M. Nakashima, Dai Nippon Ink and Chemicals, Inc., Chiba, Japan

Session 57: Interface Technology

Thursday, May 26 / 3:40 – 4:40 pm / Room 304

- 57.1: **Invited Paper:** Advanced Bus System Interface (ABSI) LCD Module
B. Berkeley, Samsung Electronics, Yongin, Korea
- 57.2: **A New Interface WiseBus for Large LCD-TV Applications**
I. K. Chang, Samsung Electronics, Yongin, Korea
- 57.3: **Evaluation Results of LCD Panels Using Point-to-Point Differential Signaling Architecture**
R. McCartney, National Semiconductor Corp., Santa Clara, CA, USA

Session 58: Projection Illumination II

Thursday, May 26 / 3:40 – 5:00 pm / Room 311

- 58.1: **Single-Panel LCoS Color Projector with LED Light Sources**
H. Zou, Philips Research, Briarcliff Manor, NY, USA
- 58.2: **LED Illumination Innovations that Enable Very Small DLP™ Projectors**
S. Dewald, Texas Instruments, Plano, TX, USA
- 58.3: **A New LED Light Source for Projection Applications**
G. Kuhn, OSRAM Opto Semiconductors, Regensburg, Germany
- 58.4: **A Handheld Mini-Projector Using LED Light Sources**
O. Willemsen, Philips Research Laboratories, Eindhoven, The Netherlands

Session 59: FED Panels I

Thursday, May 26 / 3:40 – 5:00 pm / Room 312

- 59.1: **Invited Paper:** National FED Project in Japan
S. Okuda, Mitsubishi Electric Corp., Amagasaki, Japan
- 59.2: **Invited Paper:** Development of CNT-FED by Printing Method
C-C. Lee, ERSO/ITRI, Chutung, Taiwan, R.O.C.
- 59.3: **High-Resolution CNT-FED for Graphics Displays**
J. Yotani, Noritake Co., Ltd., Ise, Japan
- 59.4: **Novel Device Structure of Field-Effect Ferroelectric Electron Emitter**
I. Ohwada, NGK Insulators, Ltd., Nagoya, Japan

Session 60: LCD TV I

Friday, May 27 / 9:00 – 10:00 am / Ballroom A

- 60.1: **Invited Paper:** Image Processing and Color Management for Large-Sized LCD TVs
C-T. Liu, AU Optronics Corp., Hsinchu, Taiwan, R.O.C.
- 60.2: **Invited Paper:** New Technologies for Large-Sized High-Quality LCD TV
N. Kimura, Sharp Corp., Tenri, Japan
- 60.3: **Invited Paper:** Technologies for LCD TV
C. H. Oh, LG.Philips-LCD, Kumi, Korea

Session 61: OLED Materials II

Friday, May 27 / 9:00 – 10 :20 am / Ballroom C

- 61.1: **A Novel Lithium-Contained Electron-Transport Material in Organic EL Devices**
T-H. Liu, AU Optronics, Hsinchu, Taiwan, R.O.C.
- 61.2: **Invited Paper:** Structure and Electronic Structure of Organic Interfaces
K. Seki, Nagoya University, Nagoya, Japan
- 61.3: **Blue Dopants and New Host Materials for Phosphorescent Organic LEDs**
C-T. Chen, Academia Sinica, Taipei, Taiwan, R.O.C.
- 61.4: **Anthanthrene Derivatives for Stable Blue-Emitting Organic EL Devices**
J. Shi, Army Research Laboratory, Adelphi, MD, USA

Session 62: Bistable Displays

Friday, May 27 / 9:00 – 10 :20 / Room 302

- 62.1: **Latest Developments in BiNem® LCDs**
C. Joubert, NEMOPTIC, Magny les Hameaux, France
- 62.2: **Dual-Frequency Bistable Bend Splay LCDs**
F. Yeung, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong
- 62.3: **Reflective Bistable Smectic-A Passive-Matrix LCDs**
M. Mitrokhin, TechnoDisplay AS, Horten, Norway
- 62.4: **Flexible Bistable Smectic-A LCDs Based on PDLC**
E. A. Buyuktanir, Kent State University, Kent, OH, USA

Session 63: Display Manufacturing: Assembly & Test

Friday, May 27 / 9:00 – 10 :20 am / Room 304

- 63.1: **Flip-Chip Assembly of Panel-Sized TFT-LCD Scan Drivers with Electroless-Plated Bumps Using Anisotropic Conductive Films**
S. Noda, NEC System Devices Research Laboratories, Kanagawa, Japan
- 63.2: **New-Generation Electro-Optic Modulator for TFT Array Inspection**
X. Chen, Photon Dynamics, San Jose, CA, USA
- 63.3: **Automated System for Response-Time Optimization and Flicker Reduction in LCD Manufacturing**
B. Park, Samsung Electronics Co., Ltd., Kyunggi-do, Korea
- 63.4: **Invited Paper:** Issues and Challenges Associated with Electrical Testing of Large LCD-TV Arrays
C. Hunter, AKT, Inc., Santa Clara, CA, USA

Session 64: Projection Systems

Friday, May 27 / 9:00 – 10 :20 am / Room 311

- 64.1: **Invited Paper: A Light-Guide Engine for Single-Panel LCoS**
J. Shimizu, Philips Components, Briarcliff Manor, NY, USA
- 64.2: **Design and Characterization of a Compensator for High-Contrast LCoS Projection Systems**
K. Tan, JDS Uniphase Corp., Santa Rosa, CA, USA
- 64.3: **A Single-Panel LCoS Engine with a Rotating Drum and a Wide Color Gamut**
M. Brennholtz, Consultant, Pleasantville, NY, USA
- 64.4: **Four-Primary-Color HTPS Projection Display**
S. Roth, Genoa Color Technologies, Herzlia, Israel

Session 65: PDP TV

Friday, May 27 / 9:00 – 10 :20 am / Room 312

- 65.1: **Improvement in Luminous Efficacy of Ultra-Fine Discharge Cells for 50-in. Full-HD Plasma TV**
M. Yoo, Samsung SDI, Yongin, Korea
- 65.2: **Invited Paper: Technologies for High-Quality TV Image on PDPs**
H. Kawaguchi, Pioneer Corp., Tokyo, Japan
- 65.3: **Invited Paper: Digital HDTV Expands with Plasma Displays**
T. Kurita, NHK Science & Technical Research Labs, Setagaya, Japan
- 65.4: **Invited Paper: Development of Image-Quality Technology for Digital High-Definition Plasma TV**
S. Tsujihara, Matsushita Electric Industrial Co., Ltd., Takatsuki, Japan

Session 66: LCD TV II

Friday, May 27 / 10:40 am - 12:00 pm / Ballroom A

- 66.1: **Invited Paper: Super PVA Achieves Ultimate LCD-TV Performance Leadership**
S-S. Kim, Samsung Electronics, Yongin, Korea
- 66.2: **Invited Paper: New IPS Technology Suite for LCD TVs**
K. Ono, Hitachi, Ltd., Chiba, Japan
- 66.3: **Invited Paper: Image-Quality Improvements in Large-Screen LCD TV**
Y. Yoshida, Sharp Corp., Chiba, Japan
- 66.4: **Technical Issues on Large-Sized High-Resolution High-Gray-Scale TFT-LCDs**
O-K. Kwon, Hanyang University, Seongdong, Korea

Session 67: Solution-Processed OLEDs

Friday, May 27 / 10:40 - 11:40 am / Ballroom C

- 67.1: **Invited Paper: Dendrimers: Efficient Solution-Processed Phosphorescent OLED Materials**
I. Samuel, University of St. Andrews, St. Andrews, Scotland
- 67.2: **Invited Paper: Highly Efficient Fluorescent and Phosphorescent Polymer LEDs**
E. Meulenkaamp, Philips Research Eindhoven, Eindhoven, The Netherlands
- 67.3: **Trilayer Polymer OLED Devices for Passive-Matrix Applications**
F. So, OSRAM Opto Semiconductors, San Jose, CA, USA

Session 68: Transflective LCDs

Friday, May 27 / 10:40 – 11:40 am / Room 302

- 68.1: **A Transflective OCB LCD with Wide Viewing Angle and Fast Response Time**
C-L. Yang, InnoLux Display Corp., Chu-Nan, Taiwan, R.O.C.
- 68.2: **A Single-Step Patterning of the Retardation Layer for a Transflective LCD with a Single LC Mode**
Y-W. Lim, Seoul National University, Seoul, Korea
- 68.3: **An Advanced Transflective TFT-LCD Using Dual Thickness Color Filter**
C-J. Hu, AU Optronics Corp., Hsinchu, Taiwan, R.O.C.

Session 69: Manufacturing OLEDs: Evaporation

Friday, May 27 / 10:40 am – 12:00 pm / Room 304

- 69.1: **Scanning Evaporation System with Multi Evaporation Sources for Manufacturing Large-Sized Full-Color OLED Displays**
Y. Hirakata, Semiconductor Energy Laboratory Co., Ltd., Atsugi, Japan
- 69.2: **Laser-Microstructuring of Cathodes for OLED Displays**
W. Sarfert, University of Erlangen-Nuremberg, Erlangen, Germany
- 69.3: **Novel Co-Evaporation Source for Large-Area OLED Panel Manufacturing**
R. Hartmann, SVT Associates, Eden Prairie, MN, USA
- 69.4: **Invited Paper: Mass Production of Full-Color AMOLED Displays**
J. Hamer, SK Display Corp., Anpach, Japan

Session 70: Rear-Projection TV

Friday, May 27 / 10:40 am – 12:00 pm / Room 311

- 70.1: **Invited Paper: Ultra-Thin Rear Projector**
H. Suzuki, Mitsubishi Electric Corp., Kamakura, Japan
- 70.2: **A Super-Fine-Pitch Screen for Rear-Projection TV**
S. Iwata, Toppan Printing Co., Ltd., Saitama, Japan
- 70.3: **Wide-Angle Projection Optics for Compact Rear Projector**
M. Kuwata, Mitsubishi Electric Corp., Nagaokakyo, Japan
- 70.4: **Invited Paper: Slim Rear Projection**
J. Gohman, InFocus Systems, Wilsonville, OR, USA

Session 71: FED Panels II

Friday, May 27 / 10:40 am – 12:00 pm / Room 312

- 71.1: **Invited Paper: A 36-in. Surface-Conduction Electron-Emitter Display (SED)**
T. Oguchi, SED, Inc., Hiratsuka, Japan
- 71.2: **Invited Paper: Fabrication and Characterization of Surface-Conduction Electron Emitters**
K. Yamamoto, SED, Inc., Kanagawa, Japan
- 71.3: **Color FED for Large-Area HDTV**
K. Dean, Motorola, Tempe, AZ, USA
- 71.4: **Improved Brightness of a FED with Low-Temperature Carbon Nanotubes**
J.-J. Kim, CDream Corp., San Jose, CA, USA

Poster Session

Tuesday, May 24, 2005 / 4:00 – 7:00 pm / Exhibit Hall D

Active-Matrix Devices

- P.1: **Peripherally Crystallized Poly-Si (PCP) for TFTs**
M. Wong, Hong Kong University of Science & Technology, Clear Water Bay, Hong Kong
- P.2: **A New A-Si:H TFT Pixel Circuit Suppressing OLED Current Error Caused by the Hysteresis and Threshold Voltage Shift for Active Matrix Organic Light Emitting Diode**
J. H. Lee, Seoul National University, Seoul, Korea
- P.3: **Analysis of Poly-Si TFT Degradation Behavior Induced by DC Stress**
S.-W. Lee, LG.Philips-LCD, Anyang, Korea
- P.4: **Synthesis and Application of PVP-TiO₂ Composite as a Gate Insulator for Organic TFTs**
J. H. Park, Hongik University, Seoul, Korea
- P.5: **A Voltage Driving AMOLED Display with Luminance Control**
H. Miyake, Semiconductor Energy Laboratory Co., Ltd., Kanagawa, Japan
- P.6: **Development of the RGBW TFT-LCD with Data-Rendering Innovation Matrix (DRIM)**
H. J. Yoon, BOE TFT-LCD SBU, Ichon, Kyunggi-do, Korea
- P.7: **Synthesis and Application of New PVP as OTFT Gate Insulator for SAM-like Interfacial Effects**
S. P. Jang, Hong-ik University, Seoul, Korea
- P.8: **A Novel Feedback-Type AMOLED Driving Method for Large-Sized-Panel Applications**
H.-J. In, Hanyang University, Seoul, Korea
- P.9: **Flicker Reduction Driving Method for Eight-Color Partial-Mode TFT-LCDs Used in Cellular Telephones**
Y. Sekiguchi, Hitachi Material Research Laboratory, Ibaraki, Japan
- P.10: **Mechanism of Lowering Contact Resistance between Transparent Conducting Oxide Layer and Mo/Al/Mo Layer in TFT-LCDs**
C.-O. Jeong, Samsung Electronics Co., Ltd., Yongin, Korea
- P.166: **Microstructural Characterization of the Interface between IZO and Mo/Al/Mo Metal Line Used in TFT-LCDs**
S. Choi, Samsung Electronics Co., Ltd., Yongin, Korea
- P.11: **Development of a 1.51-in. QXGA (Monochrome 423 ppi) Fully Integrated AMOLED Display and a Proposal of Its Applications**
T. Iwabuchi, Semiconductor Energy Laboratory Co., Ltd., Atsugi, Japan
- P.12: **Mobility Enhancement of Polysilicon TFTs using Nano-Wire Channels by Pattern-Dependent Metal-Induced Lateral Crystallization**
Y.-C. Wu, National Chiao Tung University, Hsinchu, Taiwan, R.O.C.
- P.167: **A Simple Architecture for Fully Integrated 2.4-in. Poly-Si TFT-LCD**
C.-S. Tan, AU Optronics Corp, Hsinchu, Taiwan, R.O.C.
- P.13: **A Novel Simple Two-phase Clock of Charge Pump for LTPS ICs**
W.-C. Chen, Toppoly Optoelectronics Corp., Taiwan, R.O.C.
- P.14: **An Efficient Way to Drive H-IPS Mode Using 2 x 2 Inversion Method**
D.-S. Kim, LG.Philips-LCD, Kumi, Korea
- P.15: **Highly Reliable Amorphous-Si TFT with Low Leakage for AMLCD and AMOLED Applications**
C.-W. Chen, National Chiao Tung University, Hsinchu, Taiwan, R.O.C.
- P.168: **LTPS PMOS Four-Mask Process for AMLCDs**
Y.-I. Park, LG Philips R&D Center, Kyunggi-do, Korea
- P.16: **Novel Four-Mask Process in the FFS TFT-LCD with Optimum Multiple-Slit Design Applied by the Use of a Gray-Tone Mask**
S. Choi, SBU Development Center, BOE HYDIS, Kyunggi-do, Korea
- P.164: **Pressure-Resistant Characteristic of Fringe-Field Switching (FFS) Mode Depending on the Distance Between Pixel Electrodes**
H. Y. Kim, Chonbuk National University, Gyeonggi-do, Korea
- P.165: **Optimized Electrode Design to Improve Transmittance in the Fringe-Field Switching (FFS) Liquid-Crystal Cell**
Y. M. Jeon, Chonbuk National University, Gyeonggi-do, Korea
- P.17: **On-Panel Design Technique of Threshold Voltage Compensation for Output Buffer in LTPS Technology**
M.-D. Ker, National Chiao Tung University, Hsinchu, Taiwan, R.O.C.
- P.18: **Performance Improvement of Scaled-Down Top-Contact OTFTs by Two-Step Deposition of Pentacene**
S. H. Jin, Seoul National University, Seoul, Korea
- P.19: **High-Performance Porphyrin Semiconductor for Transistor Applications**
S. Aramaki, Mitsubishi Chemical Group Science & Technology Research Center, Inc., Yokohama, Japan
- P.20: **An AMOLED Pixel for the V_T Compensation of TFT and a P-Type LTPS Shift Register by Employing a One-Phase Clock Signal**
M.-K. Han, Seoul National University, Seoul, Korea
- P.21: **Nanocrystalline-Si TFT Fabricated at 150°C Using ICP-CVD**
M.-K. Han, Seoul National University, Seoul, Korea
- P.22: **High-Performance Fully Self-Aligned Symmetric LDD TFT for System-on-Panel Display**
C.-Y. Liu, Toppoly Optoelectronics, Taiwan, R.O.C.
- P.23: **Smart LCD Using an a-Si Photo Sensor**
J. H. Kim, Samsung Electronics, Yongin, Korea
- P.24: **High-Temperature (250°C) a-Si TFTs on Clear Plastic Substrates**
K. Long, Princeton University, Princeton, NJ, USA
- P.25: **A New Driving Method for a-Si AMOLED Displays Based on Voltage Feedback**
S. Jafarabadiashitani, University of Waterloo, Waterloo, Canada
- P.26: **a-Si Enables Large AMOLED Displays for HDTV**
A. Nathan, Ignis Innovation, Inc., Waterloo, Canada

Applications

- P.27:** A Two-Dimensional Aperture Expander for Ultra-Compact High-Performance Head-Worn Displays
Y. Amitai, LUMUS, Ltd., Rehovot, Israel
- P.28:** A Novel Medical Diagnostic Tool for Non-Invasively Measuring Hemoglobin Utilizing Switchable H-PDLC Display Technology
J. McMurdy, Brown University, Providence, RI, USA
- P.29:** Lowest-Cost USB Display Measurement System for Displays and Monitors
K. Blankenbach, Pforzheim University of Applied Sciences, Pforzheim, Germany
- P.30:** Resizing of LCD Panels Using Precision Dicing Saw
A. Smovzh, Luxell Technologies, Mississauga, Canada

Applied Vision / Human Factors

- P.31:** Horizontal Motion Parallax Is As Effective As Texture Density for Altitude Control in Simulated Flight
C. Covas, Air Force Research Laboratory, Mesa, AZ, USA
- P.32:** How Visible Are Defective Pixels in High-Resolution Displays?
S. Swinkels, Philips Research Laboratories, Eindhoven, The Netherlands
- P.33:** Identification of Simulated Targets as a Function of Target and Background Blur
S. Akhtar, The Boeing Co., Mesa, AZ, USA
- P.34:** Effect of Pixel Patterns and Image-Processing Algorithms for RGBW OLED Displays
M. Miller, Eastman Kodak Co., Rochester, NY, USA
- P.35:** MPEG-Based Image Enhancement for the Visually Impaired: Implementation on a General-Purpose PC Platform
M. Fullerton, Schepens Eye Research, Boston, MA, USA
- P.36:** A New Viewing-Angle Evaluation Method for LCDs with Image Color Difference
K. Miyazaki, Fuji Photo Film Co., Minamiashigara, Japan

CRTs and FEDs

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