ADVANCE PROGRAM

2025 DISPLAY WEEK INTERNATIONAL SYMPOSIUM

May 13-16, 2025 (Tuesday – Friday)
San Jose Convention Center
San Jose, California, US

Sessions 1/2 General Meeting (Annual SID Business Meeting/Opening Remarks / Keynote Addresses)
Tuesday, May 13, 2025 / 8:00 – 10:20 am / Room 220A
Chair: *Paul Yang, Sun Yat-Sen University*

2.1: *Keynote Address 1:* **From Prompts to Pixels: The Future of Human-AI Interaction**
Aparna Chennapragada,, Chief Product Officer, Microsoft

2.2: *Keynote Address 2:* **The Great AI Gear Shift – Understanding the New Dynamics of an AI World**
Keith Strier,, Senior Vice President, Global AI Markets, AMD

2.3: *Keynote Address 3:* **Redefining Displays: Inspiring New Possibilities**
Frank Ko, CEO/President, AUO Corporation

Session 3: AR Display *(AR/VR/MR)*
Tuesday, May 13, 2025 / 11:10 AM - 12:30 PM / Room 220C
Chair: *Nikhil Balram, Mojo Vision*
Co-Chair: *Yun Wang, Meta*

3.1: ***Invited Paper:*** **A Laser-Illuminated Microdisplay for AR**
Zhujun Shi, Meta, Redmond, WA US

3.2: ***Invited Paper:*** **Dual-Edge Color Sequential Front-Lit LCOS for AR Glasses Applications**
Kuan-Hsu Fan-Chiang, Himax Display Inc., Tainan City, Taiwan Roc

3.3: ***Invited Paper:*** **Development of the World's Highest 5,644ppi Full-Color MicroLED Microdisplay for Consumer AR Glasses**
Chih-Ling Wu, PlayNitride Inc., Zhunan Township, Miaoli County, Taiwan Roc

3.4: **Holography and Photonic Integrated Circuit: An Alternative Technology for Power-Efficient Near-Eye Display Architecture**
Christophe Martinez, CEA - Leti, Grenoble, France

Session 4: Display Manufacturing Using Metal Oxide *(Display Manufacturing)*
Tuesday, May 13, 2025 / 11:10 AM - 12:30 PM / Room LL21CD
Chair: *Andriy Romanyuk, Glas Troesch AG*
Co-Chair: *Jakob Bollhalder, Evatec AG*

4.1: ***Invited Paper:*** **Enabling Next-Generation Metal-Oxide Backplane Technology by Atomic Layer Deposition**
Dejiu Fan, Applied Materials Inc., Santa Clara, CA US

4.2: **State-of-the-Art Gas Separation Function in Dynamic New Aristo TWIN PVD System Proven with IGZTO-IGZO Dual-Layer Thin-Film Transistor**
You-Ron Lin, Applied Materials, Tainan City, Taiwan ROC

4.3: **Silicon-Oxide Thin Films Deposited by Plasma-Enhanced Atomic Layer Deposition for High-Mobility Oxide TFT**
Myung soo Huh, Samsung Display Co., Ltd., Yongin, South Korea

4.4: **Finetuning the Microstructure of Metal-Oxide Targets to Optimize Sputter Behavior for Thin Films in TFT**
Hennrik Schmidt, Plansee USA LLC, Franklin, MA US

Session 5: EL-QLED I *(Emissive, Micro-LED, and Quantum-Dot Displays)*
Tuesday, May 13, 2025 / 11:10 AM - 12:10 PM / Room LL21EF
Chair: *Khaled Ahmed, Intel Corporation*
Co-Chair: *Peter Palomaki, Palomaki Consulting*

5.1: ***Invited Paper:*** **Progress and Challenges of QD-EL Technology**
Yiran Yan, TCL Research, Guangzhou, China

5.2: **Efficient Top-Emission Light-Emitting Diode Based on Cadmium-Free Quantum Dots**
Shuaibing Li, BOE Technology Group Co., Ltd., Beijing, China

5.3: ***Distinguished Student Paper:*** **Highly Efficient and Bright Green Quantum-Rod Light-Emitting Diodes with Eliminated Charge Leakage**
Kumar Mallem, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

Session 6: OLED Devices I *(OLEDs)*

Tuesday, May 13, 2025 / 11:10 AM - 12:50 PM / Room LL20BC
Chair: *Yifan Zhang, Apple, Inc.*
Co-Chair: *Denis Kondakov, DuPont*

6.1: ***Invited Paper:*** **Triplet-Triplet Annihilation for Low-Voltage Operation of Organic Light-Emitting Diode**
Seiichiro Izawa, Institute of Science Tokyo, Yokohama, Japan

6.2: ***Invited Paper:*** **Design of OLED Capacitance by Material Combinations**
Alexander Schubert, Merck KGaA, Darmstadt, Germany, Darmstadt, Germany

6.3: **RGB Organic Electroluminescent Devices with High Color Purity and Directionality**
Fatima Bencheikh, KOALA Tech, Inc., Fukuoka, Japan

6.4: ***Late-News Paper:*** **Polaritonic OLEDs with TADF Emitters Enable Narrowband, Angle-Independent and Ultra-Efficient Emission for Brilliant Displays**
Andreas Mischok, University of Cologne, Köln, Germany

Session 7: Advanced Display Driving Circuits *(Display Electronics)*

Tuesday, May 13, 2025 / 11:10 AM - 12:30 PM / Room LL20A
Chair: *Dr. Moon-Sang Hwang, Samsung Display Co., Ltd.*
Co-Chair: *Seung Woo Lee, Kyung Hee University*

7.1: ***Invited Paper:*** **Study of AMOLED Source Fast-Charge Simulation**
Chenghao Liao, BOE Optoelectronics Group Co., Ltd., Chengdu, China

7.2: ***Distinguished Paper:*** **Effective 10-Bit OLED Driver IC with 11-Bit DAC, Double Capacitor-Coupled Adder, and Offset Calibration for Enhanced Panel Driving**
Minjae Lee, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea

7.3: **A Novel 480Hz OLED Display with DFR Gate Driver for Premium Monitors**
Hong-Jae Shin, LG Display Co., Ltd., Paju, South Korea

7.4: **a-IGZO TFT-Based Selective Scan Driver with Stable Operation in Depletion Mode**
Seung-Woo Lee, Dept. of Information Display, Kyung Hee University, Seoul, South Korea

Session 8: Emerging Display Technologies and Applications *(Emerging Technologies and Applications)*

Tuesday, May 13, 2025 / 11:10 AM - 12:30 PM / Room LL20D
Chair: *Susan Jones, Nulumina Corp.*
Co-Chair: *Jignesh Gandhi, Microsoft Corp*

8.1: ***Invited Paper:*** **Saddle-Shaped Intelligent Cockpit Display Solution**
Jennifer Lin, AUO Corporation, Hsinchu City, Taiwan Roc

8.2: **Beamforming of Antenna for ISAC Using Antenna-on-Display**
Keita Iimura, Dai Nippon Printing co., Ltd., Fujimino, Japan

8.3: ***Distinguished Student Paper:*** **Compact Light-Field Camera with Extended Depth-of-Field Using Electrically Depth-Switchable Geometric Phase Lens**
Hyeon-Su Jeong, Kyungpook National University, Daegu, South Korea

8.4: **Polarized Detection Using Patterned Polarizer Coated Quantum-Dot Detector**
Debjyoti Bhadra, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

Session 9: Sustainable LCD Technology *(Liquid Crystal Technology / Sustainable Displays and Green Technologies)*

Tuesday, May 13, 2025 / 11:10 AM - 12:30 PM / Room LL21AB
Chair: *Seth Coe-Sullivan, NS Nanotech*
Co-Chair: *Matthew Sousa, 3M*

9.1: **Carbon Emission Reduction in Polarizers for Achieving Carbon Neutrality**
Seong Il Kim, LG Display Co., Ltd., Seoul, South Korea

9.2: **A High-Transmittance FFS-LCD with Novel Panel Design**
Hongwei Zhao, XiaMen Tianma Microelectronics Co., Ltd., XiaMen, China

9.3: **Comprehensive Analysis of MNT Low-Power Consumption**
Ke Mao, Guangzhou China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Guangzhou, China

9.4: ***Invited Paper:*** **LCD Modes for Sustainability and Energy Saving**
Achim Goetz, Merck KGaA, Darmstadt, Germany, Darmstadt, Germany

Session 10: AR/VR Optics *(AR/VR/MR)*

Tuesday, May 13, 2025 / 2:00 PM - 3:20 PM / Room 220C
Chair: *Cheng Chen, Apple, Inc.*
Co-Chair: *Jisoo Hong, Korea Electronics Technology Institute*

10.1: ***Invited Paper:*** **Aberration Improvement for Head-Mounted Displays with Holographic Optics and Polarized Laser Backlight**
Jin Hirosawa, Japan Display Inc., Mobara City, Japan

10.2: **Foveated Virtual-Reality Display Based on a Pancake Lens**
Zhenyi Luo, University of Central Florida, Orlando, FL US

10.3: ***Invited Paper:*** **Holographic AR HUD with Large FoV and Aberration Correction**

Ben Sherliker, Trulife Optics, london, United Kingdom

10.4: **Optimizing Photon-to-Photon Latency in MR Equipment Video See-Through Display: Design Guidelines and Tuning Strategies**
Lei Zhao, Yongjiang Laboratory, Ningbo, China

Session 11: Maskless Processes for OLED Panel Manufacturing *(Display Manufacturing / OLEDs)*

Tuesday, May 13, 2025 / 2:00 PM - 3:20 PM / Room LL21CD

Chair: *Toshiaki Arai, Japan Display.Inc.*

Co-Chair: *Neetu Chopra, Apple Inc*

11.1: ***Invited Paper:*** **1pL Inkjet Head and G8.5 Equipment Development for 350ppi OLED Display Panels**
Hidehiro Yoshida, Panasonic Production Engineering, Kadoma City, Osaka, Japan

11.2: **Development of Next-Generation Inkjet Printer for High-Resolution QD-OLED Display**
Cheong-Wan Min, Samsung Display Co., Ltd., Yongin, South Korea

11.3: ***Invited Paper:*** **Revolutionary MAX OLED Solution for Next-Generation OLED Displays**
Yusin Lin, Applied Materials Taiwan, Ltd., Hsinchu, Taiwan Roc

11.4: **Moiré-less Touch Sensor Film for High-Definition Displays**
Yuki Nakagawa, Advanced Functional Materials Development Center, FUJIFILM Corporation, Minamiashigari, Japan

Session 12: EL-QLED II *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Tuesday, May 13, 2025 / 2:00 PM - 3:10 PM / Room LL21EF

Chair: *John Van Derlofske, 3M*

Co-Chair: *Zhuo Chen, BOE Technology Group Co., Ltd.*

12.1: **200% Resolution Improvement by Pixelization Using Multi-Color Device**
Jae-In Yoo, Sungkyunkwan University, Suwon, South Korea

12.2: **Ultra-High-Resolution Active-Matrix NanoLED Microdisplay by UV Photolithography**
Kazuya Tsujino, Sharp Corporation, Tenri, Nara, Japan

12.3: **High-Resolution, Intermixing-Free Quantum-Dot Patterning Technology for Electroluminescent Display Applications**
Moon Kee Choi, Ulsan National Institute of Science and Technology, Ulsan, South Korea

Session 13: OLED Devices II *(OLEDs)*

Tuesday, May 13, 2025 / 2:00 PM - 3:20 PM / Room LL20BC

Chair: *Franky So, North Carolina State University*

Co-Chair: *Chihaya Adachi, Kyushu University*

13.1: ***Invited Paper:*** **Organic Laser Indirectly Pumped by an Integrated OLED**
Kou Yoshida, University of St Andrews, St Andrews, United Kingdom

13.2: ***Invited Paper:*** **Impact of Spontaneous Orientation Polarization on Device Performance of Organic Light-Emitting Diodes**
Yutaka Noguchi, Meiji University, Kawasaki, Japan

13.3: ***Invited Paper:*** **Hybrid Tandem Perovskite-Organic Light-Emitting Diodes**
Tae-Woo Lee, Seoul National University, Seoul, South Korea

13.4: **Closing the Reliability Gap Between Blue and Green Phosphorescent Organic Light-Emitting Devices Using the Double-Sided Polariton-Enhanced Purcell Effect**
Haonan Zhao, University of Michigan, Ann Arbor, Ann Arbor, MI US

Session 14: Advanced Display Electronics Applications *(Display Electronics)*

Tuesday, May 13, 2025 / 2:00 PM - 3:00 PM / Room LL20A

Chair: *Hopil Bae, Apple, Inc.*

Co-Chair: *Soo-Yeon Lee, Seoul National University*

14.1: ***Invited Paper:*** **Method to Improve the Stability and Accuracy of LCD with Ambient Light Sensor**
Xiaohe Zhang, Beijing BOE Display Technology Co., Ltd., Beijing, China

14.2: **High-Sensitivity MicroLED-Based Fingerprint Recognition System Using Charge Integrators and Differential Sensing Method**
Seung-Woo Lee, Kyung Hee University, Seoul, South Korea

14.3: ***Late-News Paper:*** **Capacitive and Inductive Hybrid (Inductive-Inductive and Capacitive, LLC) Touch Sensor for Large-Area Bottom-Emission OLED Displays**
Jong-Seok Kim, Hanyang University, Ansan, South Korea

Session 15: Emerging Electronic Textile Technologies *(Emerging Technologies and Applications / Flexible Displays and e-Paper)*

Tuesday, May 13, 2025 / 2:00 PM - 3:20 PM / Room LL20D

Chair: *Fang-Cheng Lin, Apple, Inc.*

Co-Chair: *Maple Peng, Meta*

15.1: **Perovskite-Quantum-Wires-Based Full-Color Fiber Light-Emitting Diodes for Flexible Electronics**
Beitao Ren, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong

15.2: **Electroluminescence Fiber Network for Motion-Sensing Textiles**
Jae-won Kim, Hanyang University, Seoul, South Korea

15.3: **Oxide-TFT-Integrated OLED Fibers for High-Performance Self-Powered Textile Displays**
Na-Young Kwon, Hanyang University, Seoul, South Korea

15.4: **Textile-Based IGZO TFTs with 2T1C Pixel Circuits for Wearable AMOLEDs**
Kyung Cheol Choi, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

Session 16: Waste Reduction, Recycling, and Reuse *(Liquid Crystal Technology / Sustainable Displays and Green Technologies)*

Tuesday, May 13, 2025 / 2:00 PM - 3:20 PM / Room LL21AB

Chair: *WenFang Sung, AUO Corporation*

Co-Chair: *Andriy Romanyuk, Glas Troesch AG*

16.1: **Comprehensive Waste Management Strategy: Risk Control of Waste Production and Disposal**
ChingYun Chang, AUO Corp., Hsinchu, Taiwan ROC

16.2: **Enabling an Ecosystem for Recycling Waste Polarizers**
Pao-Ju Hsieh, MCL/ITRI, Hsinchu, Taiwan ROC

16.3: ***Invited Paper:*** **Innovative Approaches to Lithium Recycle and Reuse of Chemical Strengthening Salt in Display Cover-Glass Manufacturing**
Yusuke Kataoka, AGC Inc. Innovative Technology Laboratories, Yokohama, Japan

16.4: **Verification of Complete Circular Reuse of LCD Panel Components Through Non-Destructive Disassembly**
Tsung-Chou Hsu, Industrial Technology Research Institute, Taiwan, Hsinchu, Taiwan Roc

Session 17: VR Display *(AR/VR/MR)*

Tuesday, May 13, 2025 / 3:40 PM - 5:20 PM / Room 220C

Chair: *Ruiqing Ma, Meta*

Co-Chair: *Joon Young Yang, LG Display Co. Ltd*

17.1: ***Invited Paper:*** **Evolution and Differentiation of OLED Microdisplay**
Tsutomu Shimayama, Sony Semiconductor Solutions Corporation, Atsugi, Japan

17.2: ***Distinguished Student Paper:*** **5,009ppi, 10,000-cd/m2, OLED/OS/Si Structure Display with Built-In CPU and Display Driver**
Yuki Tamatsukuri, Semiconductor Energy Laboratory Co., Ltd., Kanagawa, Japan

17.3: ***Invited Paper:*** **Power-Saving Strategies in High-Resolution 4K VR LCD Technology**
Yung-Hsun Wu, Innolux CORP., Miaoli County,

17.4: ***Invited Paper:*** **0.9 -in. 6,020ppi 4Kx4K Silicon-Based Micro-OLED Display Technology**
Cong Ning, BOE Technology Group Co., Ltd., Beijing, China

17.5: **Development of a Real 4Kx4K VR Display with Ultra-Wide Color Gamut and Panel Eye-Tracking Technology**
Lutong Wang, BOE Technology Group Co., Ltd., Beijing, China

Session 18: OLED Display Panel Manufacturing Processes/Equipment *(Display Manufacturing)*

Tuesday, May 13, 2025 / 3:40 PM - 5:10 PM / Room LL21CD

Chair: *Neetu Chopra, Apple Inc*

Co-Chair: *Toshiaki Arai, Japan Display, Inc.*

18.1: **Development of a Linear Nozzle Source for 10.5G White OLED Mass Production System**
Myungwoon Choi, YAS Co., Ltd., Paju, South Korea

18.2: **Efficient Methodology for Increasing Atomic Layer Deposition Throughput by Optimizing Deposition Rate of SiO2 Film**
Tao Wang, BOE Technology Group Co., Ltd., Beijing, China

18.3: **Comparative Cost, Benefit, and Adoption Analysis of Color Filter on Encapsulation (COE) to Circular Polarizers (C-POL) in Anti-Reflective Film Applications for OLED Displays**
Charles Annis, Omdia, Kyoto, Japan

18.4: **A Novel Methodology for Evaluating Corrosion Failure Risk in OLED Panels**
Hyun Sung Park, Samsung Display Co., Ltd., Yongin, South Korea

18.5: ***Late-News Paper:*** **Development of the In-Situ Thickness Monitoring and Feedback System for OLED Evapolation System.**
Eiichi Matsumoto, Canon Tokki Corporation, Niigata, Japan

Session 19: EL-QLED III *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Tuesday, May 13, 2025 / 3:40 PM - 5:00 PM / Room LL21EF

Chair: *Michele Ricks, EMD Electronics*

Co-Chair: *Peter Palomaki, Palomaki Consulting*

19.1: ***Invited Paper:*** **Advancing Inkjet-Printed Electroluminescent Quantum-Dot Displays Toward Commercialization: Improving Blue EL-QD Lifetime**
Sehun Kim, Samsung Display Co., Ltd., Yongin, South Korea

19.2: ***Distinguished Paper:*** **All Inkjet-Printed QD-LED Display with High Resolution of 264 ppi**
Dongjin Kang, Display Research Center, Samsung Display Co., Ltd, Yongin-City, South Korea

19.3: **Solution-Processed Inverted 3-Stack Tandem QD-LEDs with RGB Layer**
Ha-Rim Jung, Sungkyunkwan University, Suwon, South Korea

19.4: ***Late-News Paper:*** **Ester-Based Quantum Dot Ink for High-Performance Printed RGB Quantum Dot LED**
Wenjun Hou, TCL Corporate Research, Shenzhen, China

Session 20: OLED Common Layer Materials *(OLEDs)*
Tuesday, May 13, 2025 / 3:40 PM - 5:00 PM / Room LL20BC
Chair: *Nicholas Thompson, Universal Display Corporation*
Co-Chair: *Yasunori Kijima, Huawei Technologies Japan K.K.*

20.1: ***Invited Paper:*** **Development of a Novel p-Dopant for OLED and Its Combination with HTL to Reduce Leakage Current**
JungBum KIM, LG CHEM, Seoul, South Korea

20.2: ***Invited Paper:*** **Maximizing Blue OLED Power Efficiency Using Ultra-Strong p-Dopants**
Julia Stolz, CREDOXYS GmbH, Dresden, Germany

20.3: ***Invited Paper:*** **Development of Functional Polymer Materials Based on Inkjet Printing for Next-Generation OLEDs**
Jeahyun Shim, Solus Advansed Materials, Seongnam, South Korea

20.4: **Highly Reliable Blue Phosphor-Sensitized Fluorescent Tandem Organic Light-Emitting Diode Utilizing Spontaneous Orientation Polarization in Electron-Transport Layer**
Hiromitsu Kido, Semiconductor Energy Laboratory Co., Ltd., Kanagawa, Japan

Session 21: Display Compensation Technologies *(Display Electronics)*
Tuesday, May 13, 2025 / 3:40 PM - 5:00 PM / Room LL20A
Chair: *Jacob (Minhyuk) Choi, Meta*
Co-Chair: *Tsang-Hong Wang, BOE*

21.1: ***Invited Paper:*** **EM Compensation Applications and Results for Flexible Active-Matrix Organic Light-Emitting Diode Notebook Display**
Zheng De Lai, BOE Optoelectronics Group Co., Ltd., Chengdu, China

21.2: ***Distinguished Paper:*** **A Color and Brightness Shift Compensation Method for OLED TDDI Panel Using Metal-Mesh Capacitive-Touch Sensor with Temperature Sensing**
Wan-Nung Tsung, Novatek Microelectronics Corp., Hsinchu, Taiwan ROC

21.3: **2D IRC Compensation Technology Research**
Chunhui Ren, Kunshan Govisionox Optoelectronics Co., Ltd., Jiangsu, China

21.4: **Method for Improving Burn-in for RGBW OLED Displays**
Yong-Su Yoo, LG Electronics, Seoul, South Korea

Session 22: Artificial Intelligence for Emerging Technologies and Applications *(Emerging Technologies and Applications / Artificial Intelligence Including Machine Learning for Imaging)*
Tuesday, May 13, 2025 / 3:40 PM - 5:00 PM / Room LL20D
Chair: *Prof. Hyoungsik Nam, Kyung Hee University*
Co-Chair: *Adi Abileah, Adi - Displays Consulting LLC*

22.1: **Automated Malfunction Detection for Robotic Arms in Panel Manufacturing Using Deep Latent State Space Model**
Kaushik Balakrishnan, Samsung Display America Lab, San Jose, CA US

22.2: **Thumb Gesture Recognition Method Using Wrist EMG Signals with a Machine Learning Algorithm**
Yu Sheng Zeng, Novatek Microelectronics Corp., Hsinchu, Taiwan ROC

22.3: ***Distinguished Student Paper:*** **BDLUT: Blind Image Denoising with Hardware-Optimized Look-Up Tables**
Boyu LI, The University of Hong Kong, Hong Kong, Hong Kong

22.4: **A Novel Color Temperature Prediction Algorithm by Machine Learning**
Yi-Ting Chung, Novatek Microelectronics Corp., Hsinchu, Taiwan ROC

Session 23: Low Power LCDs *(Liquid Crystal Technology)*
Tuesday, May 13, 2025 / 3:40 PM - 5:00 PM / Room LL21AB
Chair: *Jenn Jia Su, AU Optronics Corporation*
Co-Chair: *Gang Xu, Jingce Electronics, USA*

23.1: ***Invited Paper:*** **Ultra-Low-Power FFS LCD with High Transmittance, Low Voltage and Low-Refresh-Rate Driving**
Hiroaki Asagi, Sharp Corp., Nara, Japan

23.2: ***Invited Paper:*** **Field-Sequential Color Display**
Jia-Hong Wang, AUO Corporation, Hsinchu, Taiwan Roc

23.3: ***Invited Paper:*** **Low-Power Consumption Liquid-Crystal Displays Based on Oxide Thin-Film Transistors**
Wenming Ren, Nanjing BOE Display Technology Corp., Nanjing, China

23.4: ***Invited Paper:*** **Viewing Angle Improvement of Reflective Liquid-Crystal Display by Optimizing the MRS Structure**
Lina Wu, TCL Huaxing Optoelectronics Technology Co., Ltd., shenzhen, China

Session 24: AR Waveguide I *(AR/VR/MR)*
Wednesday, May 14, 2025 / 9:00 AM - 10:00 AM / Room 220C
Chair: *Shin Tson Wu, University Of Central Florida, College of Optics and Photonics*
Co-Chair: *Yao-Wei Huang, National Yang Ming Chiao Tung University*

24.1: ***Invited Paper:*** **Toward Mass Production of Polarization Volume Hologram Waveguides**
Cesar Clavero, Intermolecular Inc, a subsidiary of Merck KGaA, Darmstadt, Germany, San Jose, CA US

24.2: **Novel Polarization Conversion Effect in Polarization Volume Gratings for Waveguide-Based AR Displays**
Yuqiang Ding, University of Central Florida, Orlando, FL US

24.3: **AR Glasses with Single Microdisplay and Optics Based on Polarization Volume Hologram (PVH)**
Darwin Hu, Phasereality Lab., Sysview Technology, Inc., San Jose, CA US

24.4: **WITHDRAWN**

Session 25: Green Approach to Displays *(Display Manufacturing / Sustainable Displays and Green Technologies)*

Wednesday, May 14, 2025 / 9:00 AM - 10:00 AM / Room LL21CD

Chair: *WenFang Sung, AUO Corporation*

Co-Chair: *Joerg Winkler, PLANSEE SE*

25.1: **Key Environmental Aspects of Sustainable Display and Labeling Mechanism**
Hung-Che Lin, AUO Corp., Hsinchu, Taiwan ROC

25.2: **Eco-Friendly NMP Free Polyimide for AMOLED Display Substrate**
Heekyun Shin, Samsung Display Co., Ltd., Yongin, South Korea

25.3: ***Invited Paper:*** **Carbon-Neutral Display: Linking to a Green Visual World**
Jian Guo, BOE Technology Group Co., Ltd., Beijing, China

Session 26: microLED Devices I *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Wednesday, May 14, 2025 / 9:00 AM - 10:20 AM / Room LL21EF

Chair: *Qun Yan, Fuzhou University*

Co-Chair: *Francois Templier, CEA-LETI*

26.1: ***Invited Paper:*** **Breaking the Efficiency Bottleneck of microLEDs Through Nanoscale and Excitonic Engineering**
Zetian Mi, University of Michigan, Ann Arbor, MI

26.2: **Insulation and Planarization of Nanowire LEDs**
Seth Coe-Sullivan, NS Nanotech, Rolling Hills Estates, CA US

26.3: **Pyramidal MicroLEDs in the Same Material System Delivering RGB**
Ivan Martinovic, Polar Light Technologies AB, Linköping, Sweden

26.4: ***Late-News Paper:*** **A Bottom-Up InGaN Technology for Ultra-High Brightness R,G,B-Emitting MicroLEDs**
Mikael Björk, Hexagem AB, Lund, Sweden

Session 27: Novel Display Systems *(Display Systems)*

Wednesday, May 14, 2025 / 9:00 AM - 10:20 AM / Room LL20BC

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

Co-Chair: *W. Hendrick, Collins Aerospace*

27.1: **Liquid Light Projection and Interaction**
Aditi Majumder, University of California, Irvine, CA US

27.2: **Research on Key Technologies for Large Transparent MiniLED Display Devices**
Yang Yue, BOE, BeiJing, China

27.3: ***Invited Paper:*** **Technical and Industrialization Progress on ViP OLED Display Technology**
Yiming Xiao, Hefei Visionox Technology Co., Ltd., Hefei, China

27.4: **Deformation-Aware Luminance Compensation Using Gaussian-Weighted Kernels for Stretchable Displays**
Ye-In Park, Sogang University, Seoul, South Korea

Session 28: Innovative Display Quality Improvements *(Display Electronics)*

Wednesday, May 14, 2025 / 9:00 AM - 10:20 AM / Room LL20A

Chair: *Carlin Vieri, Google*

Co-Chair: *Feng-Ting Pai, Novatek Microelectronics Corp.*

28.1: **Evaluation and Improvement of the First Frame Ratio under Extremely Low Luminance in AMOLED Displays**
Sangmoo Choi, Google LLC, Mountain View, CA US

28.2: **Addressing Image Retention for MLED LTPS COG: A Compensation Method Based on Thermal Diffusion, Boundary Search, and Frame History**
Zheyuan Song, BOE Technology Group Co., Ltd, Beijing, China

28.3: **Frequency Decomposition-Based High-Performance Demura Processing with Low Memory Cost**
Pilseung Heo, Samsung Electronics Co., Ltd., Yongin, South Korea

28.4: **Aftermarket Detection of Line Defects in Display Panels Using New TDDI with Testing Mode**
Ya-ru Yang, National Yang Ming Chiao Tung University, Hsinchu, Taiwan ROC

Session 29: Emerging Medical Sensing and Displays I *(Emerging Technologies and Applications)*

Wednesday, May 14, 2025 / 9:00 AM - 10:00 AM / Room LL20D

Chair: *Jignesh Gandhi, Microsoft Corp*

Co-Chair: *Abhishek Srivastava, Hong Kong University of Science & Technology*

29.1: ***Invited Paper:*** **Practical Electronic Noses Through Integration of Selective Semipermeable Membranes with Organic Field Effect Transistors**
Bright Walker, Kyung Hee University, Seoul, South Korea

29.2: **Preparation, Mechanism Analysis, and Physiological Signal Monitoring Applications of a Flexible Sensing System Integrated with InSnZnO TFTs**
Mei Yang, School of Microelectronics, South China University of Technology, Guangzhou, China

29.3: **Perovskite-Based Artificial Vision System for In-Sensor Processing**
Shivam Kumar, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

29.4: ***Invited Paper:*** **Autostereoscopic Displays for Healthcare Applications**
Tom Kimpe, Barco NV, Kortrijk, Belgium

Session 30: Advanced Display Measurement *(Display Measurement)*

Wednesday, May 14, 2025 / 9:00 AM - 10:00 AM / Room LL21AB

Chair: *Stephen Atwood, Consultant*

Co-Chair: *Thomas Fiske, Intuitive Surgical*

30.1: ***Distinguished Paper:*** **Measuring and Characterizing the Diffractive Component in Display Reflection**
Ingo Rotscholl, TechnoTeam Bildverarbeitung GmbH, Ilmenau, Germany

30.2: **Point-Spread Function Methods for Evaluating Display Reflection**
Dirk Hertel, E Ink Corp., Billerica, MA US

30.3: **Matched Moving-Window Averaging Filter**
Michael Becker, Display-Messtechnik & Systeme, Rottenburg am Neckar, Germany

Session 31: AR Waveguide II *(AR/VR/MR / Display Systems)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 PM / Room 220C

Chair: *Brian Schowengerdt, Meta*

Co-Chair: *Gary Jones, Nanoquantum Corporation*

31.1: ***Invited Paper:*** **High-Uniformity Full-Color Waveguides Fabricated by Nanoimprint Lithography for Near-Eye Display**
Seok-Lyul Lee*, AUO Corporation, Hsinchu, Taiwan Roc*

31.2: **Comparison of Image Resolution Limits in Glass and Polymer Waveguides**
Kevin Nilsen, University of Central Florida, Orlando, FL US

31.3: ***Invited Paper:*** **Inverse Design on Meta-Optics for Augmented Reality and Depth Perception**
Yao-Wei Huang, National Yang Ming Chiao Tung University, Hsinchu, Taiwan ROC

31.4: ***Invited Paper:*** **Nanophotonics and AI for Augmented Reality and Imaging Applications**
Gun-Yeal Lee, Stanford University, Stanford, CA US

Session 32: Sustainable Value Chains *(Display Manufacturing Sustainable Displays and Green Technologies)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 PM / Room LL21CD

Chair: *Seth Coe-Sullivan, NS Nanotech*

Co-Chair: *Kazutaka Hayashi, AGC Inc.*

32.1: ***Invited Paper:*** **How Geopolitics Might Reshape Global Display Supply Chains**
Burkhard Slischka, ALLOS Semiconductors, Dresden, Germany

32.2: **Impact of Product Carbon Footprint Calculation Methodologies on Carbon Footprint Values**
Hung-Che Lin, AUO Corp., Hsinchu, Taiwan ROC

32.3: ***Invited Paper:*** **Availability and Sourcing of Cerium, Gallium, Indium, and Iridium: Key Critical Materials for the Display Market**
Guillaume Gélinas, Vital Materials, Cupertino, CA US

32.4: **Suppliers Carbon Footprint Investigation and Factors Comparative Analysis and Management: A Case Study of Metal Parts**
Hsin-Ying Chen, AUO Corp., Hsinchu, Taiwan ROC

Session 33: microLED Devices II *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 PM / Room LL21EF

Chair: *Jean-Jacques Drolet, Osram Opto Semiconductors*

Co-Chair: *Yajie Dong, University of Central Florida*

33.1: ***Invited Paper:*** **Impact of Confinement Effects in microLED Display for AR on Color Mixing**
Soeren Steudel, MICLEDI microdisplay BV, Leuven, Belgium

33.2: ***Distinguished Student Paper:*** **High-Efficiency Low-Crosstalk Red AlGaInP MicroLEDs with Continuous Multiple Quantum Wells for Low-Power AR Glasses**
Yizhou Qian, University of Central Florida, Orlando, FL US

33.3: **Study on Indium Composition-Related Leakage Current Behavior Through Analysis of Spatial Electroluminescence Inhomogeneity in Blue and Green Micro Light-Emitting Diodes**
Jaekyun Kim, Hanyang University, Ansan, South Korea

33.4: **MicroLED in Series on a Single Chip for Display Performance Enhancement**
Hugues Lebrun, Aledia, Champagnier, France

Session 34: Backlight Systems *(Display Systems)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 PM / Room LL20BC

Chair: *Sam Phenix, Phenix Consulting*

Co-Chair: *Daming Xu, Apple Inc*

34.1: **Reduced Halo Effect and Narrowed Point Spread Function (PSF) Based on VR MiniLED Backlight**
Shibiao Wang, Beijing BOE CHUANGYUAN Technology Co., Ltd., Beijing, China

34.2: **Ultimate Effect of Blind Vias in LCD Module**
Qi Jing, BOE Technology Group Co., Ltd., Beijing, China

34.3: **Hyper Narrow Bezel (HNB) LCD Video Wall Module with High Picture Quality and Reliability**
Changjia FU, BOE Technology Group Co., Ltd., Beijing, China

34.4: **Composite MiniLED Backlight Packaging Structure with High Efficiency and Improved Uniformity**
Po-Jui Chen, Graduate Institute of Electronics Engineering, National Taiwan University, Taipei, Taiwan Roc

Session 35: Display Data Transmission and Processing *(Ultra-High Bandwidth Display Data Transmission and Processing / Display Electronics)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 M / Room LL20A

Chair: *Paolo Sacchetto, Apple Inc*

Co-Chair: *Chaohao Wang, YLab*

35.1: **A Real-Time Visualization EMT Technique for 2D Eye Diagram Measurement with 99% Height Accuracy**
Junho Park, Samsung Electronics, Hwaseong, South Korea

35.2: **Research on Anti-WiFi Noise Interference Technology for Display Driver IC**
Qianqian Lv, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

35.3: **A Novel Approach for Connector Modeling and Simulation Using Machine Learning**
Zaiyong Deng, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

35.4: **An Embedded DisplayPort 8.1Gbps RX PHY by Digital CDR with High ESD Capabilities at 12nm**
Yushyang Huang, Himax Technologies Inc., Hsinchu, Taiwan Roc

Session 36: Emerging Medical Sensing and Displays II *(Emerging Technologies and Applications)*

Wednesday, May 14, 2025 / 10:40 AM - 11:40 AM / Room LL20D

Chair: *Jim Zhuang, Meta*

Co-Chair: *Ian Underwood, University of Edinburgh*

36.1: **The Application of AMOLED Near-Eye Display Technology in Enhancing Humanistic Care in Hospitals**
Xiujian Zhu, Kunshan Govisionox Optoelectronics Co., Ltd., Kunshan, China

36.2: **Dental Color Reproduction System with AI Object Recognition Technology**
Qi-Lun Wu, AUO Corp., Hsinchu, Taiwan ROC

36.3: **WITHDRAWN**

36.4: ***Distinguished Student Paper:*** **Bottom-Emitting Striped MicroLED Array Light Source for Uniform Optical Sectioning Structured Illumination Microscopy**
Oliver Durnan, Columbia University, New York, NY US

Session 37: Spatial / Temporal Measurement *(Display Measurement)*

Wednesday, May 14, 2025 / 10:40 AM - 12:00 PM / Room LL21AB

Chair: *Stephen Atwood, Consultant*

Co-Chair: *Dr.-Ing. Ingo Rotscholl, TechnoTeam Bildverarbeitung GmbH*

37.1: **A Novel Wavelet-Based Flicker Metric for Variable Refresh-Rate Displays**
Hamid Reza Tohidypour, University of British Columbia, Vancouver, BC Canada

37.2: **Enhancing VRR Flicker Index Using TIme-Domain Analysis**
Hyosun Kim, Samsung Display Co., Ltd., Gyeonggi, South Korea

37.3: **Study on the Influence of Scan Time on the Test Accuracy of High-ppi Fast LCD Product Response Time**
Xinfang Li, Beijing BOE CHUANGYUAN Technology Co., Ltd., Beijing, China

37.4: **Research on the Measurement Method of Halo Effect in HDR LCDs**
Li Song, Everfine Corp., Hangzhou, China

Session 38: Novel uLED Display Systems *(Display Systems / Emissive, Micro-LED, and Quantum-Dot Displays)*

Wednesday, May 14, 2025 / 3:30 PM - 4:50 PM / Room 220B

Chair: *Sergei Yakovenko, consultant*

Co-Chair: *Zhaojun Liu, Southern University of Science and Technology*

38.1: **Advanced HMI for AI-Enabled Hardware and Applications**
Reza Chaji, VueReal, Waterloo, ON Canada

38.2: **88-in. MicroLED Tiling Display for Commercial Display Application**
Xuan Cao, Chengdu Vistar Optoelectronics, Ltd., Chengdu, China

38.3: ***Invited Paper:*** **Nova MicroLED for Next-Generation Display Applications**
Kuan Yung Liao, PlayNitride Inc., Miaoli County, Taiwan Roc

38.4: ***Distinguished Paper:*** **0.26-in. LED Microdisplay Using Pixel Level Cu-Cu Connections of Transferred GaN/Si and CMOS Backplane Wafer**
Haruki Tsuchiya, Sony Semiconductor Solutions Corp., Atsugi, Japan

Session 39: Ultra-High Bandwidth for AR/VR/MR *(AR/VR/MR / Ultra-High Bandwidth Display Data Transmission and Processing)*

Wednesday, May 14, 2025 / 3:30 PM - 4:50 PM / Room 220C
Chair: *Chaohao Wang, YLab*
Co-Chair: *Yun Wang, Meta*

39.1: ***Invited Paper:*** **A Multi-Drop High-Speed Link with Foveated Up-Scaler to Reduce Wires and Data Bandwidth in LED-on-Silicon-Backplane for AR Glasses**
Hyun-Wook Lim, Samsung Electronics, Yongin, South Korea

39.2: ***Invited Paper:*** **Sampled Analog Driving of High Frame-Rate UHD Displays**
Alex Henzen, HYPHY USA, Inc., Zoetermeer, Netherlands

39.3: ***Invited Paper:*** **Novel Method for Ultra-High-Resolution VR Display System**
Hao Zhang, BOE Technology Group Co., Ltd., Beijing, China

39.4: ***Invited Paper:*** **Quest 3S Immersive Display with High Visual Fidelity**
Jie Xiang, Meta, Sunnyvale, CA US

Session 40: Advanced TFT and Fingerprint Sensor Manufacturing *(Display Manufacturing)*

Wednesday, May 14, 2025 / 3:30 PM - 4:30 PM / Room LL21CD
Chair: *Tian Xiao, NEXT Biometrics Inc.*
Co-Chair: *Joerg Winkler, PLANSEE SE*

40.1: **A Study on Maskless Process of Metal Insulator Metal Storage Cap Doping**
In young Chung, Samsung Display Co., Ltd., Yongin, South Korea

40.2: **Highly Robust, Dual-Gate Polycrystalline In0.7Ga0.3O TFTs by Spray Pyrolysis for Low-Cost Manufacturing of OLED Display**
Jin Jang, Kyung Hee University, Seoul, South Korea

40.3: **Next-Generation Capacitive Fingerprint Sensing Device Using IGZO TFT Technology**
Toru Sakai, Touch Biometrix Ltd., Eindhoven, Netherlands

Session 41: QD Color Conversion *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Wednesday, May 14, 2025 / 3:30 PM - 4:30 PM / Room LL21EF
Chair: *Yong Seog Kim, Hongik University*
Co-Chair: *Keunchan Oh, Samsung Display*

41.1: **Photolithographic Quantum-Dot OLED Display**
Rongzhen Cui, Yungu(Gu'an) Technology Co., Ltd., Hebei, China

41.2: **New-Type LED with G-QD@KSF and Its Application in Liquid-Crystal Displays**
Chengyi Xu, BOE Technology Group Co., Ltd., Hefei, China

41.3: **Quantum Dots for Thin-Film Optical Conversion**
David O'Brien, ams OSRAM, Hillsboro, OR US

Session 42: Liquid Crystal Technology for AR/VR/MR *(Liquid Crystal Technology / AR/VR/MR)*

Wednesday, May 14, 2025 / 3:30 PM - 4:50 PM / Room LL20BC
Chair: *Linghui Rao, Meta*
Co-Chair: *Michael Wittek, Merck KGaA*

42.1: **Spatial Light Modulator with Phase and Amplitude Control for Holographic Displays**
Fenglin Xi, Kent State University, Kent, OH US

42.2: ***Invited Paper:*** **Advanced LC Dimmer Technology for AR Glasses**
Chiu-lien Yang, Innolux CORP., Miaoli County, Taiwan Roc

42.3: **Correlation between LCD Dynamic Contrast and Pancake VR Optical System**
Jingran Niu, Beijing BOE CHUANGYUAN Technology Co., Ltd., Beijing, China

42.4: ***Invited Paper:*** **Multi-Notch High See-Through Bragg Mirror/Grating for MR/AR Applications**
Ali Altaqui, Meta Platforms Inc., Redmond, WA, US

Session 43: Micro Display Circuits and Driving *(Display Electronics)*

Wednesday, May 14, 2025 / 3:30 PM - 4:50 PM / Room LL20A
Chair: *Dr. Juhn Yoo, LG Display*
Co-Chair: *Wei Yao, Apple Inc*

43.1: ***Invited Paper:*** **The Latest Trends on CMOS Backplane for uLEDoS Microdisplay for AR Smart Glasses**
Myunghee Lee, Sapien Semiconductors Inc., Pangyo, South Korea

43.2: **Design of Micro-OLED Display Driver with OS/Si Structure Enabling Control of Multiple Functions Using 4 CPU-Embedded Drivers in Si Layer**
Minato Ito, Semiconductor Energy Laboratory Co., Ltd., Kanagawa, Japan

43.3: **Research and Optimal Driving Methodology for Image Quality Defects Occuring in 4K 1.3-in. OLEDoS**
Seongan Park, Samsung Display Co., Ltd., Yongin, South Korea

43.4: **4,105ppi LEDoS Pixel Circuit with an Analog Pulse-Width-Modulation Driving Method Employing a Dual-Sweep Signal for Wider Data Range**
Chanjin Park, Seoul National University, Seoul, South Korea

Session 44: Emerging Technologies for Medical Applications *(Emerging Technologies and Applications)*

Wednesday, May 14, 2025 / 3:30 PM - 4:50 PM / Room LL20D

Chair: *Maple Peng, Meta*

Co-Chair: *Vincent Gu, Apple, Inc.*

44.1: **Novel 40Hz Stimulated Brainwave Display for Reducing the Risk of Alzheimer's Disease**
Yi-Ting Liaw, AUO Corp., Hsinchu, Taiwan ROC

44.2: **Optogenetic Manipulation of Neurons Using Organic Light-Emitting Diodes**
Kukjoo Kim, Electronics and Telecommunications Research Institute, Daejeon, South Korea

44.3: **Toward a Virtual-Reality Diagnostic Suite for Cerebral Visual Impairment**
Ian Underwood, School of Engineering, The University of Edinburgh, Edinburgh, Scotland Uk

44.4: **A 100-dpi Active-Matrix Tactile Sensor Based on Carbon Nanotube TFT for Haptic Applications**
Di Liu, Peking University, , China

Session 45: AR/VR Measurement *(Display Measurement)*

Wednesday, May 14, 2025 / 3:30 PM - 4:10 PM / Room LL21AB

Chair: *Thomas Fiske, Intuitive Surgical*

Co-Chair: *Chuck Yin, Meta*

45.1: **WITHDRAWN**

45.2: **WITHDRAWN**

45.3: **Eye-Box Measurement for Augmented-Reality Waveguides with Pupil Expansion**
Li Xin, Yongjiang Laboratory, Ningbo, China

45.4: ***Distinguished Paper:*** **Optical Measurement with Foveated Rendering and Dynamic Compensation in Eye-Tracking Near-Eye Displays**
Lei Zhao, Yongjiang Laboratory, Ningbo, China

Session 46: 3D Display Systems *(Display Systems)*

Thursday, May 15, 2025 / 9:00 AM - 10:40 AM / Room 220C

Chair: *David Eccles, Consultant*

Co-Chair: *Zong Qin, Sun Yat-Sen University*

46.1: **Commercial Implementation of Large Multi-Layer Displays**
YuTang Tsai, AUO Corp., Hsinchu, Taiwan ROC

46.2: **Reducing Moiré in Flat-Panel 3D Displays with a Random Parallax Barrier**
Xinxing Xia, Shanghai University, Shanghai, China

46.3: **A Design of Autostereoscopic 3D Display Based on High PPI OLED Screen**
Yiming Jia, Yungu (Gu'an) Technology Co., Ltd., Beijing, China

46.4: **Adaptive Crosstalk Reduction Method in Eye-Tracking Stereoscopic Three-Dimensional Displays Using Color Similarity and Inverse Filter**
Young Min Kim, Samsung Research, Samsung Electronics Co. Ltd., Seoul, South Korea

46.5: ***Invited Paper:*** **A Novel Technology to Achieve 3D Polarized Stereoscopic Display Utilizing Glass-Patterned Retarder**
JunYing Xiao, BOE Technology Group Co., Ltd., Beijing, China

Session 47: Display Manufacturing for AR/VR/MR *(Display Manufacturing)*

Thursday, May 15, 2025 / 9:00 AM - 10:20 AM / Room LL21CD

Chair: *Yung-Yu Hsu, Meta*

Co-Chair: *Jakob Bollhalder, Evatec AG*

47.1: **Triple-Nozzle Revolving Evaporation Source for RGB Direct Patterning OLEDoS Mass Production**
Sungmoon Kim, Depolab Inc., Paju, South Korea

47.2: **World's First OLED Display Using 12-in. IGZO-on-Si 3D Monolithic Integration**
Shou-Zen Chang, Powerchip Semiconductor Manufacturing Corp., Hsinchu, Taiwan ROC

47.3: **Submicron c-IGO TFT Exhibiting High Performance and Excellent Stability for Ultra-High-Resolution Display**
Jin Jang, Kyung Hee University, Seoul, South Korea

47.4: ***Invited Paper:*** **H-PDLC-Based Volume Holographic Gratings with High Diffraction Efficiency for Augmented Reality**
Huang Hua, BOE Technology Group Co. Ltd., Beijing, China

Session 48: Artificial Intelligence for Active Matrix Devices *(Active Matrix Devices / Artificial Intelligence Including Machine Learning for Imaging)*

Thursday, May 15, 2025 / 9:00 AM - 10:20 AM / Room LL21EF

Chair: *Eunkyung Koh, Samsung Display Research Center*

Co-Chair: *Jin-Seong Park, Hanyang University*

48.1: **Layout Engineering for Oxide Mura Mitigation in AMOLED Displays: A Data-Driven Causal Analysis**
kyongtae Park, AI TF of Mobile Business Samsung Display, Suwon, South Korea

48.2: **Improving the Reliability of High-Mobility Oxide TFTs Through TCAD Simulation of Optimizing Device Structure**
Hejing Sun, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

48.3: **Prediction of Electrical Properties in LnIZO Thin-Film Transistors Based on Machine-Learning Solutions**
Xiaoliang Zhou, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

48.4: **A Study on Reducing Transistor Electrical Characteristic Inspection Processing Time Using Machine Learning**
Hyungjin Lee, Samsung Display Co., Ltd., Gyeonggi, South Korea

Session 49: OLED Emissive Material *(OLEDs)*

Thursday, May 15, 2025 / 9:00 AM - 10:20 AM / Room LL20BC

Chair: *Jang Hyuk Kwon, Kyung Hee University*

Co-Chair: *Donghee Nam, Meta*

49.1: ***Invited Paper:*** **Hyperfluorescence: Groundbreaking Materials Advancement for Diverse Color-Gamut Applications**
Shuo-Hsien Cheng, Kyulux, Inc., Fukuoka City, Japan

49.2: **Highly Efficient and Stable Narrow-Band MR-TADF Emitter for Top-Emission Red OLED Approaching B.T.2020**
Jang Kwon, Kyung Hee University, Seoul South Korea

49.3: **Development of Wide Color-Gamut Green OLED Devices for Adobe and BT2020 Requirements**
Guomeng Li, Beijing Visionox Technology Co., Ltd., Beijing, China

49.4: **Highly Efficient and Stable Pure Green Phosphor-Sensitized MR-TADF Emitter for B.T.2020 Color Top-Emission OLEDs**
Jang Kwon, Kyung Hee University, Seoul, South Korea

Session 50: Automotive Display Performance Improvements *(Automotive/Vehicular Displays and HMI Technologies)*

Thursday, May 15, 2025 / 9:00 AM - 10:20 AM / Room LL20A

Chair: *Eric Margulies, Universal Display Corporation*

Co-Chair: *Jan Bauer, Karlsruhe University of Applied Sciences*

50.1: ***Invited Paper:*** **Novel Automotive Display Experiences Beyond Large Display Areas**
Kai Hohmann, Continental Automotive Technologies GmbH, Babenhausen, Germany

50.2: **The Development of Contrast Improvement Technology for Automotive Display**
Shinichi Terashita, Sharp Corp., Nara, Japan

50.3: **Numerical Simulation of Halo Artifact Caused by Local-Dimming and its Validation on AMOLED Displays**
Julian Ritter, Institute of Microelectronics, Saarland University, Saarbruecken, Germany

50.4: **Research on Heat Dissipation Design of Automotive High-Brightness Display with u-LED**
Zuojia Wang, TCL China Star Optoelectronics Technology Co., Ltd., Wuhan, China

Session 51: microLED Sensing Displays *(Interactive Displays and Sensors / Emissive, Micro-LED, and Quantum-Dot Displays)*

Thursday, May 15, 2025 / 9:00 AM - 10:20 AM / Room LL20D

Chair: *Hiroshi Haga, Tianma*

Co-Chair: *Francois Templier, CEA-LETI,*

51.1: ***Invited Paper:*** **True Color Control of a Multifunctional MicroLED Display**
Rainer Minixhofer, ams-OSRAM AG, Premstaetten, Austria

51.2: ***Invited Paper:*** **Touch Sensing and Graphics Processing in MicroIC Displays**
Chris Bower, X Display Company, Research Triangle Park, NC US

51.3: **Co-Integration of Organic Photodetector with MicroLED Dedicated to Multifunctional Display Application**
Michael Pelissier, CEA-LETI, Grenoble, France

51.4: **Integration of Ambient Light Sensors in Pixel Circuit for Transparent MicroLED Display Applications**
Yu-Chien Huang, AUO Corp., Hsinchu, Taiwan ROC

Session 52: Holographic Display Systems *(Display Systems / Artificial Intelligence Including Machine Learning for Imaging)*

Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room 220C

Chair: *Brian Schowengerdt, Meta*

Co-Chair: *Hirotsugu Yamamoto, Utsunomiya University*

52.1: ***Invited Paper:*** **Shaping the Future with Holographic Transparent Displays: Transforming Mobility, Consumer, and Hometech Markets**
Martin Thom, ZEISS Microoptics, Jena, Germany

52.2: ***Distinguished Student Paper:*** **Self-Interference Incoherent Digital Holography Enhanced by Quarter Waveplate Condition Geometric Phase Lens and Cholesteric Liquid-Crystal Circular Polarizing Filter for Full-Color Imaging**
Jin-Hyeok Seo, Kyungpook National University, Daegu, South Korea

52.3: **Angle Spectrum Expanded Light-Field Holography Display Using Spatial-Temporal Multiplex**
Wenqi Wang, Southeast University, Jiangsu, China

52.4: *Late-News Paper:* **Pupil-aware Holographic Display with Continuous Eyebox Expansion under Multi-Angle Illumination**
Xinxing Xia, Shanghai University, Shanghai, China

Session 53: Micro LED Display Manufacturing *(Display Manufacturing)*
Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room LL21CD
Chair: *Dr. Chiwoo Kim, APS Holdings*
Co-Chair: *Oliver Haupt, Coherent Corp.*

53.1: *Invited Paper:* **Novel Design of Microstructure Package Design to Enhance Optical Efficiency of MicroLED Displays**
Yuanhao Sun, BOE Technology Group Co., Ltd., Beijing, China

53.2: **Research on LED Sorting, LED Mixing, and Image Quality**
Shan Wei Yang, BOE MLED Technology Co., Ltd., Beijing, China

53.3: **Peelable Inkjet Protective Film Process Development for MicroLED**
Jongduk Roh, Samsung Display Co., Ltd., Yongin, South Korea

53.4: **Development of Particle-Arrayed ACF for MicroLED**
Yasumasa Shin, Dexerials America Corporation, Santa Clara, CA

Session 54: New Oxide TFTs and Applications *(Active Matrix Devices)*
Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room LL21EF
Chair: *Prof. Man Wong, The Hong Kong University of Science & Technology*
Co-Chair: *Hyun Jae Kim, Yonsei University*

54.1: *Invited Paper:* **Amorphous p-Channel Tellurium Oxide Transistors**
Yong-Young Noh, Pohang University of Science and Technology, Pohang, South Korea

54.2: **High-Performance P-Type Tellurium-Based Thin-Film Transistors on a 6-in. Wafer and Their Applications**
Sooji Nam, Electronics and Telecommunications Research Institute, Daejeon, South Korea

54.3: *Invited Paper:* **IGZO-Based Synaptic Transistors for Neuromorphic Applications**
Soo-Yeon Lee, Seoul National University, Seoul, South Korea

54.4: *Invited Paper:* **Recent Progress, Opportunities, and Properties in Polycrystalline Oxide TFTs**
Jae Kyeong Jeong, Hanyang Univ., Seoul, South Korea

Session 55: Blue OLED Materials *(OLEDs)*
Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room LL20BC
Chair: *Toshiaki Ikuta, SK materials JNC*
Co-Chair: *Anna Hayer, Merck KGaA*

55.1: *Invited Paper:* **Advanced Development Approaches in Fluorescent Blue OLED Materials and Device Design**
Masato Nakamura, Idemitsu Kosan Co., Ltd., Chiba, Japan

55.2: *Invited Paper:* **Delocalizing Electron Distribution in Organic Molecules Towards High-Efficiency, Long-Lifetime Delayed Fluorescence**
Dongdong Zhang, Tsinghua University, Department of Chemistry, Beijing, China

55.3: *Invited Paper:* **Tandem Deep-Blue Phosphorescent OLED with High Blue Index Employing a Pt(II) Emitter**
Guijie Li, Zhejiang University of Technology, Hangzhou, China

55.4: *Distinguished Paper:* **Highly Efficient and Stable Blue Fluorescent OLED Using Dual EML System**
Satomi Tasaki, Idemitsu Kosan Co., Ltd., Chiba, Japan

Session 56: Automotive HUDs and Transparent Displays *(Automotive/Vehicular Displays and HMI Technologies)*
Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room LL20A
Chair: *Karlheinz Blankenbach, Pforzheim University*
Co-Chair: *Kai-Han Chang, General Motors*

56.1: *Invited Paper:* **Unlocking the Potential of Display Simulations in the Automotive Display Development**
Markus Kreuzer, Phymore GmbH & TZ Electronic Systems GmbH, Hochdorf, Germany

56.2: **See-Through Image Quality Evaluation Index for Transparent Displays Considering Human Visual Sensitivity**
ChihLung Lin, Innolux Technology Development Center, Zhunan, Taiwan ROC

56.3: **Perceptual and Safety Aspects of Augmented-Reality Head-Up Displays in Cars**
Kjell BrunnstrÃ¶m, RISE Research Institutes of Sweden AB, Kista, Sweden

56.4: **Diffraction Suppression Technique for Background Images in Curved Transparent Displays**
Yu-Wen Wang, National Taiwan University, Taipei, Taiwan ROC

Session 57: QD Sensing *(Emissive, Micro-LED, and Quantum-Dot Displays)*
Thursday, May 15, 2025 / 10:40 AM - 11:40 AM / Room LL20D
Chair: *Larry Weber, Consultant*
Co-Chair: *Ioannis Kymissis, Columbia University*

57.1: *Invited Paper:* **Infrared Imaging and Sensing Using Colloidal Quantum-Dot Detectors**
Thomas Piehn, Emberion Limited, Cambridge, United Kingdom

57.2: ***Invited Paper:*** **Colloidal Quantum Dot Infrared Sensors For Next-Generation Consumer Electronics**
Pawel Malinowski, imec, Leuven, Belgium

57.3: **Identifying the Key Issues in Inferior Performance of Quantum Rod LEDs**
Zebing Liao, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

Session 58: Visual Factors with AR/VR Displays *(Applied Vision / AR/VR/MR)*

Thursday, May 15, 2025 / 10:40 AM - 12:00 PM / Room LL21AB

Chair: *Scott Murdison, Reality Labs at Meta*

Co-Chair: *David Hoffman, Apple, Inc.*

58.1: **Influence of Temporal Frequency, Duty Ratio, and Eye-Stimulus Dynamics on Motion Artifacts**
Chang-Yeong Han, Ulsan National Institute of Science & Technology, Ulsan, South Korea

58.2: **Objective Metrics and Theoretical Model for Evaluating the Spatial Reality Reproduction Performance of Head-Mounted Display**
Liang Gu, GravityXR Electronics and Technology Co., Ltd., Ningbo, China

58.3: **Super Multi-View Near-Eye Display with Adjustable Point Light-Source Array**
Minseong Kim, Seoul National University, Seoul, South Korea

58.4: **Correcting Arbitrary Hybrid Defocus and Astigmatism for Near-Eye Displays Using Two-dimensionally Displaced Alvarez Lenses**
Zong Qin, School of Electronics and Information Technology, Sun Yat-Sen University, Guangzhou, China

Session 59: microLED Display Systems *(Emissive, Micro-LED, and Quantum-Dot Displays)*

Thursday, May 15, 2025 / 1:30 PM - 2:30 PM / Room 220B

Chair: *Jean-Jacques Drolet, Osram Opto Semiconductors*

Co-Chair: *Ioannis Kymissis, Columbia University*

59.1: ***Invited Paper:*** **Metasurface-Integrated Polarimetric Sensors in Foundry-Compatible Process**
Pawel Latawiec, Metalenz, Inc., Boston, MA US

59.2: ***Invited Paper:*** **Development of Transparent Flexible MicroLED Display with High-Precision Mass-Transfer Technology**
Kengo Shima, Tokai Rika co., Ltd., Aichi, Japan

59.3: **Status of the MicroLED Industry: Technology and Equipment Thrust Areas for Success**
Eric Virey, Yole Group, Portland, OR US

Session 60: Light Field Display Systems *(Display Systems)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room 220C

Chair: *Yifan (Evan) Peng, HKU*

Co-Chair: *Shinichi Uehara, AGC Inc.*

60.1: ***Distinguished Paper:*** **High-Resolution Aerial 3D Display Based on Lens-Enhanced Aerial Imaging by Retro-Reflection (LeAIRR) and Light-Field Display**
Kazuaki Takiyama, Utsunomiya University, Utsunomiya, Japan

60.2: **A Sixfold-Resolution Light-Field Display Using a Field-Sequential Color LCD and Optical Super-Resolution**
Zong Qin, Sun Yat-Sen University, Guangzhou, China

60.3: ***Distinguished Paper:*** **Real-Time Per-Pixel Predistortion for Head-Tracked Light-Field Displays**
Tianyu Wu, Visual Experience Lab, North Carolina State University, Raleigh, NC US

60.4: **Improved Design to Reduce Sparkles in 3D Light-Field Displays**
Yaodong Wu, Tianma Microelectronics Co., Ltd., Shanghai, China

Session 61: Micro LED Display Manufacturing Heterointegration *(Display Manufacturing)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room LL21CD

Chair: *Xianqin Meng, BOE Technology Group Co., Ltd.*

Co-Chair: *Daniel Lee, AU Optronics Corp*

61.1: **Laser-Assisted Bonding for MicroLED Modules in Head-Up Display Applications**
Wenya Tian, BOE Technology Group Co., Ltd., Beijing, China

61.2: **Adhesion Mechanism of Ni-Au and Cu Layer in Electro-Less Nickel Immersion Gold Process for Chip-on-Glass MLED Backplane**
Ting Zeng, HeFei BOE RuiSheng Technology Co., Ltd., Hefei, China

61.3: **Failure Analysis in Dry Roll-Transferred MicroLEDs with Limited Prior Knowledge**
Chung-Seog Oh, Kumoh National Institute of Technology, Gumi, South Korea

61.4: **Improvement of Horizontal Line Defects in MicroLED Displays**
Xiao-Ping Yu, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

Session 62: High Mobility Oxide TFTs *(Active Matrix Devices)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room LL21EF

Chair: *Kwon-Shik Park, LG Display*

Co-Chair: *Junho Song, Korea University*

62.1: ***Distinguished Paper:*** **Normally Off Top-Gate Self-Aligned Field-Effect Transistor Using Crystal InOx with Field-Effect Mobility of Around 100 cm2/Vs**
Yukinori Shima, Semiconductor Energy Laboratory Co., Ltd., Tochigi, Japan

62.2: **Poly-IGO TFT with Field-Effect Mobility over 40 cm2/Vs: Mobility Modeling and Self-Heating Simulation**
Mutsumi Kimura, Ryukoku University, Otsu, Japan

62.3: ***Invited Paper:*** **High-Mobility Metal-Oxide TFT Development for IT AMOLED Applications**
Fa-Hsyang Chen, Kunshan Govisionox Optoelectronics Co., Ltd., Jiangsu, China

62.4: ***Late-News Paper:*** **Contact-Controlled Transistors as Sufficiently Fast Switches for Active-Matrix Pixel Circuits**
Eva Bestelink, University of Surrey, Guildford, UK

Session 63: OLED Displays I *(OLEDs)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room LL20BC

Chair: *DZ Peng, Tianma*

Co-Chair: *Ji Ho Baek, LG Display*

63.1: ***Invited Paper:*** **Ultra-Efficient Fourth-Generation pTSF OLED Devices and Products**
Minghan Cai, Beijing Visionox Technology Co., Ltd., Beijing, China

63.2: **Shortening Time of Life-Time Evaluation for QD-OLED Through Low Gray Observation Condition**
Hee Kwang Song, Samsung Display Co., Ltd., Yongin, South Korea

63.3: ***Distinguished Paper:*** **A Next Milestone in WOLED Technology for OLED TV and IT Displays: Enhancing Efficiency, Color Gamut, and Longevity**
Jung Keun Kim, LG Display Co., Ltd., Seoul, South Korea

63.4: **Lateral-Leakage Current Reduction in Tandem RGB OLED for Enhanced Low-Gray-Level Color Accuracy**
Jaeyoung Kwak, LG Display Co., Ltd., Seoul, South Korea

Session 64: Switchable Privacy Displays for Automotive Application *(Automotive/Vehicular Displays and HMI Technologies / Liquid Crystal Technology)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room LL20A

Chair: *Dr David Hermann, Volvo Car Corporation AB*

Co-Chair: *Dr Akihiro Mochizuki, I-CORE Technology, LLC*

64.1: ***Invited Paper:*** **Switchable Privacy Displays with Liquid Crystals and Collimated Backlight: Techniques and Measurements**
Karlheinz Blankenbach, Pforzheim University, Display Lab, Pforzheim, Germany

64.2: **Functionality Enhancement for e-Privacy Display**
Graham Woodgate, Rain Technology, Oxford, UK

64.3: **Switchable Viewing-Angle Control Film for Self-Emissive Displays**
Fung Hsu Wu, BenQ Materials Corp., Taoyuan, Taiwan ROC

64.4: **Switchable Viewing-Angle Control Using LC Technology for Automotive Display**
Min-Hsuan Chiu, AUO Corp., Hsinchu, Taiwan ROC

Session 65: Emerging Flexible Display Applications *(Flexible Displays and e-Paper / Emerging Technologies and Applications)*

Thursday, May 15, 2025 / 1:30 PM - 2:30 PM / Room LL20D

Chair: *Dr. Jeong-Ik Lee, ETRI*

Co-Chair: *Jignesh Gandhi, Microsoft Corp*

65.1: ***Invited Paper:*** **Skin-Conformable Displays and Sensors Using Soft and Stretchable Electronic Materials**
Naoji Matsuhisa, The University of Tokyo, Tokyo, Japan

65.2: ***Invited Paper:*** **Ultra-Flexible Monolithic Three-Dimensional CMOS Devices and Circuits**
Min Zhang, The Chinese University of Hong Kong, Shenzhen, Shenzhen, China

65.3: ***Distinguished Student Paper:*** **Flexible Bifacial OLED-Based Photomedicine for User-Friendly Healthcare Platforms**
Kyung Cheol Choi, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

Session 66: Visual Experience with Wide Color Gamut *(Applied Vision / Display Measurement)*

Thursday, May 15, 2025 / 1:30 PM - 2:50 PM / Room LL21AB

Chair: *Jerry Jia, Meta Reality Labs*

Co-Chair: *Jang Jin Yoo, LG Display*

66.1: ***Invited Paper:*** **How Creative Professionals Utilize Wide Color Gamut (WCG) and High Dynamic Range (HDR) Displays, and What Are the Applied Concerns?**
Jack Holm, Tarkus Imaging, Carmel, CA US

66.2: **From Scene to Display: A Quantitative Analysis of Real-World Color Gamut**
Farnaz Agahian, Samsung Display America Lab, San Jose, CA US

66.3: **Perceptual Color Attributes-Correlated 2D Color Gamut Volume Representation and Its Analysis**
Jae Sung Park, Visual Display Business, Samsung Electronics, Suwon, South Korea

66.4: **Evaluation of Display Color Chromaticity Gamut Efficiency Based on Real Object Colors**
Yoojin Kang, LG Display Co., Ltd., Seoul, South Korea

Session 67: QD PL-uLED *(Emissive, Micro-LED, and Quantum-Dot Displays)*
Thursday, May 15, 2025 / 3:10 PM - 4:30 PM / Room 220B
Chair: *Xiao Wei Sun, Southern University of Science and Technology*
Co-Chair: *Yajie Dong, University of Central Florida*

67.1: ***Invited Paper:*** **High Optical Density, High Efficiency Quantum Dot Photoresist for microLED applications**
Danielle Chamberlin, NanoPattern Technologies, Chicago, IL US

67.2: ***Invited Paper:*** **Full-Color Micro-LED Near-Eye Display Technology Based on Quantum Dot**
Jie Song, Saphlux, Inc.., San Diego, CA US

67.3: ***Distinguished Student Paper:*** **Improvement of Photostability and Clarification of Suitable Substituent Space of Zwitterionic Ligands for CsPbBr3 Perovskite Nanocrystals**
Takuro Iizuka, Yamagata university, Yamagata, Japan

67.4: **High Accuracy Quantum Dots (QDs) Simulation Model for Color-Conversion MicroLED Display**
Koji Murata, Samsung R&D Institute Japan Co., Ltd., Yokohama, Japan

Session 68: Light Control Films and Cover Glasses *(Display Systems)*
Thursday, May 15, 2025 / 3:10 PM - 4:10 PM / Room 220C
Chair: *Dr Daming Xu, Apple Inc*
Co-Chair: *Hidekazu Hatanaka, Ushio Inc.*

68.1: **Brightness Enhancement Cover Glass for MicroLED Displays**
Shenping Li, Corning, Inc., Corning, NY US

68.2: **Impact of Light-Diffusion Film on the Sparkle of OLED Display**
Peng Cheng, Hefei Visionox Technology Co., Ltd., Hefei, China

68.3: **Improving Image Quality with Surface-Treated Random Depolarization Films**
Shizuki Sasaki, Keio Photonics Research Institute (KPRI), Keio University, Kawasaki, Japan

Session 69: Flexible Display Manufacturing *(Display Manufacturing)*
Thursday, May 15, 2025 / 3:10 PM - 4:30 PM / Room LL21CD
Chair: *Greg Gibson, nTact*
Co-Chair: *Oliver Haupt, Coherent Corp.*

69.1: **Ultrafast UV Laser Trimming Process Characteristics Analysis for Flexible Display Panels**
Youngjin Oh, Samsung Display, Asan, South Korea

69.2: **Organic Thin-Film Transistor Formulations Proven in Mass Production**
Stephen Bain, FlexEnable Technology, Ltd., Cambridge, UK

69.3: **Development of Black-Pixel Define Layer with Half-Tone Spacer Structure for Stylus-Compatible Foldable OLED Displays**
Nakcho Choi, Samsung Display Co., Ltd., Yongin, South Korea

69.4: **Development of Non-Contact Metrology for Thin Foldable Glass**
Junsu Park, Samsung Display Co., Ltd., Yongin, South Korea

Session 70: Reliable Oxide TFTs *(Active Matrix Devices)*
Thursday, May 15, 2025 / 3:10 PM - 4:30 PM / Room LL21EF
Chair: *Mike Hack, Universal Display Corporation*
Co-Chair: *Jin-Seong Park, Hanyang University*

70.1: ***Invited Paper:*** **Challenges of Atomic-Layer-Deposited Oxide Semiconductor Channels Beyond PVD: Material, Devices, and M3D Stacked Structures**
Jin-Seong Park, Hanyang University, Seoul,

70.2: ***Invited Paper:*** **Advanced Oxide TFT Technology for OLED Display by Applying ALD Process**
Seung-Chan Choi, LG Display Co., Ltd., Paju, South Korea

70.3: ***Distinguished Paper:*** **Hydrogen-Free Oxide Thin-Film Transistor Toward Resolving Hydrogen-Associated Instability**
Mamoru Furuta, Kochi University of Technology, Kochi, Japan

70.4: **A Novel Fabrication Process for Enhancing the Reliability of IGZO Thin-Film Transistor**
Bokyoung Lee, LG Display Co., Ltd., Paju, South Korea

Session 71: OLED Displays II *(OLEDs)*
Thursday, May 15, 2025 / 3:10 PM - 4:10 PM / Room LL20BC
Chair: *CC Lee, Visionox*
Co-Chair: *Yuan-Chun Wu, China Star Optoelectronics*

71.1: **Analysis of Viewing Angle Properties on TEOLEDs Adopting Curved Anode Structure**
Ji-Sub Park, LG Display Co., Ltd., Gumi, South Korea

71.2: **Reality vs. Simulation in Black Matrixless Solution of Color Filter on Encapsulation Technology**
Cui-Cui Liang, BOE Optoelectronics Group Co., Ltd., Chengdu, China

71.3: **Patterned Black Matrix on Cathode for COE OLED Display**
Zhibin Wang, OTI Lumionics, Inc., Toronto, ON Canada

Session 72: Artificial Intelligence for Automotive Displays and HMI Technologies *(Automotive/Vehicular Displays and HMI Technologies / Artificial Intelligence Including Machine Learning for Imaging)*

Thursday, May 15, 2025 / 3:10 PM - 4:30 PM / Room LL20A

Chair: *Prof. Hyoungsik Nam, Kyung Hee University*

Co-Chair: *Rashmi Rao, Harman International*

72.1: **The PathSync Intelligent Transparent Display Navigation System**
Chao-Ming Yu, Industrial Technology Research Institute., Hsinchu, Taiwan ROC

72.2: **Real-Time ADAS Visualization Using DL-GSA-Based Computer-Generated Holography**
Hao-Ting Liao, National Taiwan University Of Science And Technology, Taipei, Taiwan ROC

72.3: **Fully Convolutional Transformer-Based Speech Emotion Recognition for Automotive Systems**
Hanwook Chung, Forvia IRYStec, Inc., Montreal, PQ Canada

72.4: **Improvement of Image Quality of Infrared Camera Behind LCD Screen and Its Application in DMS**
Yating Wen, Shenzhen China Star Optoelectronics Technology Co., Ltd., Guangdong, China

Session 73: Modeling Color Appearance *(Applied Vision)*

Thursday, May 15, 2025 / 3:10 PM - 4:30 PM / Room LL21AB

Chair: *Chien-Yu Chen, National Taiwan University of Science & Technology*

Co-Chair: *Youn Jin Kim, Apple, Inc*

73.1: **Brightness Scales Above and Below Reference White via Maximum Likelihood Difference Scaling (MLDS)**
Youngshin Kwak, Ulsan National Institute of Science and Technology, Ulsan, South Korea

73.2: **Impact on the Observer Metameric Failure by Adding a White Channel to RGB-Primary Display**
Jang Jin Yoo, LG Display Co., Ltd., Seoul, South Korea

73.3: **Reproducing Color for Human Observers: The Challenges of Individual Differences and How to Compensate for Them**
Andrew Stockman, UCL Institute of Ophthalmology, London, UK

73.4: **Color-Matching Function Affecting Color Reproduction in Displays**
Ronnier Luo, State Key Laboratory of Extreme Photonics and Instrumentation, Hangzhou, China

Session 74: Novel Structure TFTs *(Active Matrix Devices)*

Friday, May 16, 2025 / 9:00 AM - 10:00 AM / Room 220B

Chair: *Takashi Nakamura, Japan Display Inc.*

Co-Chair: *Cheonhong Kim, Meta*

74.1: ***Invited Paper:*** **Stacked Vertical Oxide TFTs for Ultra-High Resolution Display**
Chi-Sun Hwang, ETRI, Daejeon, South Korea

74.2: **Ultra-High Output Current of Oxide Vertical TFTs Using a-IGZO by Sputter**
Chuanbao Luo, Corp.Shenzhen China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Guangdong, China

74.3: ***Invited Paper:*** **Polycrystalline Indium Oxide Thin-Film Transistors Formed by Solid-Phase Crystallization**
Mamoru Furuta, Kochi University of Technology, Kochi, Japan

Session 75: Emerging AR/VR Technology *(AR/VR/MR / Emerging Technologies and Applications)*

Friday, May 16, 2025 / 9:00 AM - 10:20 AM / Room 220C

Chair: *Gary Jones, Nanoquantum Corporation*

Co-Chair: *Fang-Cheng Lin, Apple, Inc.*

75.1: ***Invited Paper:*** **Advancing Near-Eye Light-Field Displays Using Meta-Optics**
Jian-Wen Dong, Sun Yat-sen university, Guangzhou, China

75.2: **Lightweight, Thin and High-Performance Polarization Modulator for Varifocal Liquid-Crystal Lens System**
Daisuke Minami, Sharp Corp., Nara, Japan

75.3: ***Invited Paper:*** **Multifocal Display System for Near-Eye Device and Optimal Decomposition Algorithm for Video Contents**
Chun-Won Byun, Electronics and Telecommunications Research Institute, Daejeon, South Korea

75.4: ***Distinguished Student Paper:*** **Fast-Switchable Polarization-Dependent Bifocal Lenses for AR Displays**
Ming Cheng, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

Session 76: Artificial Intelligence / Machine Learning *(Display Manufacturing / Artificial Intelligence Including Machine Learning for Imaging)*

Friday, May 16, 2025 / 9:00 AM - 10:00 AM / Room LL21CD

Chair: *Simon Kurmann, Helbling*

Co-Chair: *Kazutaka Hayashi, AGC Inc.*

76.1: **Using Machine Learning Solutions to Accurately Classify Imbalanced LCM Aging Data to Reduce Defect Rates**
Jing Ba, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

76.2: **Defect Classification Algorithms for Display Manufacturing Based on the Convolutional Neural Network Mixture-of-Experts Model**
Yunlong Li, BOE Technology Group Co., Ltd., beijing, China

76.3: **TEG Electrical Virtual Measurement and Monitoring Based on Interpretable Machine Learning Method**
Jing Ba, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

Session 77: Flexible Displays *(Flexible Displays and e-Paper)*

Friday, May 16, 2025 / 9:00 AM - 10:30 AM / Room LL21EF

Chair: *Yong Taek Hong, Seoul National University*

Co-Chair: *Shiming Shi, BOE Technology Group Co., Ltd.*

77.1: ***Invited Paper:*** **Zero-Bezel Flexible MicroLED Display Using Through-Plastic Vias**
Hiroshi Tsuji, NHK Science & Technology Research Laboratories, Tokyo, Japan

77.2: **Trifold OLED Display Fabricated Through Low-Temperature Process Using Short-Channel Top-Gate Self-Aligned Field-Effect Transistor with Crystal IO**
Yasutaka Nakazawa, Semiconductor Energy Laboratory Co., Ltd., Tochigi, Japan

77.3: ***Distinguished Paper:*** **Highly Recoverable and Robust Rollable AMOLED Display with Smart Elastomer Materials**
Taewoong Kim, Samsung Display Co., Ltd., Yongin, South Korea

77.4: ***Distinguished Student Paper:*** **Mesh-Patterned Silver Electrode via Electrohydrodynamic Printing for Transparent and Flexible Quantum-Dot Light-Emitting Diodes**
Yongtaek Hong, Seoul National University, Seoul, South Korea

77.5: ***Late-News Paper:*** **Quantitative Assessment of Hinge Creases in Folding Devices**
Joy Banerjee, Corning Inc., Painted Post, NY, US

Session 78: High Image Quality *(Liquid Crystal Technology)*

Friday, May 16, 2025 / 9:00 AM - 10:20 AM / Room LL20BC

Chair: *Achim Goetz, Merck Electronics KGaA*

Co-Chair: *Philip Chen, National Yang Ming Chiao Tung University*

78.1: ***Invited Paper:*** **A Novel UV2A Alignment Technique for Improving Skin Color Washout**
Lei Liu, BOE Technology Group Co., Ltd., Beijing, China

78.2: ***Invited Paper:*** **Latest LC Materials for High-Contrast-Ratio TV and IT Displays**
Sven Laut, Merck KGaA, Darmstadt, Germany, Darmstadt, Germany

78.3: **High Picture Quality of LCD via WHVA Technology**
Jing Liu, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

78.4: **Resolution Doubling by Liquid-Crystal-Based Optical Shift**
Yang Zeng, Tianma Microelectronics Co., Ltd., Shanghai, China

Session 79: Automotive Backplane Drive Electronics *(Automotive/Vehicular Displays and HMI Technologies)*

Friday, May 16, 2025 / 9:00 AM - 10:20 AM / Room LL20A

Chair: *Darren Kim, Harman International*

Co-Chair: *Taewoong Kim, Samsung Display Co.*

79.1: **Sensitivity Analysis of IPS Panels on Mechanical Stress**
Markus Weber, Continental Automotive Technologies GmbH, Babenhausen, Germany

79.2: **Large-Area Single-Crystal Actuator for Multifunctional Haptic Displays**
Seung Hyun Sung, LG Display Co., Ltd., Seoul, South Korea

79.3: **Development of Low-Cost and Narrow-Border Automotive Panel by DeMUX of IGZO-TFT**
Kengo Hara, Sharp Corp., Mie, Japan

79.4: **Video Transport Topologies for Ultra-High Resolution Automotive Displays**
Jon Rose, Analog Devices, Colorado Springs, CO US

Session 80: Optical Fingerprint Sensing OLED Displays *(Interactive Displays and Sensors)*

Friday, May 16, 2025 / 9:00 AM - 10:20 AM / Room LL20D

Chair: *Patrick Worfolk, Advanced Micro Devices, Inc.*

Co-Chair: *Derek Solven, Synaptics, Coquitlam*

80.1: **Sensor OLED Display-Based Mobile Cardiovascular Health Monitor**
Chul Kim, Samsung Display Co., Ltd., Giheung, South Korea

80.2: **A High-Resolution In-Cell Fingerprint Display with New Isolation Structure**
Xiaowei Xu, Visionox Technology, Inc., Gu'an, China

80.3: **High-Performance Organic Photodetectors with Buffer Layers Suitable for In-Cell Fingerprint-Sensing Display**
Xiaokang Zhou, Visionox Technology, Inc., Gu'an, China

80.4: **Amorphous Silicon Top-Gate-Gap TFTs for Front-Illuminated Optical Sensors**
Hejing Zhang, Chongqing Advanced Photoelectric Display Technology Research Institute, Chongqing, China

Session 81: Glass-Based Semiconductor IC Packaging for Chiplet Integration *(Emerging Technologies and Applications / Heterogeneous Integration on Glass for Emerging Applications)*

Friday, May 16, 2025 / 9:00 AM - 10:00 AM / Room LL21AB

Chair: *Arokia Nathan, Darwin College, University of Cambridge*

Co-Chair: *Bradley Bowden, Corning Research and Development Corporation*

81.1: **Preparation Process of Through-Glass Via Based on Laser-Induced Deep Etching**

Dong Ming Xing, Beijing BOE Sensor Technology Co., Ltd., Beijing, China

81.2: **Effect of Electroplating Additives on Copper Protrusion of Metallized Through-Glass Vias (TGVs)**
Qichang An, BOE Sensor Technology Company, Ltd., Beijing, China

81.3: ***Invited Paper:*** **Large Scale Glass Substrate for High Performance Computing Application**
Satoru Kuramochi , Dai Nippon Printing Co., Ltd., Chiba, Japan

81.4: ***Invited Paper:*** **Glass Substrates and Interposers: Wafer and Panel Scale Manufacturing Processes and Applications**
Venky Sundaram, 3D System Scaling LLC,, Johns Creek, GA, US

Session 82: Micro-LED Driving Circuit *(Active Matrix Devices)*

Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room 220B

Chair: *James Chang, Apple, Inc.*

Co-Chair: *Ivan Wu, AU Optronics Corp*

82.1: **High-Current LTPS-TFT Backplane Structure for 136-in. UHD Seamless Tiling MicroLED Displays**
Kummi Oh, LG Display Co., Ltd., Paju,, South Korea

82.2: ***Invited Paper:*** **Optimization Design of Pixel Circuits to Drive Innovative MicroLED Displays**
Ya-Ling Chen, AUO Corporation, Hsinchu, Taiwan Roc

82.3: **High-Speed Driving Pixel Circuit for Medium-Size NanoLED Displays Based on Oxide TFTs**
Kohhei Tanaka, Sharp Corporation, Nara, Japan

82.4: ***Invited Paper:*** **Research on Patterned Cu Growth in Electrochemical Process of Large Glass Substrate**
Jian Tian, BOE RuiSheng Technology Co., Ltd., Hefei, China

Session 83: Artificial Intelligence for AR/VR/MR *(AR/VR/MR / Artificial Intelligence Including Machine Learning for Imaging)*

Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room 220C

Chair: *Jisoo Hong, Korea Electronics Technology Institute*

Co-Chair: *Yi Pai Huang, Apple, Inc.*

83.1: ***Invited Paper:*** **AI 3D Selfie: Real-Time Single-Image 3D Face Reconstruction for Light-Field Displays**
Jonghyun Kim, NVIDIA, Santa Clara, CA

83.2: **Deep Learning-Based Self-Interference Incoherent Digital Holography Encoding for Optical Reconstruction**
Sung-Wook Min, Kyung Hee University, Seoul, South Korea

83.3: **Neural Network-Empowered Hologram Compression for Computational Near-Eye Displays**
Hyunmin Ban, University of Hong Kong, Hong Kong, Hong Kong

83.4: ***Invited Paper:*** **Filter-Free 3D HoloNet with Hardware-Aware Calibration**
Yifan Peng, University of Hong Kong, Hong Kong, Hong Kong

Session 84: Automotive Display Manufacturing *(Display Manufacturing)*

Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room LL21CD

Chair: *Bradley Bowden, Corning Research and Development Corporation*

Co-Chair: *Andriy Romanyuk, Glas Troesch AG*

84.1: **Volume Manufacturing of Head-Up Displays with Step-and-Repeat Displacement Talbot Lithography**
Kelsey Wooley, Eulitha US, Remond, WA US

84.2: **A Study on Black-Matrix CMP Technology for Automotive On-Cell Louver Micro Structure**
Byoungkwon Choo, Samsung Display Co., Ltd., Yongin, South Korea

84.3: **Uniform Adhesion Method of Curved Large-Area Materials in Vacuum Chamber**
Taeyoung Park, Samsung Display Co., Ltd., Hwaseong, South Korea

84.4: **Achieving Low Chroma Edges in Curved Cover Glass with Anti-Reflection and Anti-Scratch Properties**
Juyoung Yoon, Samsung Display Co., Ltd., Yongin, South Korea

Session 85: Stretchable Displays *(Flexible Displays and e-Paper)*

Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room LL21EF

Chair: *Kyung Cheol Choi, KAIST*

Co-Chair: *Jennifer Lin, AUO Corporation*

85.1: ***Distinguished Invited Paper:*** **First 200ppi Stretchable MicroLED Display with Serpentine-Shaped Bridge Designs**
Jangyeol Yoon, Samsung Display, Yongin, South Korea

85.2: ***Invited Paper:*** **3D Approaches to Stretchable Displays with High Geometrical Fill Factor**
Seunghyup Yoo, KAIST, Daejeon, South Korea

85.3: ***Invited Paper:*** **Magnetically, Vertically-Aligned Conducting Ferromagnetic Particles for Electrical and Heat Conduction in Stretchable Electronics**
Yongtaek Hong, Seoul National University, Seoul, South Korea

85.4: **Tacky-Free Stretchable Cover Window with Anti-Scratch Property**
Sejin Jang, LG Display Co., Ltd., Seoul, South Korea

Session 86: Novel LC Technologies *(Liquid Crystal Technology)*

Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room LL20BC

Chair: *Koichi Miyachi, JSR Corporation*
Co-Chair: *Yoshitomo Isomae, Sony Semiconductor Solutions Co.*

86.1: ***Invited Paper:*** **Ferroelectric Nematic Liquid Crystals: Mixtures and Applications**
Rachel Tuffin, Merck KGaA, Darmstadt, Germany, Darmstadt, Germany

86.2: **Complete In-Plane Retardation Switching with Over +/- 45 Degrees Swing Angle and 100-Microsecond Response Liquid-Crystal Technology**
Akihiro Mochizuki, I-CORE Technology LLC, Louisville, CO US

86.3: **Ferroelectric Liquid-Crystal-Based LiDAR Technology and 3D Depth-Mapping Technique**
Yue-Chu Cheng, Hong Kong University of Science and Technology, Hong Kong , Hong Kong

86.4: **Optimizing Electrically Suppressed Helix Ferroelectric Liquid Crystals for Commercial Applications**
Chris Mathew, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

Session 87: OLED Materials & Modeling *(OLEDs)*
Friday, May 16, 2025 / 10:40 AM - 12:00 PM / Room LL20A
Chair: *Sven Zimmermann*
Co-Chair: *Changwoong Chu, Samsung Display Company*

87.1: ***Invited Paper:*** **Development of High-Performance Green Phosphorescent Emitting Materials for Organic Light-Emitting Diodes**
Sunghun Lee, Samsung Electronics, Suwon, South Korea

87.2: ***Invited Paper:*** **Recent Progress in Phosphorescent Green Emitters**
Huiqing pang, , Beijing, China

87.3: **Development of a CAE-Based OLED Modeling Environment for Electrical and Optical Simulation**
Han Wool Park, LG Display Co., Ltd., Paju, South Korea

87.4: **Leveraging Large Language Models for Molecular Generation in OLED Materials Discovery**
Wei Xu, TCL AI Lab, Hong Kong, Hong Kong

Session 88: Under Display Camera Systems and Algorithms *(Interactive Displays and Sensors / Display Systems / Artificial Intelligence Including Machine Learning for Imaging)*
Friday, May 16, 2025 / 10:40 AM - 12:40 PM / LL20D
Chair: *Jeff Han, Consultant*
Co-Chair: *Brian Berkeley, Highlight Display, LLC*

88.1: ***Invited Paper:*** **Enhancing Image Quality of UDC Technology Through Novel Panel Design and Driving Method with MicroLED Display**
Yu-Chieh Lin, AU Optronics Corporation, Hsinchu, Taiwan Roc

88.2: **Modeling Light Propagation in a Smartphone's Under-Display Sensors**
Zong Qin, School of Electronics and Information Technology, Sun Yat-Sen University, Guangzhou, China

88.3: ***Invited Paper:*** **Image Restoration for Under-Display Cameras: A Review of Current Technologies**
Jewon Yoo, Samsung Display, Yongin, South Korea

88.4: ***Distinguished Paper:*** **Enhancing Face Recognition Accuracy for Under-Display Cameras via Image Restoration**
Kyusu Ahn, Samsung Display Co., Ltd., Yongin, South Korea

88.5: ***Invited Paper:*** **Enabling the Under-Display Camera: Solving Video Quality Using AI Within the ISP**
Yoav Taieb, Visionary.ai, Jerusalem, Israel

88.6: **Camera Under Panel (CUP) Applied in 4K Ultra-High-Definition OLED Medium-Size Panel**
Chaoping Wen, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

Session 89: Packaging Strategies for Advanced Displays *(Emerging Technologies and Applications / Heterogeneous Integration on Glass for Emerging Applications)*
Friday, May 16, 2025 / 10:40 AM - 12:10 PM / Room LL21AB
Chair: *Taka Tsujimura, Konica Minolta Inc.*
Co-Chair: *Susan Jones, Nulumina Corp.*

89.1: ***Invited Paper:*** **Integrated Glass Substrates for Advanced Display and Electronic Applications**
Sean Garner, Corning, Inc., Corning, NY US

89.2: **Cutting-Edge Laser Forming in High-Precision Hole Fabrication for Thin Glass Applications**
Jinhong Jeun, Samsung Display Co., Ltd., Yongin, South Korea

89.3: **Advanced Integration of RGB MicroLEDs Enabled by Micro-Transfer Printing**
Zhi Li, Tyndall National Institute, University College Cork, Cork, Ireland

89.4: ***Invited Paper:*** **Design for X in LED Design, Fabrication, and Packaging**
Sheng Liu, Wuhan University, Wuhan, China

89.5: ***Late-News Paper:*** **Silicon-on-Nothing Technology Based on Silicon Migration in Argon Annealing for Display-Sensor Integration**
Qiuxu Wei, Beijing BOE Sensor Technology Company, Ltd., Beijing, China

Session 90: Low-Power AM Devices (I) *(Active Matrix Devices)*
Friday, May 16, 2025 / 1:30 PM - 2:30 PM / Room 220B
Chair: *Jae-Hoon Lee, Samsung Display Co*
Co-Chair: *Norbert Fruehauf, University of Stuttgart*

90.1: **A New Design of AMOLED Screen with Multi-Frequency-Display and Compensation Methods**
Wenshuai Zhang, Tianma Microelectronics Co., Ltd., Wuhan, China

90.2: **Low-Power-Consumption Organic Light-Emitting Diode Display Based on Locally Driven Multi-Domain Segmentation**
Jiyoon Kim, Samsung Display Co., Ltd., Yongin, South Korea

Session 100: AR/VR Fabrication and Testing *(AR/VR/MR)*

Friday, May 16, 2025 / 1:30 PM - 3:10 PM / Room 220C

Chair: *Yun Wang, Meta*

Co-Chair: *Shin Tson Wu, University Of Central Florida, College of Optics and Photonics*

100.1: ***Late-News Paper:*** **Perturbation-Damped Optical Interferometer for AR Waveguide Grating Fabrication**
John Semmen, University of Central Florida, Orlando, FL US

100.2: ***Late-News Paper:*** **Highly Transparent Photoalignment Material for Fabricating Holographic Optical Elements**
Hosna Tajvidi Safa, University of Central Florida, Orlando, FL US

100.3: ***Late-News Paper:*** **Subjective and Objective Eye Tracking Test Results of Commerical VR Products**
Xiaochen Zhou, GravityXR Electronics and Technology Co.Ltd., Zhejiang, China

100.4: ***Invited Paper:*** **The Future of Compact AR displays: LCoS vs Micro-LED**
Kehan Tian, Goertek Optical Technology Co. Ltd., Weifang, Shandong, China

100.5: ***Invited Paper:*** **High-Voltage CMOS Backplanes for High-Brightness OLED Microdisplays**
Philipp Wartenberg, Fraunhofer Institute for Photonic Microsystems IPMS, Dresden, Germany

Session 91: Artificial Intelligence for Display Manufacturing I *(Display Manufacturing / Artificial Intelligence Including Machine Learning for Imaging)*

Friday, May 16, 2025 / 1:30 PM - 2:30 PM / LL21CD

Chair: *Eunkyung Koh, Samsung Display Research Center*

Co-Chair: *Yung-Yu Hsu, Meta*

91.1: **Automated Methods for Panel Defect Image Generation and Assisting Defect Detection**
Xiaojun Tang, BOE Technology Group Co., Beijing, China

91.2: **Diffusion-Based AI Solutions for Stabilizing Automated OLED Cell Repair Processes and Enhancing New Product Performance.**
Hong-Bin Lim, Samsung Display, Yongin, South Korea

91.3: ***Late-News Paper:*** **Unsupervised Anomaly Detection Using Diffusion Trend Analysis for Display Inspection**
Eunwoo Kim, Samsung Display, Hawseong, South Korea

Session 92: e-Paper Displays I *(Flexible Displays and e-Paper)*

Friday, May 16, 2025 / 1:30 PM - 2:50 PM / Room LL21EF

Chair: *Bo-Ru Yang, Sun Yat-Sen University*

Co-Chair: *Ze Yuan, UltraReality Technology Limited*

92.1: ***Invited Paper:*** **Color Electrophoretic Display for Outdoor Signage**
James Aborn, E Ink Corporation, Billerica, MA US

92.2: **Application of Large Active-Matrix Reflective Cholesteric Liquid-Crystal Technology in Outdoor Public Information Displays**
Heng-Yi Tseng, AUO Corp., Hsinchu, Taiwan ROC

92.3: **Dual-Mode Electrophoretic Displays with Photoluminescence, Electroluminescence, and Three-Dimensional Driving Capabilities**
bo-ru Yang, Sun Yat-Sen University, Guangzhou, China

92.4: **World's Largest E Ink Spectra 6 Display for Signage with IGZO-TFT Backplane**
Fumiyuki Kobayashi, Sharp corporation, Tenri, Japan

Session 93: Diffractive Liquid Crystal Optics for AR/VR *(Liquid Crystal Technology)*

Friday, May 16, 2025 / 1:30 PM - 2:50 PM / Room LL20BC

Chair: *Lu Lu, Meta Reality Labs*

Co-Chair: *Philip Bos, Kent State University*

93.1: **Efficient Large-Angle Diffraction Using Patterned Chiral Liquid Crystal**
Kristiaan Neyts, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong

93.2: **Achromatic Liquid-Crystal Diffractive Optical Elements for High-Efficiency Near-Eye Displays**
Yongziyan Ma, University of Central Florida, Orlando, FL US

93.3: **Transmissive Diffractive Optical Elements Based on Cholesteric Liquid Crystal**
Taiki Yoda, Kwansei Gakuin University, Sanda, Japan

93.4: **Polarization Efficiency Optimization of Freeform Liquid-Crystal Polarization Imaging Optics**
Chunyang Pei, Zhejiang University, Hangzhou, China

Session 94: mmWave Systems Integration and Advanced Chiplet Packaging on Glass *(Emerging Technologies and Applications / Heterogeneous Integration on Glass for Emerging Applications)*

Friday, May 16, 2025 / 1:30 PM - 3:00 PM / Room LL21AB

Chair: *Ryosuke Kuwada, Project Far East Corporation*

Co-Chair: *Abhishek Srivastava, Hong Kong University of Science & Technology*

94.1: **Progress in Development of Reconfigurable Intelligent Surfaces with Liquid-Crystal and Glass Substrates for RF Applications**
Changhyeong Lee, Corning Technology Center Korea (CTCK), Asan, South Korea

94.2: **Process Development for Active-Matrix-Addressed Liquid-Crystal Reconfigurable Intelligent Surfaces**
Markus Widmaier, University of Stuttgart, Institute for Large Area Microelectronics, Stuttgart, Germany

94.3: ***Invited Paper:*** **Multilayer Glass Structure for Advancing Packaging and Substrate Technologies**
Takahisa Amemiya, FICT Ltd., Nagano, NY Japan

94.4: ***Invited Paper:*** **Advanced IC Substrate Taking Advantage of Flat Panel Display Technology**
Kazuyuki Yamada, Japan Display Inc., Tokyo, Japan

94.5: **WITHDRAWN**

94.6: ***Late-News Paper:*** **Low-Thermal-Stress TGV Leadless Wafer-Level-Package for MEMS High-Temperature Pressure Sensors**
Qiuxu Wei, Beijing BOE Sensor Technology Company, Ltd., Beijing, China

Session 95: Low-Power AM Devices II *(Active Matrix Devices)*

Friday, May 16, 2025 / 3:10 PM - 4:10 PM / Room 220B

Chair: *Kazuyoshi Omata, Konica Minolta*

Co-Chair: *Xi Chen, BOE Technology Group Co., Ltd.*

95.1: ***Invited Paper:*** **Research on Low-Power OLED Display Technology Based on SDP Scheme**
Ling Shi, BOE Optoelectronics Group Co., Ltd., Chengdu, China

95.2: **Partial Update LCD Based on LTPS Backplane Using a New Gate Driver on Array Combined with Multiplexing Architecture**
Chia-Lun Lee, AUO Corporation, HsinChu, Taiwan Roc

95.3: ***Invited Paper:*** **Pixel Design Techniques for 1Hz Refresh Rate LTPS Emissive Displays Leveraging Multimodal Transistor On- and Off-State Current Characteristics**
Radu Sporea, University of Surrey, Guildford, UK

Session 96: Artificial Intelligence for Display Manufacturing II *(Display Manufacturing / Artificial Intelligence Including Machine Learning for Imaging)*

Friday, May 16, 2025 / 3:10 PM - 4:30 PM / LL21CD

Chair: *Eunkyung Koh, Samsung Display Research Center*

Co-Chair: *Simon Kurmann, Helbling*

96.1: ***Invited Paper:*** **AI Image Technology for Fast, Cost-Effective, and Safe Manufacturing Process**
Cris Seungin Baek, Samsung Display Co., Ltd., Yongin, South Korea

96.2: ***Distinguished Paper:*** **Optimize Manufacturing Operations with Digital Twin and Deep Q-Network**
Seki Park, Mobile Display Technology Innovation Team, Samsung Display, Asan, South Korea

96.3: ***Distinguished Paper:*** **Developing Large Language Models for Display Industrial Knowledge: Data Augmentation, Training Techniques, and Evaluation Strategies**
Bingqian Wang, BOE Technology Group Co., Ltd., Beijing, China

96.4: **Self-Supervised Outpainting for Display Panel Defect Image Augmentation**
Zhihong Pan, Samsung Display America Lab, San Jose, CA US

Session 97: e-Paper Displays II *(Flexible Displays and e-Paper)*

Friday, May 16, 2025 / 3:10 PM - 4:30 PM / Room LL21EF

Chair: *Masayoshi Higuchi, National Institute for Materials Science*

Co-Chair: *HongMei Zang, E Ink Calif,*

97.1: **Full-Color Video e-Paper Based on Oxide TFT**
Zhuhui Li, China Star Optoelectronics Semiconductor Display Technology Co. Ltd., Shenzhen, China

97.2: **A Novel Organic Light-Emitting Diode Having Dual Functionality of Front-Light and Touch Panel for Reflective Displays**
Norio Koma, RFD Research Center, Gifu, Japan

97.3: **Quantum-Dot-Based Color Filter Array for Reflective Displays**
Dmitri Kuksenkov, Science and Technology Division, Corning Incorporated, Corning, NY US

97.4: **Highly Durable and Nonvolatile Electrochromic Devices with Metallosupramolecular Polymers for Smart Window Application**
Masayoshi Higuchi, National Institute for Materials Science, Tsukuba, Japan

Session 98: New Component *(Liquid Crystal Technology)*

Friday, May 16, 2025 / 3:10 PM - 4:30 PM / Room LL20BC

Chair: *Dr Akihiro Mochizuki, I-CORE Technology, LLC*

Co-Chair: *Takahiro Ishinabe, Tohoku University*

98.1: ***Distinguished Paper:*** **New Coating Polarizer with High Polarization Performance and Dimensional Stability**
Toshikazu Sumi, FUJIFILM Corporation, Minamiashigara, Japan

98.2: **Cinnamate Phosphonic Acid as Monomolecular Alignment Layer**
Oleksandr Semenenko, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

98.3: **Multi-Dichroic-Layer Composite Thin-Film Polarizer Based on Azo Dyes**
Yue-Chu Cheng, National Cheng Kung University, Tainan, Hong Kong

98.4: **Reflector Plate Design for Reflective Liquid-Crystal Displays**
Shenping Li, Corning, Inc., Corning, NY US

Session 99: Imaging Techniques *(Emerging Technologies and Applications)*

Friday, May 16, 2025 / 3:10 PM - 4:30 PM / Room LL21AB

Chair: *Adi Abileah, Adi - Displays Consulting LLC*

Co-Chair: *Cheonhong Kim, Meta*

99.1: **Design-Technology Co-Optimization of TFT Backplane for Ultrasound Pulse-Echo Systems**
Florian De Roose, imec, Leuven, Belgium

99.2: **A Compact Fully a-Si:H TFT-Based Active Pixel Sensor Circuit for High-Resolution Low-Dose Medical Imaging**
Kaiyan Guo, Peking University, Shenzhen, China

99.3: **Direct Perovskite X-Ray Detector Based on IGZO TFT Backplane**
Hao Liu, BOE Technology Group Co., Ltd., Beijing, China

99.4: ***Late-News Paper:*** **Dynamic X-ray Flat Panel Detector with High Imaging Quality Based on Amorphous Silicon PIN Photodiode**
Yue Geng, BOE Sensing Technology Co., Ltd., Beijing, China

Poster Session

Thursday, May 15, 2025 / 4:30 PM - 7:30 PM / Room 220A

Active Matrix Devices

P.1: **Improving the Negative Bias Illumination Stress-Induced Instability of High Mobility Oxide Thin-Film Transistors**
Yun Yu, Tianma Microelectronics Co., Ltd., Wuhan, China

P.2: **High-Voltage Scalable Low-Temperature Polycrystalline Thin-Film Technologies in AMOLED Displays**
Keunwoo Kim, Samsung Display Co., Ltd., Yongin, South Korea

P.3: **High Uniform and Stable Oxide TFT Devices with High Mobility for AMOLED Display**
Fa-Hsyang Chen, Kunshan Govisionox Optoelectronics Co., Ltd., Jiangsu, China

P.4: **A New LTPS Pixel Structure to Improve the 1Hz Low-Brightness AOD Flicker Effect**
Chuanzhi Xu, Kunshan Govisionox Optoelectronics Co., Ltd., Kunshan, China

P.5: **Competing Degradation Mechanisms in Flexible Dual-Gate InGaZnO Thin-Film Transistor under Mechanical Stresses**
Peidong Li, Peking University, Shenzhen, China

P.6: **Power-Saving Solution for AMOLED Displays Based on Cathode Segmentation**
Lin Chen, Hefei Visionox Technology Co., Ltd., Hefei, China

P.7: **High-Reliability LTPS-TFT with Super-Low Gate Resistivity**
Masatomo Honjo, Sharp Corp., Mie,, Japan

P.8: ***Distinguished Poster:*** **4,032ppi Vth Compensation Pixel Circuit for OLEDoS**
Sanghyun Heo, Samsung Display Co., Ltd., Yongin, South Korea

P.9: **High Mobility Oxide and Novel Dual-Gate Pixel Structure Application to Gaming Notebook LCDs**
Jiandong Guo, BOE Technology Group Co., Ltd., Beijing, China

P.10: **MicroLED Pixel Circuit with A Novel NMOS-Oxide TFT Inverter for Reducing Falling Time and Enhancing Gray-Level Expression**
Chae-Hwan Park, Seoul National University, Seoul, South Korea

P.11: **A Novel 5T2C LTPO Pixel Circuit for MicroLED Display with Simultaneous Compensation and Programming**
Sung Wook Lim, Samsung Display Co., Ltd., Suwon, South Korea

P.12: **Achieving High-Performance Ln-IZO TFT with Top-Gate Self-Aligned Structure on Large Substrates**
Jingdong Liu, China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Guangzhou, China

P.13: **Hydroxyl Radical from UV-DI: A Simple, Industry-Accessible Method for Enhancing Metal-Oxide TFTs at Low Temperature**
GiYoong Chung, Sungkyunkwan University, Suwon, South Korea

P.14: **Micro Light-Emitting Diode Pixel Circuit Based on LTPO TFTs Without Threshold Voltage Compensation Structure**
Jeeho Jeong, Sungkyunkwan University, Suwon, South Korea

P.15: **LTPS-TFT-Based Scan Driver Circuit with Stable Dual-Polarity Outputs by Bootstrapping Without Pre-Charging**
Hye-Won Woo, Sungkyunkwan University, Suwon, South Korea

P.16: **CMOS-Type Scan Driver Circuit Based on LTPO TFTs**
Han Cheol Lee, Sungkyunkwan University, Suwon, South Korea

P.17: **Low-Power Gate Driver Circuit with Variable Pulse Width for LTPO-Based AMOLED Displays**
Park Kee Chan, Konkuk University, Seoul, South Korea

P.18: **Self-Aligned Bottom-Gate Top-Contact Vertical-Channel In-Ga-Zn-Oxide Thin-Film Transistor**
Zicong Huang, Dept. of Electrical Engineering, Columbia University, New York, NY US

P.19: **Reduction of Oxygen Vacancy and Hydroxyl Group Defects in Oxide Semiconductor by Chloroform Treatment for Short-Channel Thin-Film Transistors**
Jin Jang, Kyung Hee University, Seoul, South Korea

P.20: **High Subthreshold Swing Using High-Performance Dual-Gate IZO/IGZTO TFTs for AMOLED Display**
Jin Jang, Kyung Hee University, Seoul, South Korea

P.21: **A Wide-Data-Range Pixel Circuit for High-Pixel-Density Mobile Displays Using Double-Gate Oxide TFTs**
Byong-Deok Choi, Hanyang University, Seoul, South Korea

P.221: ***Late-News Poster:*** **Multi-Frequency Gate Driver in the Controllable Region for Low Power TFT-LCD Application**
Po-Tsun Liu, National Yang Ming Chiao Tung University, Hsinchu, Taiwan Roc

P.222: ***Late-News Poster:*** **Femto-Ampere Leakage Current of Low Temperature Poly-Silicon TFTs in OLED Panel**
Yongsu Lee, Samsung Display, Yongin, South Korea

P.223: ***Late-News Poster:*** **Crystallized IGTO as a Transparent Electrode for Replacing Conventional S/D Metal Electrodes in Transparent Displays.**
Minsu Park, Sungkyunkwan University, Suwon, South Korea

P.224: ***Late-News Poster:*** **Interfacial Oxidation Layer for Reliable Vertical Thin-Film Transistors**
Byung Seol Hwang, Hoseo University, Asan, South Korea

P.225: ***Late-News Poster:*** **A High-Performance Micro Light-Emitting Diode Pixel Circuit Based on LTPO TFTs using a Pseudo Digital Driving Method**
Jae-Won Jung, Sungkyunkwan University, Suwon, South Korea

P.226: ***Late-News Poster:*** **Argon Plasma-Induced Rare-metal-free Amorphous Oxide Source-Gated Transistors**
Mark Ilasin, Nara Institute of Science and Technology, Nara, Japan

P.227: ***Late-News Poster:*** **Insight into the Effect of the Thickness of Gate Insulator on the Hysteresis by TCAD Simulation**
Huichen Xie, Wuhan China Star Optoelectronics Semiconductor Display Technology Coporation, Wuhan, China

P.228: ***Late-News Poster:*** **An Advanced Flexible OLED Anti-ESD Design**
Yuan Zheng, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.229: ***Late-News Poster:*** **Improved PBTS Reliability of Dual-Gate a-IGZO TFT by Bottom Interface Optimization**
Hanpeng Deng, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.230: ***Late-News Poster:*** **Study on the Impact of Static Electricity on LTPS TFTs and Its Mechanism in Flexible OLED Devices Manufacturing Process**
Hao Li, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.231: ***Late-News Poster:*** **An AMOLED LTPS Pixel Circuit Compensating for Threshold Voltage Variations, OLED Degradation, and IR Drop**
Sanghyun Park, Soongsil University, Seoul, South Korea

P.232: ***Late-News Poster:*** **Micro-LED Pixel Circuit with Threshold Voltage Compensation Using a-IGZO TFT**
Young Jin Kim, Department of Semiconductor Engineering, Hoseo University, Asan, South Korea

Applied Vison

P.22: **Subjective Evaluation of HDR10 Rendering Consistency Across Illuminance Changes**
POOSHPANJAN ROY Biswas, DXOMARK, Boulogne Billancourt, France

P.23: **Influence of Evening Display Light on Melatonin Levels and Autonomic Nervous System Balance**
Jang Jin Yoo, LG Display Co., Ltd., Seoul, South Korea

P.24: **Modeling for Display Brightness Perception Based on Retina Imaging**
Nailong He, Southeast University, Nanjing, China

P.25: **Mura Visual Simulation System and Quantitative Evaluation Criteria**
BO SHI, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.26: **Research on Individual Differences in Ability to Recognize Obstacles Employing Binocular Stereopsis and Development of Stereoscopic Test Video Sequences for Analyses**
Michihiro Hayashi, International College of Technology, Kanazawa, Kanazawa, Japan

P.27: **A Novel Display Performance Index for Picture Quality Evaluation and Content Color Reproduction under Ambient Viewing Condition**
Mincheol Kim, LG Display Co., Ltd., Seoul, South Korea

P.28: **Advanced Image Comparison Metric for Discerning Subtle Distinctions in Visual Quality**
Tamoghna Ghosh, Intel Corporation, Bangalore, India

P.29: **Perceptual Visual Quality of UHD-2/8K on Consumer Display**
Hosub Lee, Samsung Research America, Irvine, CA US

P.233: ***Late-News Poster:*** **Motion Sickness Inhibition Technology for In-Car Displays and Smart Phones**
Chia-Hsun Tu, Industrial Technology Research Institute, Hsinchu, Taiwan Roc

AR/VR/MRs

P.30: **Geometric Phase-Shift-Based Phase Modulation SLM Using Dual In-Plane Switching Liquid Crystal**
Chihyun In, Kyung Hee University, Seoul, South Korea

P.31: **A Novel Mura Compensation Algorithm for VR Displays**
Jaechan Cho, LX Semicon, Inc., Seoul, South Korea

P.32: **Double-Path Pancake Optics with Wider FoV**
Naru Usukura, Sharp Corp., Tenri, Japan

P.33: **A Novel Modular Map Construction Method for VR/MR Glasses**
Siyan Ma, BOE Technology Group Co., Ltd., Beijing, China

P.34: **Deep Learning-Based Artificially Focused CGH Method with Real-World Objects Using Eye Tracking for Holographic Near-Eye Displays**
Tuvshinjargal Amgalan, Chungbuk National University, Cheongju, South Korea

P.35: **A Performance-Efficiency Switchable Near-Eye Display with Variable Internal Optical Paths**
Hee-Jin Choi, Sejong University, Seoul, South Korea

P.36: **Asymmetric Field-of-View Angle for Virtual-Reality Optical System**
Huanli Yang, TCL China Star Optoelectronics Technology Co., LTD, Wuhan, China

P.37: **Crosstalk-Free Integral Imaging Based Head-Mounted Light-Field Displays Using Directional Backlights**
Hong Hua, The University of Arizona, Tucson, AZ US

P.38: **Quantitative Simulation of Pixel-Level Crosstalk in MicroLED Arrays with Outcoupling Structures for AR Applications**
Ze Yuan, Yongjiang Laboratory, Ningbo, China

P.39: **Challenging the Limits of SRG Waveguides: A Human-AI Collaborative Design Concept**
Sebastian de Cunsel, Sony Semiconductor Solutions Corp., Atsugi, Japan

Artificial Intelligence Including Machine Learning for Imaging

P.40: **A Novel LCD Demura Algorithm Based on Deep Learning**
Yixin Xiao, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.41: **A Study on AI Model Performance Based on Changes in Image Brightness and Camera Focus**
Nakun Lim, Samsung Display Co., Ltd., Asan, South Korea

P.42: **AI-Based Rapid Defect Detection Method for Display Screen Appearance**
Shujuan Yin, BOE, Beijing, China

P.43: **Practical Lithography Prediction System with AI model**
Tong Liu, BOE Technology Group Co. Ltd., Beijing, China

P.44: **Control Chart Pattern Recognition Using Preprocessing Based on DTW and 1D-CNN for Anomaly Equipment Detection**
Junhyuk Choi, Samsung Display Co., Ltd., Asan, South Korea

P.45: **Development of an AI Model for Defect Detection Considering Manufacturing Variability**
Choongmin Jeong, Samsung Display Co., Ltd., Yongin, South Korea

P.46: **Exploration of AI Applications of Neural Networks in TFT-LCD Film Thickness Prediction**
Yan Ping Hong, Wuhan BOE Optoelectronics Technology Co., Ltd., Wuhan, China

P.47: **Exploration and Application of Unknown Category Defect Detection Methods for Display Panels**
Hu Siyi, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.48: **WIHDRAWN**

P.49: **Deep Learning Enables Intelligent Defect Detection and Interception in LCD Manufacturing**
Xiangwu Xiao, BOE Technology Group Co., Ltd., Beijing, China

P.50: **AI-Empowered Display Industry: Innovative Breakthrough in Defect Inspection**
Tingyu Liu, BOE Technology Group Co., Ltd., Beijing, China

P.51: **Development Solution for Imbalanced Image Data of Cell Circuit Dents and Film Scratches in AMOLED Mass Production**
Sukbin Jung, Samsung Display Co., Ltd., Yongin, South Korea

P.234: ***Late-News Poster:*** **A Novel Deburn-in Machine Learning Framework for OLED Displays Considering Frame Rate, PWM, Grayscale, and Temperature**
Jyun-Wei Su, National Yang Ming Chiao Tung University, Hsinchu, Taiwan Roc

P.235: **Improving Automated Inspection and Repair Performance in Display Manufacturing through Diffusion-based Generative AI**
Seung-Gi Kim, Samsung Display Co., Yongin, South Korea

P.236: ***Late-News Poster:*** **Layout Optimization of AMOLED Pixel Circuits based on Deep Reinforcement Learning**
Hyoungsik Nam, Kyung Hee University, Seoul, South Korea

P.237: **A Low Grayscale Uniformity Improvement Scheme for OLED Based on Auto Demura**
Xiong Yin, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

Automotive/Vehicular Displays and HMI Technologies

P.52: **Study on Viewing Angle of Novel Ultra-Large OLED Display**
Yunpeng Zhang, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.53: **An Innovative Capacitive Knob Design with Press-and-Rotate Function for Automotive In-Cell Touch LCD**
Yao-Chung Chang, Novatek Microelectronics Corp., Hsinchu, Taiwan ROC

P.54: **Research on the Process of Microlens Array Structure in Anti-Peeping Automotive Display**
Yanqiang Wang, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.55: **Research and Application on the Hanging Ear Fracture of Optical Film for Vehicle Display Module**
Jie Mei, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.56: **New Brightness Uniformity Tuning Algorithm for LCD Panel with Local Dimming Function**
Atul Sharma, Synaptics Japan G.K., Tokyo, Japan

P.57: **Performance Enhancement of Quantum-Dot Optical Films (QDOFs) Used in Vehicle Display**
Guobin Xu, Nanjing Bready Advanced Materials Technology Co., Ltd., Nanjing, China

P.58: **LCD with In-Cell Integrated Temperature Sensors for Multi-Area Temperature Detection**
Yuanyang Zhao, BOE Corp., Beijing, China

P.59: **Optimization of Environmentally Integrated Surface Display**
Xiujian Zhu, Kunshan Govisionox Optoelectronics Co., Ltd., Kunshan, China

P.60: **Hyper-Realistic SDR/LDR Image Reproduction Proposal Needing Just Approx. 1/30th Exposure of Conventional SDR Image and Global-Tone-Mapping, or 1D-LUT, in UHDR Environments Regardless of Time of Day**
Sakuichi Ohtsuka, International College of Technology, Ishikawa, Japan

Display Electronics

P.61: **A Mura Optimization Scheme Based on AMOLED DC Dimming**
Qing Yang, Yungu (Gu'an) Technology Co., Ltd., Hebei, China

P.62: **AMOLED Fast Electrical Detection Technology and Compensation Data Processing**
Hui Liu, Hefei Visionox Technology Co., Ltd., Hefei, China

P.63: **Demura Taking the Gamma Inconstancy into Account**
Chao Zeng, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.64: **Panel Performance Prediction Using Domain Knowledge-Guided Deep Learning**
Yiyeon Hwang, LG Display Co., Ltd., Seoul, South Korea

P.65: **AI-Driven Timing Optimization for Enhanced Visual Performance in HOP 3.0**
Junghyun Yang, Samsung Display Co., Ltd., Yongin, South Korea

P.66: **Effective Compression Method for De-Burn-In Data**

Shumeng Ding, Goertek Co., Ltd., Xi'an, China

P.67: **Novel Content Adaptive Algorithm with Low-Power Consumption for Dual-Cell LCDs**
Yan Li, BOE Technology Group Co., Ltd., Beijing, China

P.68: **Double-Data PHM Drive System Based on MicroLED Display**
jiaqing Li, TCL China Star Optoelectronics Technology Co., Ltd. Wuhan, China, Shenzhen, China

P.69: **Novel Scan Driver Circuit and Power Consumption Reduction Structure for Oxide-Based OLED Display**
Dan Won Lim, Samsung Display Co., Ltd., Yongin, South Korea

P.70: **Data Compensation Scheme for AMOLED Pixel Circuit Based on Double-Gate Structural IGZO TFTs**
Shin-Hyeong Kim, Sungkyunkwan University, Suwon, South Korea

P.71: **Digital PWM Driving MicroLED Pixel Circuit Using a-ITZO TFTs**
Yongduck Kim, Electronics and Telecommunications Research Institute, Daejeon, South Korea

P.72: **A Novel High-Gain Operational Amplifier with Cross-Coupled Pair Based on a-IGZO TFTs**
Kyungmin Choi, Soongsil University, Seoul, South Korea

P.73: **Low-Power, Programmable Emission Control Driver Using Oxide Thin-Film Transistors Operating in Depletion Mode**
Seung-Woo Lee, Dept. of Information Display, Kyung Hee University, Seoul, South Korea

Display Manufacturing

P.74: **WITHDRAWN**

P.75: **Adaptive Optics De-Mura Technology for OLED Displays**
Liujing Fan, Tianma Display Technology Co., Ltd., Xiamen, China

P.76: **Optimization of Inkjet Jetting for Ultra-Fine Droplets**
Eunbyuel Lee, Samsung Display Co., Ltd., Yongin, South Korea

P.77: **Research on the Causes of OLED White Spot Defects and Exploration of Improvement Directions**
Peng Feng, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.78: **Optimization Scheme for Bending Process of Display Module Based on Simulation**
Ying Shen, Kunshan Govisionox Optoelectronics Co., Ltd., Kunshan, China

P.79: **New Applications of Optical Proximity Correction (OPC) Technology in the Display Industry**
Jing Wang, BOE Technology Group Co., Ltd., Beijing, China

P.80: **Systematic Study on Scanning Direction of Excimer Laser Annealing in p-Type Low-Temperature Polycrystalline Silicon Thin-Film Transistors**
Qian Xiao, Mianyang BOE Optoelectronics Technology Co., Ltd., Mianyang, China

P.81: **A Novel Bin-Mixing Transfer Technology Based on Die Bonding Equipment for Mini/MicroLED Display**
Yatong Qiao, BOE Technology Group Co., Ltd., Beijing, China

P.82: **Non-Destructive Measurement of Metal Thickness in Displays Using Energy Dispersive X-Ray Spectroscopy (EDS)**
Won Hyuk Jang, Samsung Display Co., Ltd., Asan, South Korea

P.83: **A Study on Transparent Electrode Materials for Displays**
Hyuneok Shin, Samsung Display Co., Ltd., Yongin, South Korea

P.84: **The Causes and Improvement of Lens Damage in Micro-OLED Display**
Xin Wen, BOE Technology Group Co., Ltd., Beijing, China

P.85: **Research Progress on the Influence of Black Organic Materials on OLED Display Residual Images**
Yunqiang Yang, Hefei Visionox Technology Co., Ltd., Hefei, China

P.86: **Research on Peeling Performance of Acrylic Photoresist with Isolated Island Pattern for OLED Display**
Ying Shen, Kunshan Govisionox Optoelectronics Co., Ltd., Kunshan, China

P.87: **Cost-Effective, High-k AlOx Dielectric by Spray Pyrolysis for LTPS and Oxide Thin-Film Transistors**
Jin Jang, Kyung Hee University, Seoul, South Korea

P.88: **Research on Improving Thin-Film Pixel Uniformity for 300ppi Pixels Using Inkjet Printing Process**
Jaebum Jeong, Gyeongsang National University, Jinju, South Korea

P.89: **Reducing Color Shift on White Screen in Oxide Semiconductor In-Plane Switching LCD Display by Controlling the Light Intensity of Different Color Bands Through Array Film Thickness Design**
Guoping Yang, Mianyang HKC Optoelectronics Technology Co., Ltd., Mianyang, China

P.220: **Conditioned Diffusion for Manufacturing Data: Improving Generation Controllability**
Jaewoong Kim, Samsung Display Co., Ltd., Yongin, South Korea

P.238: ***Late-News Poster:*** **Innovative Film Type Backplane with Super-Fine and Ultra-Low Resistance Wiring for Transparent Display**
Sohui Jeon, Panasonic Industry Co., Ltd., Osaka, Japan

Display Measurement

P.90: **Novel 3D Resolution Measurement Method for Autostereoscopic Display**
Youngmin Park, Samsung Display Co., Ltd., Yongin, South Korea

P.91: **Multi-Reference Imaging Light Measurement Device**
Sascha Reinhardt, Instrument Systems GmbH, Munich, Germany

P.92: **A Comprehensive Crosstalk Characterization Method for Autostereoscopic Visualization**
Viktor Voros, Barco NV, Kortrijk, Belgium

P.93: **Avoiding Temporal Error in the Measurement of Modulated Displays**
Tim Moggridge, Westboro Photonics, Ottawa, ON Canada

P.94: **Word Crosstalk: Analysis of Causes and Assessment Criteria**
Wennuo Huang, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.95: **An Image-Based Quantitative Metric of See-Through Optical Quality for Displays**
Chao-Hua Wen, National Taiwan University of Science and Technology, Taipei, Taiwan ROC

P.96: **Comparing Color Gamut of LCD and OLED Displays at Different Viewing Angles Using Gamut Rings**

Taketoshi Nakano, NICHIA Corporation, Tokushima, Japan

Display Systems

P.97: A Volumetric 3D Display System Based on Coded-Multiplane PDLC
Anran LI, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

P.98: Full-Parallax Super-Multi-View 3D Display Based on Time-Sequential Electric Field Modulation
Qiong-Hua Wang, Beihang University, Beijing, China

P.99: Glasses-Free 3D Display for Cinema Applications Employing a MiniLED Display and Radial Parallax Barrier
Philip Surman, Southern University of Science and Technology, Shenzhen, China

P.100: High-Resolution Multi-Person Viewing Naked-Eye 3D Display System Based on Eye Tracking and Spatiotemporal Multiplexing Technology
Yuan Yuan, TCL China Star Optoelectronics Display Technology Co. Ltd., Shenzhen, China

P.101: 3D/2D Switchable Imaging Augmented-Reality System Based on Multifunctional Holographic Optical Element and Active Prism Array
Hak-Rin Kim, School of Electronic and Electrical Engineering, Kyungpook National University, Daegu, South Korea

P.102: *Invited Paper:* H-PDLC-Based Volume Holographic Gratings with High Diffraction Efficiency for Augmented Reality
Huang Hua, BOE Technology Group CO. LTD., Beijing, China, Beijing, China

P.103: Holographic Near-Eye Display with Steerable Exit-Pupil Array Based on Bi-Stacked Quarter-Wave-Conditioned Geometric Phase Prism Module
Hak-Rin Kim, Kyungpook National University, Daegu, South Korea

P.104: A Dual-Depth Augmented-Reality Display System Based on Reflection Polarizer and Holographic Optical Element
Qiong-Hua Wang, Beihang University, Beijing, China

P.105: Brightness Enhancement Scheme for High-ppi VR Display
Le Zhao, Beijing BOE Chuangyuan Technology Co., Ltd., Beijing, China

P.106: An Automated Framework for Designing Subpixel Layouts with Gradient Descent Optimization
Kun-Yuan Lin, National Yang Ming Chiao Tung University, East Dist., Taiwan ROC

P.107: Light-Guide Plate with Curve-Ridged Micro Structures
Chun-Ting Lin, Industrial Technology Research Institute, Hsinchu, Taiwan Roc

P.108: A Novel Chromatic Aberration Correction Method for VR Display
Jihui Wang, Goertek Co., Ltd., Xi'an, China

P.109: Research on the Improvement of Light Leakage Current of TFT Based on LTPS LCD High-Brightness Projector
Peirong Huo, Ordos Yuansheng Optoelectronics Co., Ltd., Beijing, China

P.110: Environmental Data Memory and Display Status Monitoring Technology of Outdoor Display
Weibiao Geng, Beijing BOE Display Technology Group Co., Ltd., Beijing, China

P.111: Study of MLCD System Architecture and Picture Quality Improvement
hao xing, TCL China Star Optoelectronics Technology, Shenzhen, China

P.112: Development of Splicing-Coated Polarizers for TFT-LCDs
Xinru Yang, TCL CSOT, Shenzhen, China

P.113: Temperature Prediction and Optimization of LCD Modules Using a Stacked Machine Learning Algorithm
Cen Yi, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.114: Research into Improving the Backlight Leakage Behind the Screen's Punch Hole Area
Ji Shiqi, Guangzhou Govisionox Technology Co., Ltd., Guangzhou, China

P.115: Image Analysis-Based Perceptual Quality-Retaining Power Saving for OLED Display
Seungchul Ryu, Irystec Faurecia, Inc., Montreal, PQ Canada

P.116: Simulation and Experimental Analysis of Thermal Management for High-Brightness LED Projector
Jie Ma, BOE Display Technology Co., Ltd., Beijing, China

P.117: Development and Validation of Information Fusion Systems
Chieh-Han Yang, Industrial Technology Research Institute, Hsinchu, Taiwan ROC

P.118: AI Model for LCD Module Strength and Warpage Simulation
Zhi Li, BOE Technology Group Co., Ltd., Beijing, China

P.119: Stochastic Scanning for Unsynchronized, Low-Latency Display Without Tearing
Aaron Fulmer, North Carolina State University, Raleigh, NC US

P.120: Design for Enhancing the Mechanical Performance of NB Using a Hybrid ANN-PSO Approach
Wengao Zhang, TCL China Star Optoelectronics Technology Co., Ltd., ShenZhen, China

P.121: Image Sticking Compensation of MLED Splicing Screen Based on Temperature Sensor Perception
Feng Hou, BOE Technology Group Co., Ltd, Beijing, China

Emerging Technologies and Applications

P.122: Design Evolution of Millimeter-Wave Antenna-on-Display (AoD) on the TFE of an OLED Display for 5G and 6G
Huan-Chu Huang, Visionox Technology, Inc., Langfang, China

P.123: Film-Type Transparent Passive Reconfigurable Intelligent Surface Design for Multi-Incidence-Reflection Relation on mmWave Communication
Yu-Da Chen, BenQ Materials Corp., Taoyuan, Taiwan ROC

P.124: Characterization of Electrical Crosstalk in PbS Quantum Dot CMOS Image Sensors for Ultra-High-Resolution Imaging
Yixin ZHENG, Shenzhen Technology University, Shenzhen, China

P.125: WITHDRAWN

P.126: Direct X-Ray Detecting Gap-Type Thin-Film Transistors for Ultra-High Spatial Resolution Flat-Panel Image Receptors
Chia-Hsuan Li, National Yang Ming Chiao Tung University, Hsinchu, Taiwan ROC

P.127: Transparent PZT Thin Film with High Piezoelectricity on Glass Substrates

Qiumei wei, BOE Technology Group Co., Ltd., Beijing, China

P.128: ***Distinguished Poster:*** **A 1.33 µV/e- Voltage Mode Active Pixel Sensor with Threshold Voltage Compensation for Dynamic X-Ray Imaging**
Jiangbo Hu, Peking University, Shenzhen, China

P.129: **Superluminescence: Pioneering the Future of Visual Excellence in AR/VR Displays**
Zhi Li, Tyndall National Institute, University College Cork, Cork, Ireland

P.130: **Liquid-Crystal-Based Discrete Phase Shifter for Improving Response Speed**
Kitae Kim, Chungnam National University, Daejeon, UNK South Korea

P.239: **Investigation of the Impact of Moisture on the X-Ray Characteristics of Cesium Iodide Scintillators**
Guan Zhang, BOE Sensing Technology Co., Ltd., Beijing, China

P.240: **Near-Infrared Light to Make Screentime Healthy**
Anne Berends, SunLED Life Science BV, Amsterdam, Netherlands

Emissive, Micro-LED, and Quantum-Dot Displays

P.131: **Electric-Field Effect on Photoluminescence of Single Colloidal Lead-Halide Perovskite Nanowires**
Ying Tang, Shenzhen Technology University, Shenzhen, China

P.132: **Photoinduced Ultrafast Charge Separation in CdSe/CdS-Au Hybrid Nanoparticles for ETL**
Junjie Hao, Shenzhen Technology University, Shenzhen, China

P.133: **Analysis of Quantum Well-Stacking Order in Multi-Quantum Well MicroLEDs**
Hang Yang, Southern University of Science and Technology, Shenzhen, China

P.134: **Advancing Electroluminescent Quantum-Dot LED (EL-QLED): Integration with CMOS Panels for Ultrasmall Displays in AR/VR Applications**
Yu-Sian Lin, National Tsing Hua University, Hsinchu, Taiwan ROC

P.135: **Light Recycling in Quantum-Dot Organic Light-Emitting Diode Using Side-Wall Reflector Formed by a Secondary Sputtering Lithographic Technique**
Hyunsu Cho, Electronics and Telecommunications Research Institute (ETRI), Daejeon, South Korea

P.136: **Transparent Flexible Dual-Color AC Tandem**
Young-Jae Ko, Sungkyunkwan University, Suwon, South Korea

P.137: **Efficient Pixelated Blue Quantum-Dot Light-Emitting Diodes via Direct Photo-Patterning**
Peng Bai, BOE Technology Group Co., Ltd., Beijing, China

P.138: **Improve Electroluminescence Morphology and Operating Lifetime of QLED Device by Modified ZnMgO**
Xiangbing Fan, BOE Technology Group Co., Ltd., Beijing, China

P.139: **Exploring the Pathway to Achieve Wide Color-Gamut Cadmium-Free and Lead-Free QLED Devices Through Leda**
Junjie Hao, Shenzhen Technology University, Shenzhen, China

P.141: **Optical Efficiency Improvement of QD-OLED Technology with Structural Design and Material Selection**
Wenfeng Song, Yungu (Gu'an) Technology Co., Ltd. (Gu'an Visionox), Langfang, China

P.142: **Quantum-Dot Light-Emitting Device by Photolithography**
Jiao Fuxing, Visionox Technology, Inc., Suzhou, China

P.143: **Wider Color Gamut and Lower Deep-Blue Luminance Requirement Enabled by an Extra Light-Blue Pixel in the QLED Display**
Shuming Chen, Southern University of Science and Technology, Shenzhen, China

P.144: **Ultra-High Brightness Quantum-Dot Light-Emitting Diodes with ZnO Nanoparticles Charge-Control Layer**
Ray-Kuang Chiang, Taiwan Nanocrystals Corp. Ltd., Tainan City, Taiwan ROC

P.145: **Oxide Encapsulation of CsPbBr3 Nanocrystals to Enhance the Optical Efficiency and PLQY for LEDs Through Transition Dipole Alignments**
Mounika Dudala, University of California, Los Angeles, Los Angeles, CA US

P.147: **Development of 326ppi High-Resolution 1.39-in. Active-Matrix NanoLED Circular Display Using Low-Cost and Low-Permeability Sputtered AZO Thin-Film Encapsulation**
Nobuo Saito, Sharp Corporation, Tenri, Japan

P.148: **Photolithography-Based Micropatterning Integration of Quantum-Dot Electroluminescent Displays with Nonvolatile Charge Trap Memory**
Eun A Kim, Dong-A University Ansan, South Korea

P.149: **Monolithic Integration of p-type MOSFET and MicroLEDs for AR/VR/XR Display**
Yanzhen Yin, Southern University of Science and Technology, Shenzhen, China

P.241: ***Late-News Poster:*** **Color Temperature Control of AC Tandem QD-LEDs Using AC Driving Scheme**
Soonnyung Park, Sungkyunkwan University, Suwon, South Korea

P.242: ***Late-News Poster:*** **Boosting Light Extraction in AlGaN-Based Deep Ultraviolet Micro-LEDs Through p-GaN Layer Removal**
Shan Huang, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

P.243: ***Late-News Poster:*** **Nano-Optic Augmented Micro-LED Arrays**
Graham Woodgate, Rain Technology, Oxford, UK

P.244: ***Late-News Poster:*** **Cd-free RGB Electroluminescent Quantum Dot-LEDs Fabricated by Inkjet and Electrohydrodynamic (EHD)-Jet Printing in Ambient Air**
Yohan Kim, Fraunhofer Institute for Applied Polymer Research IAP, Potsdam, Germany

P.245: ***Late-News Poster:*** **Suppression of Blue Leakage in InP Quantum Dots for QD-LEDs and Modulation of Photoluminescence via Voltage-Driven Scattering Control**
GyuRi Choi, Jeonbuk National University, Jeonju, South Korea

P.246: ***Late-News Poster:*** **Eco-Friendly Solvent Substitution for Enhanced Performance in All Solution-Processed QD-LEDs**
Jang-Kun Song, Sungkyunkwan University, Suwon, South Korea

P.247: ***Late-News Poster:*** **Photoluminescence Analysis for Mitigating Sidewall Surface Nonradiative Recombination of n-GaN in Micro-LEDs Using Time-Dependent Isotropic Dry Etching**

Zhengfei Wei, Oxford Instruments Plasma Technology, Bristol, United Kingdom

P.248: ***Late-News Poster:*** **Outstanding Brightness and Long-term Stability for Quantum Dots in QLED and Color Conversion Application, Driven by Gradient Shell Engineering**
Sonja Zeller, Fraunhofer IAP-CAN, Hamburg, Germany

P.249: ***Late-News Poster:*** **Fabrication of a Flexible/Detachable Film with Light Extraction Structure to Improve Efficiency of QD-OLEDs**
Eun Jeong Bae, Korea University, Seoul, South Korea

Flexible Displays and e-Paper

P.150: ***Distinguished Student Poster:*** **Mechanically Stable, Stretchable Ferroelectric Thin-Film Transistors for Display Application**
Jin Jang, Kyung Hee University, Seoul, South Korea

P.151: **Customizable Island-Bridge Structures for Stretchable Displays**
Zhimin Yan, Visionox Technology, Inc., Gu'an, China

P.152: **3D-Stretched OLED Display Based on Island-Bridge Structure**
Zhimin Yan, Visionox Technology, Inc., Gu'an, China

P.153: **Weibull-Based Strength and Reliability Model of UTG for Flexible OLEDs**
Yongxiao Gao, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.154: **4-Edge Deeply Curved AMOLED Display**
Jinyan Huang, Visionox Technology, Inc., Gu'an, China

P.155: **Research on Redundancy Absorption and Surface Deformation of OLED Display**
Yefei Yang, Hefei Visionox Technology Co., Ltd., Hefei, China

P.156: **Evaluating and Improving the Orange Peel Texture of Foldable Screens**
Ziyang Ai, BOE Technology Group Co., Ltd., Beijing, China

P.157: **Finite Element Analysis and Optimization Study of Ultra-Thin Glass Cracks in Flexible Displays**
Shasha Wang, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.158: ***Distinguished Poster:*** **Early Detection of Crack Vulnerability in Foldable Displays Through Critical-Angle Curvature Analysis**
kyongtae Park, Samsung Display, Suwon, South Korea

P.159: **High-Performance, Flexible Ferroelectric Thin-Film Transistor on PI Substrate**
Jin Jang, Kyung Hee University, Seoul, South Korea

P.160: **Study of Factors Affecting Dynamic Bending Performance of Folded Flexible AMOLED Modules**
Xin Li, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.161: **E-Paper Display with Li-Fi Integrated on a 1D-Dimming Front-Light Unit**
Zong Qin, School of Electronics and Information Technology, Sun Yat-Sen University, Guangzhou, China

P.250: ***Late-News Poster:*** **Design Optimizations of the Bracket Pattern of Folding Flexible Screen**
Qinwei Hu, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.251: **Application and Research of Optically Cholesteric Liquid Crystals in Reflective Displays**
Juping Zhou, TCL China Star Optoelectronic Technology Co, Ltd., Shenzhen, China

P.252: **Excellent Bistable Electrophoretic Displays with Contrast Ratio up to 81.9**
Wenliang Huang, TCL China Star Optoelectronic Technology Co, Ltd., Shenzhen, China

Interactive Displays and Systems

P.162: **Study on Optimization Methods for the FoV Performance of Under-Display Ambient Light Sensors in AMOLED**
Ruiheng Rao, Tianma Microelectronics Co., Ltd., Wuhan, China

P.163: **A Novel Active Stylus with the Rolling Function**
Yu-Ying Tang, Novatek Microelectronics Corp., Hsinchu, Taiwan ROC

P.164: **Novel In-Cell Fingerprint Sensor with High EQE Photodiode Applied in OLED Display**
Na Xiong, Tianma Microelectronics Co., Ltd., Shanghai, China

P.165: **Multifunctional Under-Display Ultrasonic Fingerprint Sensor Integrated with Force-Sensing Function**
Wang Yichao, BOE Display Technology Co., Ltd., Beijing, China

P.166: **Driver-Integrated Active-Matrix Amorphous Silicon Schottky Photosensor Arrays for Display Integration**
Marco Dettling, University of Stuttgart, Stuttgart, Germany

P.167: **In-Cell Sensors for Light-Adaptive LCDs**
Zhitao Lu, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.168: **Extremely Low-Power Consumption Design for LCD In-Cell Touch Panel**
Yuanxiang Xie, Guangzhou China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Guangzhou, China

P.169: **Research on the Integration Technology of In-Screen Ambient Light Sensor for Wearable Applications**
Boshi Feng, BOE Display Technology Co., Ltd., Beijing, China

P.170: **Enhanced Performance of Organic Photodetector Through Metal Doping and Inkjet Printing for Sensor-in-Pixel Displays**
Gun Woong Kim, Gyeongsang National University, Jinju, South Korea

P.219: **Full-Screen Fingerprint Display with Embedded Sensor Pixels Capable of Adjusting Light-Receiving Angle**
Kwang Soo Bae, Samsung Display Co., Ltd., Yongin, South Korea

Liquid Crystal Technology: Fast Switching LCDs

P.171: **Fast Switchable Color Filter Based on Ferroelectric Liquid Crystals**
Jingxuan Huang, Zhejiang University, Hangzhou, China

P.172: **WITHDRAWN**

P.173: **High Refresh-Rate Monitor Development with Line Image Sticking Improvement by DBS Voltage Adjustment**
An-thung Cho, Chongqing HKC Optoelectronics Technology Co., Ltd., Chongqing, China

P.174: Excellent Ultra-Fast Gaming Monitor Solution for Response Time 1ms
Yanjun Song, China Star Optoelectronics Technology Co., Ltd., Guangzhou, China

P.175: Short-Range Lurch Control In-Plane Switching Mode with Negative Dielectric Anisotropy Liquid Crystals
Toshiharu Matsushima, Japan Display Inc., Mobara City, Japan

P.265: *Late-News Poster:* A Liquid Crystal Material with High Negative Dielectric Anisotropy for Improving Response Time
Ji Li, TCL CSOT, Shenzhen, China

Liquid Crystal Technology: Image Quality Improvement

P.176: Research on Liquid-Crystal Phase Change Improvement of TFT-LCD TV Display
Jinsong Lu, , Chongqing, China

P.177: Analysis and Improvement of LCD Contrast Ratio by Polymer Film on Array
ChunMei Li, TCL China Star Optoelectronics Technology Co., Ltd., Shenzhen, China

P.178: *Distinguished Poster:* Color Shift Improvement for IPS-Mode Wide-View Liquid-Crystal Displays
Yanni Liu, BOE Optoelectronics Group Co., Ltd., Hefei, China

P.179: Verification and Elimination of LCD Color Deviation Caused by Thickness Fluctuation of Gate Insulator Layer
Xulin Lin, TCL China Star Optoelectronics Technology Corp., Shenzhen, China

P.180: Swipe Mura in LCD Panel and Its Correlation with the Panel Shape
Tomohiro Ishikawa, Corning, Inc., Corning, NY US

P.181: Study of Polyimide on Improvement of Crushed Bright Spot Mura on FFS Display
Duokai Zhao, China Star Optoelectronic Technology Co, Ltd., Shenzhen, China

P.182: Eliminate Circular Bright Spots Resulting from Poor Compatibility between PI and Liquid Crystal in LCD
Shuang Lu, China Star Optoelectronic Technology Co, Ltd., Shenzhen, China

P.262: *Late-News Poster:* A Large-Size Flexible DDLC Dimming Automobile Sunroof based on PS Matrix Design
Sikai Zhang, Beijing BOE SINCE Technology Co. Ltd., Beijing, China

P.263: *Late-News Poster:* A New Dimming Technology and Applications Based on Dye-Doped Liquid Crystal
Ying Wang, Beijing BOE SINCE Technology Co. Ltd., Beijing, China

P.264: *Late-News Poster:* Integrated Novel Light-Shield Metal with Sub Pixel Design Technology for High Transmittance Liquid Crystal Display
Jia-Hong Ye, AUO Corp., Hsinchu, Taiwan Roc

Liquid Crystal Technology: Nanorods Composites LC Technologies

P.183: Propagation of Polarized Optical Signal Through Gold Nanorods Blending Cholesteric Liquid Crystals
Xiaohui Gong, Donghua University, Shanghai, China

P.184: Predicting the Optical Asymmetry of Cholesteric Liquid Crystals Templated Gold Nanorods Helical Assemblies
Yi Yang, Donghua University, Shanghai, China

Liquid Crystal Technology: New Alignment Technologies

P.185: Passive Vibration-Sensing System Using Hybrid Alignment Nematic Liquid-Crystal Gratings
Xinyi Yu, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

P.186: Preparation of Photosensitive Cholesteric Liquid Crystals
Yang Liu, Donghua University, Shanghai, China

P.187: *Distinguished Student Poster:* Alignment Layer Optimization for Electrically Suppressed Helix Ferroelectric Liquid Crystals
Zhao-Yi CHEN, Hong Kong University of Science and Technology, Hong Kong, Hong Kong

P.188: Cellulose Nanocrystals as an Alignment Layer for Liquid-Crystal Displays in a Circular Economy
Ye Zhang, Columbia University, New York, NY US

Liquid Crystal Technology: New Photoresist

P.266: *Late-News Poster:* Research on the Formula of Usable Dye Color Photoresist
Yi Feng, Peking University, Shenzhen, China

P.267: *Late-News Poster:* Strategies to Develop Highly Reactive Red Photoresists via Modulation of the Exposure and Developing Processes
Hong Meng, Peking University, Shenzhen, China

OLEDs

P.189: Bottom Emission Organic Light-Emitting Diode with Asymmetric Host and Multiple Resonance Emitter Achieving Blue Index of 253
Tien-Lung Chiu, Department of Electrical Engineering, Yuan Ze University, Taoyuan, Taiwan

P.190: Reliable Simulation and Prediction of Water Vapor Transmission Rate in High-Performance Thin-Film Encapsulation
Xingxing Yu, BOE Technology Group Co., Ltd., Beijing, China

P.191: Enhancing Light Extraction and Viewing-Angle Characteristics in Microcavity TEOLEDs Through Refractive Index Modulation for Surface Plasmon Polaritons Suppression
Min Chul Suh, Kyung Hee University, Seoul, South Korea

P.192: Bicarbazole-Derived High Triplet Energy P-type Host for Blue Thermally Activated Delayed Fluorescence Organic Light-Emitting Diodes
Chaeyeon Lee, Sungkyunkwan University, Suwon, South Korea

P.193: Air-Stable Inverted Blue OLEDs Without Encapsulation
Taku Oono, Japan Broadcasting Corp., Tokyo, Japan

P.194: Blue OLED with LT95=2709 Hours by Using Anthracene-Bidibenzofuran as the Emitting Layer
J. Lee, National Taiwan University, Taipei, Taiwan Roc

P.196: Anode Protective Metal Structure for Increasing Lifetime in Micro-OLED
Zhiqiang Wang, BOE Technology Group Co., Ltd., Beijing, China

P.197: Enhancing Top-Emission OLED Performance Through the Introduction of Buffer Layers
Seung Ju Ok, Kyung Hee University, Seoul, South Korea

P.198: Reduction of Efficiency Roll-Off and Extension of Device Lifetime Through a Double Sensitizer Structure-Controlling Triplet Diffusion
Jangho Moon, Sungkyunkwan University, Suwon, South Korea

P.199: Suppression of Bimolecular Interactions via Bulky Blocking Groups in Tetradentate Pt(II) Complex for Efficient Organic Light-Emitting Diodes
Unhyeok Jo, Sungkyunkwan University, Suwon, South Korea

P.200: Inserting Buffer Layers for Carrier Balance Configurations in Hyperfluorescence-Based OLEDs
Nobuto Managaki, Japan Display, Inc., Mobara, Japan

P.201: *Distinguished Poster:* Degradation Analysis of Organic Charge-Generation Layer by Impedance Spectroscopy
Long Chen, Tianma Microelectronics Co., Ltd., Shanghai, China

P.202: Research on the Effect of Anisotropic Module Layers on the White-Angle Difference of OLEDs
Xuyang Yuan, Wuhan China Star Optoelectronics Technology Co., Ltd, WuHan, China

P.203: Effect of Substrate Temperature of n-type Charge-Generation Layer on the Electrical Properties of Charge-Generation Unit
Chang-Hee Lee, Dong-A University, Busan, South Korea

P.204: Research on the Performance of Blue-Green Tetra-Tandem Organic Light-Emitting Diodes
Junwei Liu, Yungu(Gu'an) Technology Co., Ltd., Hebei, China

P.205: Clear Distinction Between Triplet-Polaron Quenching (TPQ) and Triplet-Triplet Annihilation (TTA) in OLEDs via Combined Characterization and Simulation
Edoardo Stanzani, FLUXiM AG, Winterthur, Switzerland

P.206: Pt(II) Complexes with High Color Purity in Blue Organic Light-Emitting Diodes via Ligand Engineering
Hyunjung Lee, Sungkyunkwan University, Suwon, South Korea

P.207: Development and Application of OPC Simulation in OLED Panel Design
Huomei Hua, Tianma Display Technology Co., Ltd., Xiamen, China

P.208: Phosphorescent Sensitizer Design for DET Suppression and Energy Transfer Analysis
Dong Jin Shin, Sungkyunkwan University, Suwon, South Korea

P.209: A Simplified Emissive Layer Strategy Utilizing Zero Radius of Intramolecular Energy Transfer Mechanism for High-Efficiency OLEDs
You Na Song, Hongik University, Seoul, South Korea

P.210: Integrated Multilayer Analysis Platform for OLED Evaporation and Encapsulation Based on TOFSIMS
Kening Zheng, BOE Optoelectronics Group Co., Ltd., Chengdu, China

P.211: Optimization of Capping Layer Thickness in OLED Panel for Film Color Filter Application
Horyun Chung, Samsung Display Co., Ltd., Yongin, South Korea

P.212: Exciton Dynamics and Degradation Mechanism in TADF OLEDs Assessed by Modulated Electroluminescence Spectroscopy
Balthasar BlÃ¼lle, Fluxim AG, Winterthur, Switzerland

P.213: Multiscale Simulation and Optimization of OLED Devices with Quantum Chemistry and Kinetic Monte Carlo Simulations
Theodorus Goumans, Software for Chemistry & Materials, Amsterdam, Netherlands

P.214: Design of Condensed Molecular Structures for MR-TADF with High Efficiency and Good Color Purity in Deep-Blue Region
Junyoung Moon, Sungkyunkwan University, Suwon, South Korea

P.215: Novel Design Strategy of Multiple-Resonance-Type Blue Fluorescent Dopants with High Efficiency and High Color Purity
Dayeon Lee, Sungkyunkwan University, Suwon, South Korea

P.216: Design Strategies of Fluorescent Dopant for Enhanced Photoluminescence Quantum Yield and Suppressed Dexter Energy Transfer
Jaemin Jang, Sungkyunkwan University, Suwon, South Korea

P.217: Quantitative Investigation of High-Temperature Degradation in Organic Light-Emitting Diodes with Charge and Exciton Dynamics
Bum June Park, Hongik University, Seoul, South Korea

P.253: *Late-News Poster:* High Efficiency Blue TADF OLED with EQE of 35.8%
Tien-Lung Chiu, Yuan Ze University, Taoyuan, Taiwan Roc

P.254: *Late-News Poster:* A Novel Analytical Method of Charge Injection and Emission Behaviors in Tandem Organic Light Emitting Diode
Masaru Inoue, TOYOTech LLC, Fremont, CA US

P.255: *Late-News Poster:* The Energy Transfer and Utilization Mechanisms of Dual-EML Blue OLEDs
Fang Wang, Wuhan China Star Optoelectronics Semiconductor Display Technology Co.,Ltd., Wuhan, China

P.256: *Late-News Poster:* Research on the High-Temperature Lifetime Stability of Tandem Devices
Juewen Zhao, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.257: *Late-News Poster:* Research on Improving Fluorescence and Heterochromatic Phenomena Based on Modules
Bin Li, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd., Wuhan, China

P.258: *Late-News Poster:* Rational Materials Design Towards Singlet-Only Fluorescent OLEDs: Overcoming Traditional Spin Statistics
Franz Neumann, Nanomatch GmbH, Karlsruhe, Germany

P.259: *Late-News Poster:* Low-Haze Irregular Nanostructures Fabricated via a Simple Process for Uniform Internal Light Extraction Film in OLEDs
Geun Su Choi, Korea University, Seoul, South Korea

P.260: *Late-News Poster:* Enhancing the Stability of Deep Blue Phosphor-Sensitized Fluorescent OLED Using Polariton-Enhanced Purcell Effect

Haonan Zhao, University of Michigan, Ann Arbor, Ann Arbor, MI US