

会议详细终版议程（Final Program）



International Conference on Display Technology

2024 International Conference on Display Technology

March 31-April 3, 2024 (Sunday - Wednesday)

Binhu Hefei International Convention and Exhibition Center

Hefei, China

Opening Remark

开幕式

Monday, April 1/14:00-14:30/ Room 206-208

Plenary Session

大会主旨演讲

Monday, April 1/14:30-18:30/ Room 206-208

Chair: Wen Qiao (乔文), Soochow University

Co-Chair: Dongchuan Chen (陈东川), Beijing BOE Display Technology Co., Ltd.

Title: On Challenges and Opportunities when MicroLEDs “go nano” (14:30-14:55)

Lars Samuelson, SUSTech and Lund University

Title: All-Media Ultra HD Broadcasting (14:55-15:20)

Wenbo Jiang (姜文波), China Media Group

Title: Materials Broadening Vision, Display Guiding Future (15:20-15:45)

Shou Peng (彭寿), China National Building Materials Group Co., Ltd.

Title: Next Frontiers in OLED Technology (15:45-16:10)

Julie J. Brown, Universal Display Corporation

Title: Textile Displays (16:20-16:45)

Huisheng Peng (彭慧胜), Fudan University

Title: Scalability Consideration in AR/VR Displays (16:45-17:10)

Yun Wang, Meta/Facebook

Title: Spin Mixing: A Way for OLEDs to be the Ultimate Display? (17:10-17:35)

Jang-Joo Kim, Seoul National University, JooAm Co.

Title: The Road to Production of MicroLED Display (17:35-18:00)

Yun-Li (Charles) Li (李允立), PlayNitride

Title: Innovative Application of OPC Technology in FPD Field (18:00-18:20)

Xiaodong Yang (杨晓东), Empyrean

Short Course (For Chinese Only)

短期课程

Short Course 1

Sunday, March 31/ 9:00-12:00/ Room 212

Topic: OLEDs

Title: Basic Principle and Manufacturing of OLED

OLED 基本原理及制造

Honglong Ning (宁洪龙), South China University of Technology

Short Course 2

Sunday, March 31/ 9:00-12:00/ Room 211

Topic: Perceptual Interaction

Title: Research on Consumer Electronics Sensory and Perceptual Interaction Experience and Evaluation

消费类电子产品感知交互体验及评价研究

Yunhong Zhang (张运红), China National Institute of Standardization

Short Course 3

Sunday, March 31/ 9:00-12:00/ Room 204

Topic: 3D Display

Title: 3D Display Technologies

3D 显示技术

Qionghua Wang (王琼华), Beihang University

Short Course 4

Sunday, March 31/ 14:00-18:00/ Room 210

Topic: TFT

Title: Optical TFT Sensing Array

TFT 光感测阵列

Ya-Hsiang Tai (戴亚翔), National Yang Ming Chiao Tung University

Seminar

专题技术讲座

Seminar 1

Sunday, March 31/ 9:00-10:30/ Room 210

Title: Electronic Paper Display Technologies and Applications (For Chinese Only)

电子纸显示技术及其应用

Xidu Wang (王喜杜), Guangzhou OED Technologies Inc

Seminar 2

Sunday, March 31/ 10:45-12:15/ Room 210

Title: Balanced Oxide TFT Performance: Microstructural Ordering, Device Structure (For Chinese Only)

优异综合性能的氧化物 TFTs: 微结构序构化、器件结构设计以及物理效应的理解
Hongtao Cao (曹鸿涛), Ningbo Institute of Materials Technology and Engineering Chinese Academy of Sciences

Seminar 3

Sunday, March 31/ 14:00-15:30/ Room 212

Title: **Critical Bottlenecks and Recent Progresses of Micro-LED Displays (For Chinese Only)**

显示用 Micro-LED 当前面临的瓶颈及技术进展

Kai Huang (黄凯), Xiamen University

Seminar 4

Sunday, March 31/ 15:45-17:15/ Room 212

Title: **Introduction to the Fundamentals of Information Displays**

信息显示的基本原理介绍

Ian Underwood, The University of Edinburgh

Seminar 5

Sunday, March 31/ 14:00-15:30/ Room 211

Title: **Study on Visual Perception and Visual Health in Display Applications (For Chinese Only)**

显示应用中的视觉感知与视觉健康研究

Yuning Zhang (张宇宁), Southeast University

Seminar 6

Sunday, March 31/ 15:45-17:15/ Room 211

Title: **Metaverse Display and Interaction Technology (For Chinese Only)**

元宇宙显示与交互技术

Lijun Wang (王立军), Xidian University Hangzhou Institute of Technology

Display Technology and Industry Standards Forum

显示技术和产业标准论坛

Sunday, March 31 / 9:00-12:00/ Room 204

JSID Journal Submission Training Session

JSID 期刊投稿培训会

Sunday, March 31/14:00-16:00/ Room 204

Display Industry Future Technology Strategy Summit (FTS) (invited only)

显示产业未来技术战略峰会（显示行业领袖峰会）（闭门会议）

Monday, April 1/9:30-12:00/ Room 205

Roadshow of Innovation & Entrepreneurship Projects (Investment Conference)

创新创业项目路演

Monday, April 1/9:35-10:35/ Exhibition Hall 3

New Technology and New Product Public Release

新技术新产品发布会

Monday, April 1/10:35-11:40/ Exhibition Hall 3

Dedicated Time for Poster Session

海报报告

Tuesday, April 2/8:30—12:00/ Exhibition Hall 3

ICDT “Display Future Star Cup” Debate Competition (For Chinese Only)

ICDT “显示未来之星杯”辩论赛

Tuesday, April 2/9:00-17:30/ Room 205

Young Leader Conference

青年领袖论坛

Tuesday, April 2/9:00-12:00/ Room 210

- 1. Improve Color Experience for New Multi-media Systems (9:00-9:20)**
Minchen Wei, The Hong Kong Polytechnic University
- 2. Local Energy Band and Charge Carrier Modulation by Ferro-/piezo-phototronic Effect in Optoelectronic Devices (9:20-9:40)**
Yuljae Cho, Shanghai Jiaotong University
- 3. Large-viewing-angle Holographic 3D Display System (9:40-10:00)**
Di Wang, Beihang University
- 4. Miniaturized Ultrasound Imaging System for Intravascular Ultrasound Imaging (10:00-10:20)**
Jaemyung Lim, Hanyang University
- 5. Efficient all-thermally Evaporated Perovskite LEDs for TFT-integrated Electroluminescence Displays (10:20-10:40)**
Jiajun Luo, Huazhong University of Science and Technology
- 6. Advancing XR Display Technologies: Importance of Measurement and Calibration (10:40-11:00)**
Lei Zhao, YongJiang Laboratory
- 7. Photolithographic Patterning (11:00-11:20)**
Yiming Xiao, Visionox Technology Inc.
- 8. Silicone-driven Microlithography for Ultrahigh-density OLEDs (11:20-11:40)**
Hyukmin Kweon, Hanyang University

Human Factor and Visual Health Special Forum

人因与视觉健康专题论坛

Tuesday, April 2/8:30-12:00/ Room 211

Chair: Yunhong Zhang (张运红), China National Institute of Standardization

- 1. Keynote: Combining medical and industrial work to jointly build the Great Wall of Visual Health (8:30-9:00)**
Jia Qu (瞿佳), Wenzhou Medical University

2. **Keynote: Establish a Standardized Human Factor Model Library to Promote the Healthy Development of the Display Industry (9:00-9:30)**
Xiqiang Liu (刘喜强), TÜV Rheinland(Shanghai) Co., LTD.
3. **Invited Talk: Applications of Micro-OLED Based Head Mounted Displays for Vision Health (9:30-9:50)**
Huajun Peng (彭华军), Shenzhen NED Optics Co., Ltd.
4. **Invited Talk: 3D Stereoscopic Display for Visual Human factor Research (9:50-10:10)**
Chien-Yu Chen (陈建宇), Taiwan University of Science and Technology
5. **Invited Talk: Analysis of Key Factors of VR Visual Health (10:10-10:30)**
Yingwei Zhou (周颖伟), PICO Interactive Inc.
6. **Invited Talk: Research Progress and Standards Development about Measure and Evaluation Method on Visual Health of Display Terminals (10:30-10:50)**
Yunhong Zhang (张运红), China National Institute of Standardization
7. **Invited Talk: Visual Health Display Technology (10:50-11:10)**
Dongchuan Chen (陈东川), Beijing BOE Display Technology Co., Ltd.
8. **Invited Talk: Decoding Health Display Myths: Metrics, Measurement, and Manufacturer (11:10-11:30)**
Xi Mou (牟希), Hangzhou SanTest Technology Co., Ltd.
9. **Invited Talk: A Long-term Follow-up Report: High-efficacy Classroom Lighting Systems Contributed to a Three-year Decrease by 10.96 Percentage Point in Total Myopia Rate of School Students (11:30-11:50)**
Walter Zhang (张文亦), Shenzhen Green Power Revolution AG Co., Ltd.

Business Conference (For Chinese Only)

商业会议

Tuesday, April 2/9:00-12:00/ Room 204

Title: **Outlook for Global IT Set Market and AI PC Development in 2024 (9:00-9:25)**

2024 年全球 IT 整机市场及 AI PC 趋势展望

Yubin Zhang (张玉彬), Sigmaintell

Title: **Summary and Forecast of China MNT Online Market (9:25-9:50)**

TV&MNT 面板市场总结与展望

Rita Zhong (仲锐), AVC Revo

Title: **Development Trend of Near-Eye Display (9:50-10:15)**

近眼显示市场发展趋势

Kimi Lin (林麟), Omdia

Title: **Summary and Prospect of Chinese Educational Tablet and Learning Machine Market (10:25-10:50)**

中国教育平板&学习机市场总结与展望

Li Wang (王丽), AVC Revo

Title: **Automotive Display Market Review and Outlooks (10:50-11:15)**

车载显示市场趋势与展望

Wray Wang (王子睿), Omdia

Title: **Outlook for Global Tablet Market and Display Supply Chain Trends in 2024 (11:15-11:40)**

2024 年全球平板电脑市场及供应链趋势展望

Xuecheng Chen (陈学诚), Sigmaintell

AI for Imaging and Display Special Forum

AI 赋能成像与显示专题论坛

Tuesday, April 2/9:00-12:00/ Room 212

Chair: Xinqun Jiang (姜幸群), BOE Technology Group Co., Ltd.

1. **keynote: Artificial Intelligence Multimodal Interaction Technology for Display (9:00-9:30)**
Xinqun Jiang (姜幸群), BOE Technology Group Co., Ltd.
2. **keynote: Display Technologies for AIoT Applications (9:30-10:00)**
Boru Yang (杨柏儒), Sun Yat-Sen University
3. **Invited Talk: AI-Enabled OLED Materials Discovery: Molecular Representation, Property Prediction, and Structure Generation (10:00-10:20)**
Wei Xu (徐炜), TCL AI Lab
4. **Invited Talk: Machine Learning Guided High Throughput Screening of Organic Luminescent Materials (10:20-10:40)**
Dandan Song (宋丹丹), Beijing Jiaotong University
5. **Invited Talk: Innovative Research and Application of Display Yield Management Based on AI (ViT and LLM) (10:40-11:00)**
Ronghua Liu (刘荣华), Wuhan Jingce Electronic Group Co.,Ltd.

OLED Materials and Devices Forum (invited only)

OLED 材料与装备闭门论坛（仅限邀请）

Tuesday, April 2/9:30-12:00/ Room 202

SID Beijing Chapter Technical Committee Meeting

SID 北京分会技术委员会会议

Tuesday, April 2/19:00-21:00

Metaverse and Display Special Forum

元宇宙与显示专题论坛

Wednesday, April 3/9:00-12:00/ Room 205

Chair: Lijun Wang (王立军), Xidian University

1. **Keynote: Metaverse and Smart Health (9:00-9:30)**
Yi Pan (潘毅), Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
2. **keynote: Light Field 3D Display Based on Integral Imaging for Metaverse (9:30-10:00)**

Qionghua Wang (王琼华), Beihang University

3. *keynote: Revolutionizing Metaverse Experiences with Cutting-Edge Liquid Crystal Optics* (10:00-10:30)

Lu Lu, Meta Platforms, Inc.

4. *Invited Talk: 4K Fast LCD —— Key Solutions for AR/VR Display* (10:30-10:50)

Jianyun Xie (谢建云), Beijing BOE CHUANGYUAN Technology Co., Ltd.

5. *Invited Talk: Augmented Reality 3D Display towards Metaverse* (10:50-11:10)

Wen Qiao(乔文), Soochow University

6. *Invited Talk: Artificial Retina-Based Metaverse with Bionic Vision Processing* (11:10-11:30)

Chaoping Chen (陈超平), Shanghai Jiao Tong University

Workshop on Progress of National Display Project in 14th Five-Year Plan and Trend of Future Display Development

“十四五”新型显示成果汇报及未来发展趋势研讨会

Tuesday, April 2/ 14:00-18:30/ Room208

the Award Ceremony of SID China Display Industry Award

SID 中国区显示行业奖颁奖仪式

Wednesday, April 3/9:30-10:30/ Exhibition Hall 3

Micro/Mini LED Display Core Technology Road Map Forum (For Chinese Only)

Micro/Mini LED 显示关键技术路线研讨会

Wednesday, April 3/13:30-18:00/ Room 206

Technical Sessions

Session 1: High Performance Oxide TFT (Active-Matrix Device)

Monday, April 1/8:30-10:10/ Room 212

Chair: Yuzhi Li (李育智), Institute of Semiconductors, Guangdong Academy of Sciences

1.1 *Invited Paper*: High Performance Tin Oxide TFT (8:30-8:50)

Lei Liao (廖蕾), Hunan University

1.2 *Invited Paper*: Self-aligned Top-gate Amorphous ITZO TFTs with High-k AlO_x Insulator with Oxygen-plasma Formed Source/Drain (8:50-9:10)

Man Wong (王文), The Hong Kong University of Science and Technology

1.3 *Invited Paper*: Development of High-Performance Sn Based Halide Perovskite Transistors (9:10-9:30)

Yong-Young Noh, Pohang University of Science and Technology (POSTECH)

1.4 Oxide Semiconductor Thin-Film Transistors with High Mobility and Stability (9:30-9:50)

Fa-Hsyang Chen, Kunshan Govisionox Optoelectronics Company

1.5 High Performance of InSnO Thin-Film Transistors Enabled by Anodization Techniques (9:50-10:10)

Huan Yang, Peking university

Session 2: E-paper (E-Paper and Flexible Displays)

Monday, April 1/8:30-10:10/ Room 210

Chair: Biao Tang (唐彪), South China Normal University

2.1 *Invited Paper*: Color E-Paper Technologies and Evaluating Methods (8:30-8:50)

Xidu Wang (王喜杜), Guangzhou OED Technologies, Inc.

2.2 *Invited Paper*: Basic Physics and Technical Progress of Electrowetting-Based Electronic Paper (8:50-9:10)

Biao Tang (唐彪), South China Normal University

2.3 Optimizing Thermal Annealing Temperatures Towards Improved and Stable Electrochromic Polymeric Films and Devices (9:10-9:30)

Rui Ji, Suzhou Institute of Nano Tech

2.4 PEDOT: PSS-Based Electrochromic Patterned Displays by in Situ Photo-Crosslinking (9:30-9:50)

Guojian Yang, Ningbo Institute of Materials Technology and Engineering, CAS

2.5 Charging and Transport Behaviors of Species in Nonpolar Media for Lateral Driven Transparent Electrophoretic Display (9:50-10:10)

Jinglan Yang, Sun Yat-Sen University

Session 3: Visual Health (Applied Vision)

Monday, April 1/8:30-10:50 / Room 211

Chair: Weidong Huang (黄卫东), TCL China Star Optoelectronic Technology Co, Ltd

3.1 *Invited Paper*: Study on Perceived Brightness for Display Application and Innovation (8:30-8:50)

Yuning Zhang (张宇宁), Southeast University

3.2 *Invited Paper*: Assessment of Visual Fatigue Caused by Stereoscopic Disparity based on Multimodal Measurement (8:50-9:10)

Lixiu Jia (贾立秀), Nanjing Institute of Technology

3.3 Invited Paper: Virtual Reality Headset Use and Myopia: Should We Concern? (9:10-9:30)

Fang Hou (侯方), Wenzhou Medical University

3.4 Invited Paper: Color Image Enhancement for Elderly People Based on Aged Lens Model (9:30-9:50)

Ruiqing Ma (马瑞青), Taiyuan University of Technology

3.5 Invited Paper: Prediction Model for Visual Fatigue Caused by Smartphone Display Based on EEG (9:50-10:10)

Yunyang Shi (史韞杨), Nanjing Tech University

3.6 Evaluating Brightness and Color Inhomogeneity in Diffractive Optical Waveguides for AR Displays: Insights from the Human Visual System (10:10-10:30)

Pengfei Li, Yongjiang Laboratory

3.7 Binocular Contrast Sensitivity and Associated Factors in Healthy Chinese University Students with Different Refractive Errors (10:30-10:50)

Na Liao, Wenzhou Medical University Eye Hospital

Session 4: Laser Display (Projection)

Monday, April 1/8:30-9:50/ Room 204

Chair: Zhixiang Ye (叶志祥), HOLOKOOK Co., Ltd.

4.1 Invited Paper: Effective Speckle Reduction in Laser Projection Systems Using a Low Cost Screen with Multilayer Structure (8:30-8:50)

Zhixiang Ye (叶志祥), HOLOKOOK Co., Ltd.

4.2 Equal-Intensity Beam Splitters for Laser Speckle Reduction (8:50-9:10)

Zhaomin Tong, Shanxi University

4.3 Novel Full Color Photoluminescent Display on Optic-Clear Pixel-Less Emissive Screen (9:10-9:30)

Ted Sun, Sun Innovations Inc.

4.4 Design of MLA-Based Integrated Projection System Using Radial Basis Function Mapping Method (9:30-9:50)

Xilong Dai, Beijing Institute of Technology

Session 5: AI (AI for Imaging and Display)

Monday, April 1/8:30-10:10/ Room 209

Chair: Wei Xu (徐炜), TCL AI Lab

5.1 Invited Paper: Digital Chemistry, Data Processing, and Ideation: Pioneering Novel Display Materials for Next-Generation Organic Electronics (8:30-8:50)

Christopher Brown, Schrödinger

5.2 Adaptive Scene Display Technology based on Neural Network (8:50-9:10)

Feng Hou, BOE Technology Group Co., Ltd.

5.3 Bioinspired Mechano-photonics Artificial Synapse based on Graphene/MoS₂ Heterostructure (9:10-9:30)

Ziwei Huo, Beijing Institute of Nanoenergy and Systems, Chinese Academy of Sciences

5.4 Predicting External Quantum Efficiency of Red Phosphorescent Organic Light-Emitting Devices by Machine Learning (9:30-9:50)

Wenzheng Gao, Beijing Eternal Material Technology Co., Ltd.

5.5 Unveiling Privacy Challenges: Big Data-Driven Digital Twins in Smart City Applications (9:50-10:10)

Yujia Zheng, North China University of Technology

Session 6: Holographic Optical Elements for AR/VR/MR (VR/AR/MR)

Monday, April 1/8:30-10:30/ Room 202

Chair: Di Wang (王迪), Beihang University

6.1 Invited Paper: Color Holographic 3D Display System with Large Viewing Angle (8:30-8:50)

Di Wang (王迪), Beihang University

6.2 Invited Paper: Research on Some Key Issues in Holographic Near-Eye Display (8:50-9:10)

Zi Wang (王梓), Hefei University of Technology

6.3 Invited Paper: Towards Eyeglass-Style Augmented Reality Near-Eye Displays Based on Holographic Optical Element (9:10-9:30)

Xinxing Xia (夏新星), Shanghai University

6.4 Multi-Dimensional Convertible Optical See-Through Head-Mounted Display Using Multiplexed Holographic Optical Element (9:30-9:50)

Qiang Li, Xidian University

6.5 Holographic Display Enabled with Light Modulation in both Amplitude and Phase in A Single LCoS-Based Spatial Light Modulator (9:50-10:10)

Darwin Hu, Sysview Technology, Inc.

6.6 Quasi-Maxwellian View Based Free-Focusing Holographic Augmented Reality System Design (10:10-10:30)

Rui Tan, Kyushu University

Session 7: MicroLED and Ultra High Definition Display (Display System)

Monday, April 1/8:30-9:50/ Room 206

Chair: Ping Su (苏萍), Tsinghua university

7.1 Ultra-High PPI Virtual Reality Display Based on Field Sequential Color Technology (8:30-8:50)

Yutong Li, TCL China Star Optoelectronics Technology Co., Ltd.

7.2 Power Consumption Evaluation of Field Sequential Color LCD Systems with Mini-LED Backlight (8:50-9:10)

Jinglun He, Hisense Visual Technology Co., Ltd.

7.3 Eliminating Tic-Tac-Toe Image Retention in MLED Displays Through Temporal and Spatial Compensation Methods (9:10-9:30)

Zheyuan Song, BOE Technology Group

7.4 A Novel Frequency Doubling Technology with Adaptive Dither (9:30-9:50)

Qian Wang, TCL China Star Optoelectronics Technology Co., Ltd.

Session 8: Novel LEDs and Flicker in Lighting (Lighting)

Monday, April 1/8:30-10:10/ Room 203

Chair: QiuHong Hu (胡秋红), Zhejiang Smart Lighting Technology Co., Ltd,

8.1 Invited Paper: Lead-Free Tin Perovskite Light-Emitting Diodes (8:30-8:50)

Ning Wang (王宁), Jilin University

8.2 Invited Paper: Flicker in LED Lighting: Health Impacts and Mitigation Strategies (8:50-9:10)

QiuHong Hu (胡秋红), Zhejiang Smart Lighting Technology Co., Ltd,
8.3 High Power Solid State Lighting via Transparent Ceramics Protecting Quantum Dots Diffusion Plates (9:10-9:30)

Aochen Du, Fuzhou University

8.4 The Micro-Scale Adsorption of QDs on Select Surface by Click Chemistry (9:30-9:50)

Shang Li, Southern University of Science and Technology

8.5 Underwater Fluorescent Remediation and Optimization for CsPbBr₃/PS Film by Evaporative CsBr (9:50-10:10)

Junhu Cai, Fuzhou University

Session 9: Structure Engineering for Oxide TFTs (Active-Matrix Device)

Monday, April 1/10:20-12:00/ Room 212

Chair: Penghui He (何鹏辉), Hunan University

9.1 Invited Paper: Multimodal Thin-Film Transistors for AMOLED and μ LED Displays (10:20-10:40)

Radu Sporea, University of Surrey

9.2 Heterojunction-Boosted Mobility in InZnO Bilayer Thin-Film Transistor (10:40-11:00)

Xiao Li, Peking University

9.3 Electrical Analysis of IGZO Schottky-Barrier Thin-Film Transistors with Cu Schottky Contact (11:00-11:20)

Yuzhi Li, Institute of Semiconductors, Guangdong Academy of Sciences

9.4 Two-Layers of 3D Monolithically Stacked Vertical Channel IGZO TFTs (11:20-11:40)

Chunyu Zhang, Institute of Microelectronics of the Chinese Academy of Sciences

9.5 Compact Model for Thin-Film Transistors with Capacitance Frequency Dispersion (11:40-12:00)

Pujian Lin, Peking University

Session 10: Flexible Display (E-Paper and Flexible Displays)

Monday, April 1/10:20-11:40/ Room 210

Chair: Xidu Wang (王喜杜), Guangzhou OED Technologies, Inc.

10.1 Invited Paper: Exploration of Driving Schemes and Device Structures for Wearable Electroluminescence and Reflective Displays (10:20-10:40)

Boru Yang (杨柏儒), Sun Yat-Sen University

10.2 Research on Ow Brightness Motion Blur in Low Temperature Poly-Silicon Display Field (10:40-11:00)

Guangyuan Sun, Yungu (Gu'an) Technology Co., Ltd

10.3 Self-Aligned Top-Gate Amorphous ITZO TFTs with High-K AlO_x Insulator with Source/Drain Regions Formed by Oxygen-Plasma (11:00-11:20)

Wei Jiang, Hong Kong University of Science and Technology

10.4 Design and Analysis of Ln-IZO TFTs for Electrophoretic Display Driving (11:20-11:40)

Lei Zhou, South China University of Technology

Session 11: Display Quality (Applied Vision)

Monday, April 1/11:00-12:20 / Room 211

Chair: Yunyang Shi (史韞杨), Nanjing Tech University

11.1 *Invited Paper:* Enhanced Text Display with Balanced Anti-Reflection and Anti-Glare Design (11:00-11:20)

Song Yang (杨松), Shanghai Tianma Microelectronics

11.2 Optimizing TV Gamma Settings for Enhanced Viewer Satisfaction: A Comprehensive Study on Backlight Brightness and Color Gamut Influences (11:20-11:40)

Steve Shaw Jong Liu, National Yang Ming Chiao Tung University, Roku Inc.

11.3 Evaluating HDR Video Quality with Local Gray Fidelity Analysis (11:40-12:00)

Jongseo Lee, Google, LLC

11.4 Creating Custom Monitor Color Space in Pen Display (12:00-12:20)

Zhiling Ma, HUION

Session 12: Emerging LC Technology 1 (Liquid-Crystal Technology)

Monday, April 1/10:00-11:40/ Room 204

Chair: Zheng- Nan Yuan, The Hong Kong University of Science and Technology

12.1 *Invited Paper:* High Efficient Polyfunctional Substrates for “Shock-Free” FLC, Nematic, Terahertz LC Devices, Photonics and Optoelectronics (10:00-10:20)

Vladimir Bezborodov, Belarusian State Technological University

12.2 *Invited Paper:* Passive Vibration Sensors Using Photoaligned Liquid Crystals (10:20-10:40)

Abhishek Srivastava, The Hong Kong University of Science and Technology

12.3 High-resolution Fast Ferroelectric Liquid Crystal Displays on Gen 4.5 (10:40-11:00)

Zheng- Nan Yuan, The Hong Kong University of Science and Technology

12.4 Liquid Crystal Based All Optical Diffraction Neural Networks (11:00-11:20)

Quanzhou Long, Shenzhen University

12.5 A Liquid Crystal Polymer Matrix-Based Solution for Linear Polarization Color Conversion—Photoalignment Lithography Pixelated Color Filters (11:20-11:40)

Jianxin Song, The Hong Kong University of Science and Technology

Session 13: Imaging and AI for Driving (AI for Imaging and Display)

Monday, April 1/10:20-12:00/ Room 209

Chair: Yuyu Liu (刘玉宇), BOE Technology Group Co.,Ltd.

13.1 *Invited Paper:* Optical Imaging Based on Metasurfaces (10:20-10:40)

Shuming Wang (王漱明), Nanjing University

13.2 *Invited Paper:* Possible Disparity Mismatch when Viewing Images Rendered by Unity (10:40-11:00)

Minchen Wei (魏敏晨), Hong Kong Polytechnic University

13.3 *Invited Paper:* Real-Time Light Field Volume Rendering for Medical Imaging (11:00-11:20)

Tianqi Huang (黄天琪), Tsinghua University

13.4 A Lightweight Inference Network-based Algorithm for Low-Light Image Brightness Adjustment (11:20-11:40)

Chenwei Huang, ICD Microelectronic Technology Co., Ltd

13.5 Simulation Methods for Under-Display Sensing: Near-Field and Far-Field Light Propagation (11:40-12:00)

Qimeng Wang, Sun Yat-Sen University

Session 14: Waveguide in AR/VR/MR (VR/AR/MR)

Monday, April 1/10:40-12:20/ Room 202

Chair: Xinxing Xia (夏新星), Shanghai University

14.1 *Invited Paper*: Advanced Technologies for Large FOV Waveguide for AR/MR Glass (10:40-11:00)

Satoshi Shiraga, Cellid

14.2 *Invited Paper*: Photopolymer Based Volume Holographic Grating Waveguide: Opportunities and Challenges (11:00-11:20)

Chengzhe Chai (柴诚哲), YONGJIANG Laboratory

14.3 Research Progresses and Challenges for Polarization Volume Gratings Based Waveguide Display (11:20-11:40)

Yuning Zhang, South East University

14.4 High-Refractive Index Nanocomposites for Extended Reality (11:40-12:00)

Vincent Jao, Pixelligent

14.5 Eyebox-Extended Retinal Projection Augmented Reality Display With Gaze- Matching (12:00-12:20)

Jiafu Lin, Sichuan University

Session 15: MicroLED Epitaxy and Chips (EMQ-MicroLED)

Monday, April 1/10:00-11:20/ Room 206

Chair: Ping Su (苏萍), Tsinghua university

15.1 *Invited Paper*: Pixel-level Collimation Method Suitable for self-emissive Light Sources (10:00-10:20)

Enguo Chen (陈恩果), Fuzhou University

15.2 *Invited Paper*: Improvement in Quantum Efficiency of Green GaN-based Micro-LED by Trapezoidal Quantum Well (10:20-10:40)

Ping Su (苏萍), Tsinghua university

15.3 MOCVD Solution for Mini and Micro-LED based Advanced Display Applications (10:40-11:00)

Jason Hu, AMEC

15.4 Efficiency Improvement Mechanism Analysis of Sidewall Passivation GaN based Micro-LEDs by Atomic Layer Deposition (11:00-11:20)

Mengyuan Zhanghu, Southern University of Science and Technology

Session 16: Vehicle Display (Vehicle Display)

Monday, April 1/10:20-12:00/ Room 203

Chair: Xiongping Li (李雄平), Tianma Microelectronics Co., Ltd

16.1 *Invited Paper*: Research on Optical Measurement of Vehicle Display under Adjustable Environments (10:20-10:40)

Xiong Yang (杨雄), Everfine Corporation

16.2 *Invited Paper*: 3D HUD with Depth Controllable and Wide FOV CG technologies (10:40-11:00)

Haruhiko OKUMURA, Toshiba Corporation

16.3 The Challenge and Development in AR-HUD (11:00-11:20)

Shanshan Zhang, Tianma Microelectronics Co., Ltd

16.4 DMS Safety Fluorinated Liquid Crystal Materials Application in Vehicle Display (11:20-11:40)

Xiaolian Li, Dalian University of Technology

16.5 High-performance Holographic Waveguide Based on Polarization Volume Grating for Head-up Displays (11:40-12:00)

Chuang Wang, Southeast university

Session 17: Channel Engineering for Oxide TFTs (Active-Matrix Device)

Tuesday, April 2/13:30-14:50/ Room 212

Chair: Mengmeng Li (李蒙蒙), Institute of Microelectronics, Chinese Academy of Sciences

17.1 Invited Paper: High-Performance Solution-Processed Tb-Incorporated Indium Oxide Thin-Film Transistors (13:30-13:50)

Penghui He (何鹏辉), Hunan University

17.2 Developing High-Performance P-Channel TFTs: from Emerging Semiconductors to Amorphous (13:50-14:10)

Ao Liu, University of Electronic Science and Technology of China

17.3 Persistent Photoconductivity Suppression in Amorphous Oxide Thin-Film Transistors with Double-Stacked Channel Layers (14:10-14:30)

Liangdong Li, Shanghai Jiaotong University

17.4 Characterization of A-In-Ga-Zn-O Field Effect Transistors with ALD-Grown IGZO Channel Layer (14:30-14:50)

Chen Gu, Institute of Microelectronics of the Chinese Academy of Sciences

Session 18: Flexible Display Design and Manufacturing (E-Paper and Flexible Displays)

Tuesday, April 2/13:30-14:50/ Room 210

Chair: Biao Tang (唐彪), South China Normal University

18.1 Composite UTG Cover Window Selectively Reinforced with Glass-Cloth for Improvement of Both Pen-Drop Resistance and Foldability (13:30-13:50)

Byeong-Soo Bae, KAIST

18.2 The Influence of Bending FFC Transmission Line on High-Speed Signal Channels (13:50-14:10)

Yuqi Liu, TCL China Star Optoelectronics Technology Co., Ltd.

18.3 Research on Improving the Back Impact Resistance of Flexible OLED Modules (14:10-14:30)

Zikai Feng, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

18.4 Mechanical Stress-Induced Recoverable and Unrecoverable Deteriorations of Flexible a InGaZnO Thin-Film Transistor (14:30-14:50)

Jilin Li, Peking University

Session 19: Display Materials and Parts (Display Manufacturing)

Tuesday, April 2/13:30-15:10/ Room 211

Chair: Honglong Ning (宁洪龙), South China University of Technology

19.1 Invited Paper: Development progress of INVAR alloy foil used in FMM (13:30-13:50)

Junyi Luo (罗俊义), Advanced Technology & Materials Co., Ltd

19.2 Invited Paper: Transparent Electrodes Based on Wide-Gap Oxide Multilayer Structures (13:50-14:10)

Victor Belyaev, State University of Education

19.3 Invited Paper: Nanocomposites and Alloys Based on Porous Silicon Filled with Metals and Semiconductors (14:10-14:30)

Vitaly Bondarenko, Belarusian State University of Informatics and Radioelectronics

19.4 Invited Paper: Progress in localization of OLED evaporation equipment (14:30-14:50)

Jingbo Cao (曹景博), Hefei Sineva Intelligent Machine Co., Ltd.

19.5 Development and Evaluation of G6H Collimating & Recycling Linear Source for AMOLED Mass Production (14:50-15:10)

Sungmoon Kim, Depolab

Session 20: Emerging LC Technology 2 (Liquid-Crystal Technology)

Tuesday, April 2/13:30-15:10/ Room 204

Chair: Tianzi Shen (沈田子), Beihang University

20.1 Invited Paper: Electrically Tunable Liquid Crystal Polymer Vortex Beam Generator Based on Two-Photon Polymerization Direct Laser Writing (13:30-13:50)

Wanlong Zhang (张万隆), Shenzhen University

20.2 Invited Paper: Laser Processing of Liquid Crystal Microdroplet in 3D (13:50-14:10)

Jinkun Guo (郭金坤), Xidian University

20.3 Invited Paper: Transparent Multicolor Electrochromic Displays with Ingenious Hues Adjustment by Integrating Cholesteric Liquid Crystal with Viologen Gel (14:10-14:30)

Shiqing Zhao (赵世晴), Suzhou University of Science and Technology

20.4 A Novel Liquid Crystal Planar Display Structure Based on Fringe Field Effect (14:30-14:50)

Anran Li, The Hong Kong University of Science and Technology

20.5 Broadband Achromatic Templated-Cholesteric Liquid Crystals Grating (14:50-15:10)

Mingyuan Tang, Shanghai Jiao Tong University

Session 21: New Materials for Blue OLEDs (OLEDs)

Tuesday, April 2/13:30-15:10/ Room 209

Chair: Junyou Pan (潘君友), Guangzhou Brilliant-Optoelectronics Co., Ltd.

21.1 Invited Paper: Hot Excitons and High Efficiency Blue Fluorescence OLEDs (13:30-13:50)

Dongge Ma (马东阁), South China University of Technology

21.2 Invited Paper: Printable Hot Exciton Blue Light-emitting Materials for OLEDs (13:50-14:10)

Lei Ying (应磊), South China University of Technology

21.3 Towards Efficient and Stable Blue TADF Materials and Devices (14:10-14:30)

Linsong Cui, University of Science and Technology of China

21.4 Quantifying Localized Trap Evolution in Blue TADF OLED (14:30-14:50)

Sandra Jenatsch, Fluxim AG

21.5 Longevity Gene Responsible for Robust Blue Organic Materials Employing Thermally Activated Delayed Fluorescence (14:50-15:10)

Juan Qiao, Tsinghua University

Session 22: AR/VR/MR System (VR/AR/MR)

Tuesday, April 2/13:30-14:50/ Room 202

Chair: Tao Jia (贾韬), Yongjiang Laboratory

22.1 Invited Paper: Gaze Dependent Optical Artifacts and Compensation for Virtual Reality Headsets (13:30-13:50)

Tao Jia (贾韬), Yongjiang Laboratory

22.2 Application of Virtual Reality Technology in the Diagnosis and Treatment of Psychological Disorders: An Electroencephalography (EEG)-Based Approach (13:50-14:10)

Weizhi Ma, North China University of Technology

22.3 Deep Reinforcement Learning for Improved VR Visual Experience (14:10-14:30)

Qi Wu, Communication University of China

22.4 Virtual Reality Technology in The Field of Mental Decompression Research (14:30-14:50)

Zhuo Yang, North China University of Technology

Session 23: MicroLED Processing Technology (EMQ-MicroLED)

Tuesday, April 2/13:30-15:30/ Room 206

Chair: Jie Sun (孙捷), Fuzhou University

23.1 Invited Paper: High-Resolution Additive Manufacturing for Next-Generation Micro-LED and OLED Displays (13:30-13:50)

Filip Granek, XTPL S.A.

23.2 Invited Paper: Roll-to-Roll Manufacturing of GaN-Based LED Sheets for MicroLED Application (13:50-14:10)

Vladimir Matias, iBeam Materials, Inc.

23.3 Invited Paper: Fabrication of Super Uniform Nickel Bumps Using Electroless Plating on Micro-LEDs' TFT Driver Substrates (14:10-14:30)

Jie Sun (孙捷), Fuzhou University

23.4 Application of Laser-Assisted Bonding in Micro-LED Display Technology (14:30-14:50)

Yongxin Cui, Chengdu Vistar Optoelectronics Co., Ltd.

23.5 Laser Processes for MicroLED Display Manufacturing (14:50-15:10)

Stephen Li, Coherent

23.6 Application of Non-Conductive Paste (NCP)-Assisted Bonding for Interconnection between Micro-LED and Backplane (15:10-15:30)

Xiaobiao Dong, Chengdu Vistar Optoelectronics Co., Ltd.

Session 24: QD Light Emitting-Diodes Mechanism (EMQ-Quantum Dots)

Tuesday, April 2/13:30-15:10/ Room 203

Chair: Huaibin Shen (申怀彬), Henan University

24.1 Invited Paper: Observation of Trap Formation in Degraded Quantum-Dot Light-Emitting Diodes (13:30-13:50)

Quan Niu (牛泉), South China University of Technology

24.2 Invited Paper: Degradation Mechanisms of Quantum-Dot Light-Emitting Diodes (13:50-14:10)

Yizheng Jin (金一政), Zhejiang University

24.3 Reversible Stability Issues in Quantum-Dot Light Emitting Diodes: Fatigue Effects and Warming-up Effects (14:10-14:30)

Menglin Li, Beijing Institute of Technology

24.4 Exploring the Aging Phenomenon in Quantum Dot Light-Emitting Diode (QLED) Devices from the Perspective of Individual Quantum Dot Aging (14:30-14:50)

Mi Gu, South University of Science and Technology of China

24.5 Exploring Luminescent Mechanisms in Non-Carrier-Injection QLEDs via Spontaneous Spreading Method (14:50-15:10)

Zebang Zhao, Beijing Jiaotong University

Session 25: New Material TFTs (Active-Matrix Device)

Tuesday, April 2/15:00-16:00/ Room 212

Chair: Lei Liao (廖蕾), Hunan University

25.1 *Invited Paper*: CuI Based Transparent P-Type Electronics (15:00-15:20)

Myung-Gil Kim, Sungkyunkwan University

25.2 *Invited Paper*: Effect of Self-Alignment on BGTC IGZO AMeTFTs (15:20-15:40)

Andre Zeumault, Amorphyx Inc.

25.3 High-Performance Hybrid CMOS Inverters Based on Polymer Monolayer TFTs and Indium-Gallium-Zinc-Oxide TFTs (15:40-16:00)

Mengmeng Li, Institute of Microelectronics, Chinese Academy of Sciences

Session 26: Emerging Wearable Sensors for Intelligent Interaction (E-Paper and Flexible Displays)

Tuesday, April 2/15:00-16:40/ Room 210

Chair: Xidu Wang (王喜杜), Guangzhou OED Technologies, Inc.

26.1 *Invited Paper*: Triboelectric Potential Modulated FET and Artificial Intelligent Sensation (15:00-15:20)

Qijun Sun (孙其君), Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences

26.2 Self-Powered Sensing System Based on Triboelectric Nanogenerator and Supercapacitor (15:20-15:40)

Wen He, Anhui University

26.3 Energy Autonomous Paper Modules and Functional Circuits (15:40-16:00)

Nuo Xu, Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences

26.4 Scalable Spinning, Winding, and Knitting Graphene Textile TENG for Energy Harvesting and Human Motion Recognition (16:00-16:20)

Yao Xiong, University of Chinese Academy of Sciences

26.5 A Wearable Glucose Sensor Integrated with Hollow Microneedles and Reverse Iontophoresis Extraction (16:20-16:40)

Lulu Liu, Shanghai University

Session 27: Display Manufacturing Methods (Display Manufacturing)

Tuesday, April 2/15:20-17:00/ Room 211

Chair: Chengyuan Dong (董承远), Shanghai Jiaotong University

27.1 *Invited Paper*: Nanostructuring of Al and Si Thin Layers for ITO-Free All-Silicon Optoelectronics Devices (15:20-15:40)

Aliaksandr Smirnov, Belarusian State University of Informatics and Radioelectronics

27.2 *Invited Paper*: Reproducible Characterization of Microdisplays Using Imaging Luminance Measurement Devices (ILMDs) (15:40-16:00)

Ingo Rotscholl, TechnoTeam Bildverarbeitung GmbH

27.3 *Invited Paper*: The Opportunities and Challenges of Advanced LED Display Technology In the "Post-Moore Era" (16:00-16:20)

Xinzhong Xie (颀信忠), Shanxi High-tech Huaye Electronics Group Co., Ltd.

27.4 Progress in High-Performance AMOLED Display with ViP Technology (16:20-16:40)

Yiming Xiao, Hefei Visionox Technology Co., Ltd.

27.5 Application of Glass Wet-Etching Technique in Foldable Display Manufacturing (16:40-17:00)

Cheng-Chung Chiang, ShineX Advanced Material

Session 28: LC Photonic Device (Liquid-Crystal Technology)

Tuesday, April 2/15:20-17:00/ Room 204

Chair: Wanlong Zhang (张万隆), Shenzhen University

28.1 *Invited Paper*: Large-Aperture, High-Quality Liquid Crystal Planar Optics Enabled by Ultrafast Pulse Polarization Direct Writing (15:20-15:40)

Wenbin Huang (黄文彬), Soochow University

28.2 *Invited Paper*: Self-Assembled Liquid Crystal Architectures for Multifunctional Optics (15:40-16:00)

Ling-Ling Ma (马玲玲), Nanjing University

28.3 *Invited Paper*: Templated Liquid Crystal Photonic Devices (16:00-16:20)

Jiangang Lu (陆建钢), Shanghai Jiao Tong University

28.4 *Invited Paper*: Planar Liquid Crystal Photonic Devices and Their Advanced Applications in Light Field Regulation (16:20-16:40)

Huapeng Ye (叶华鹏), South China Normal University

28.5 Study of the Diffraction Properties of Gradient Period Polarization Volume Gratings (16:40-17:00)

Canran Yang, Southeast University

Session 29: New Materials and Machine Learning for OLEDs (OLEDs)

Tuesday, April 2/15:20-16:40/ Room 209

Chair: Wei Quan (全威), Hefei BOE Joint Technology Co., Ltd.

29.1 *Invited Paper*: Emitter-Host-Interaction in Green Phosphorescent OLEDs (15:20-15:40)

Haitao Wang, Merck

29.2 *Invited Paper*: Full-Color Narrowband Emitters for Organic Light-Emitting Diodes that Satisfying BT.2020 (15:40-16:00)

Dongdong Zhang (张东东), Tsinghua University

29.3 Dopant Distribution Optimization towards High Performance Phosphor-Assisted Fluorescence Devices (16:00-16:20)

Minghan Cai, Yungu (Gu'an) Technology Co., Ltd.

29.4 Exploring the Influence of Molecular Structures on Transition Dipole Orientation in TADF Emitters: A Quantitative Analysis through Machine Learning (16:20-16:40)

Yiming Shi, Beijing Jiaotong University

Session 30: Liquid Crystal Elements for AR/VR/MR (VR/AR/MR)

Tuesday, April 2/15:00-16:40/ Room 202

Chair: Tianzi Shen (沈田子), Beihang University

30.1 *Invited Paper*: Chiral Liquid Crystal Layers with Patterned Photoalignment for Thin Diffractive Optical Components (15:00-15:20)

Kristiaan Neyts, HKUST / ECE Department

30.2 Varifocal Optical See-Through AR Display with Fast-Response Pancharatnam-Berry Phase LC Lens (15:20-15:40)

Shuxin Liu, Shanghai Jiao Tong University

30.3 Bioplastic Tunable Liquid Crystal Lenses for Dynamic Focus in VR and AR (15:40-16:00)

Elena Xie, FlexEnable Technology Ltd.

30.4 Liquid Crystal Technology for Next Generation Advanced Augmented Reality (AR) Devices (16:00-16:20)

Norihiko Tanaka, Merck Japan

30.5 Compact Binocular Holographic Near-Eye 3D Display System Based on Polarized Liquid Crystal Grating (16:20-16:40)

Fanchuan Lin, Beihang University

Session 31: MicroLED Device (EMQ-MicroLED)

Tuesday, April 2/15:40-17:00/ Room 206

Chair: Yue Lin (林岳), Xiamen University

31.1 *Invited Paper*: Advances in Micro-LED Technology for Single Pixel Imaging and Optical Wireless Communication (15:40-16:00)

Martin Dawson, University of Strathclyde

31.2 *Invited Paper*: Exploring Future Display: Innovative Applications of Metal-Oxide, LTPS, and LTPO Backplane for Micro-LED Displays (16:00-16:20)

Yong-Sang Kim, Sungkyunkwan University

31.3 Progressive Emission Method Using Pulse Width Modulation for Micro-LED Display (16:20-16:40)

Shangjun Xu, Chengdu Vistar Optoelectronics Co., Ltd.

31.4 Enhancing Micro-LED Pixel Circuit Performance through Threshold Voltage Compensation Utilizing LTPO Technology (16:40-17:00)

Yan Li, Sungkyunkwan University

Session 32: High Performance QD Light-Emitting Diodes (EMQ-Quantum Dots)

Tuesday, April 2/15:20-17:00/ Room 203

Chair: Yizheng Jin (金一政), Zhejiang University

32.1 *Invited Paper*: High Stability QD-LED at High Brightness (15:20-15:40)

Huaibin Shen (申怀彬), Henan University

32.2 *Invited Paper*: Cross-Linkable Hole-Transporting Materials for High-Efficiency Inkjet-Printed QLEDs (15:40-16:00)

Wenming Su (苏文明), Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences

32.3 Transition Dipole Orientation Enabled 35.6% EQE from QD-LEDs (16:00-16:20)

Fengjia Fan, University of Science and Technology of China

32.4 Realization of Bright and Flexible InP Quantum Dot Light-Emitting Diodes by Proper Substrate Engineering (16:20-16:40)

Taesoo Lee, Seoul National University

32.5 High-Performance Inverted InP-based Quantum Dot Light Emitting Diodes with Exciplex emitter as Exciton Harvesters (16:40-17:00)

Truong Thi Thuy, KyungHee University

Session 33: TFT Sensors (Active-Matrix Device)

Tuesday, April 2/16:10-17:50/ Room 212

Chair: Ao Liu, University of Electronic Science and Technology of China

33.1 *Invited Paper*: Flexible Optical Pressure Sensor Based on Organic Imager (16:10-16:30)

Tomoyuki Yokota, University of Tokyo

33.2 *Invited Paper*: Oxide Thin-Film Transistors as Detectors and Circuit Blocks on Flexible Ionizing Radiation Detection Platforms (16:30-16:50)

Pedro Barquinha, NOVA School of Science and Technology (FCT-NOVA)

33.3 *Invited Paper*: Neuromorphic Vision Sensors Based on Low-Toxic Quantum Dots Sensitized IGZO Phototransistor Arrays (16:50-17:10)

Hang Zhou (周航), Peking University Shenzhen Graduate School

33.4 In-Display Temperature Sensor Based on Dual-Gate Thin-Film Transistors (17:10-17:30)

Qiyi Su, Sun Yat-Sen University

33.5 High Responsivity and Low Dark Current Phototransistor Based on Perovskite/InZnO Heterostructure (17:30-17:50)

Bosi Lin, Peking University Shenzhen Graduate School

Session 34: Novel Display System Application (Display System)

Tuesday, April 2/16:50-18:10/ Room 210

Chair: Jia Jia (贾甲), Pengcheng Laboratory

34.1 *Invited Paper*: High Performance Smart Windows for Large-Scale Manufacturing (16:50-17:10)

Anthony Slack, eLstar Dynamics

34.2 *Invited Paper*: Using the Varied-Line-Spacing and the Flexible Curved H-PDLC Gratings with Focal Power as Waveguide Couplers in Display (17:10-17:30)

Jihong Zheng (郑继红), University of Shanghai for Science and Technology

34.3 Why Novel Display Technology Start-ups Are Hard to Survive (17:30-17:50)

Peter Ren, New Vision Display

34.4 Research on LCD Partition Backlight Visual Stimulator Based on SSVEP (17:50-18:10)

Weicheng Tang, Southeast university

Session 35: Fabrication of TFT Backplanes (Display Manufacturing)

Tuesday, April 2/17:10-18:50/ Room 211

Chair: Yiming Xiao (肖一鸣), Hefei Visionox Technology Co., Ltd.

35.1 *Invited Paper*: High-Quality High-k ZrO₂-Based Dielectric Film with Low Leakage Current (17:10-17:30)

Xianzhe Liu (刘贤哲), Wuyi University

35.2 *Invited Paper*: High Entropy Metal Oxides as Dielectric Layers Prepared by Spin-Coating and Application in Thin Film Transistors (17:30-17:50)

Honglong Ning (宁洪龙), South China University of Technology

35.3 A Simple Fabrication Process for Self-Aligned Top-Gate IGZO TFT with Controllable Source/Drain Electrode Series Resistance (17:50-18:10)

Cong Peng, Shanghai University

35.4 A New Metal Oxide TFTs Integrated Gate Driver Employing Discharged-Sweep-Signal-Generated Module for Micro-LED Analog PWM Pixel Circuit (18:10-18:30)

Lirong Zhang, Shunde Polytechnic

35.5 High-Mobility and High-Negative Bias Illumination Stress Stability Based on ITZO/IGZO Bilayer Thin Film Transistors (18:30-18:50)

Ting Li, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences

Session 36: LCD Image Quality (Liquid-Crystal Technology)

Tuesday, April 2/17:10-18:50/ Room 204

Chair: Wenbin Huang (黄文彬), Soochow University

36.1 Low-frequency Flicker Mechanism and Improvement Solutions of a Liquid Crystal Display (17:10-17:30)

LiangLong Huang, Wuhan China Star Optoelectronics Technology Co., Ltd.

36.2 Analyzing and Enhancing Display Quality in FRC Algorithm (17:30-17:50)

Yanyan Wang, Suzhou ESWIN Computing Technology Co., Ltd.,

36.3 Research on Partitioned Color Calibration Principle and Frame Rate Reduction Technology Based on Liquid Crystal Displays (17:50-18:10)

Xiangzhi Xiao, Fuzhou University

36.4 Analysis of Halo Improvement Factor of Mini-LED Backlit Display Based on Visual Sensitivity (18:10-18:30)

Nailong He, Southeast University

36.5 Research on the Structure of Low Color Crosstalk Grillless Optical Cavity Based on Partition Toning Technique (18:30-18:50)

Wenlin Wu, Fuzhou University

Session 37: Device Architectures of OLEDs (OLEDs)

Tuesday, April 2/16:50-18:30/ Room 209

Chair: Lei Ying (应磊), South China University of Technology

37.1 *Invited Paper*: Effect of Organic Charge Generation Layer on Performance of White OLED Devices (16:50-17:10)

Wei Quan (全威), Hefei BOE Joint Technology Co., Ltd.

37.2 *Invited Paper*: Intermolecular Charge Transfer for High-Performance Organic Light-Emitting Diodes (17:10-17:30)

Zhen Zhang (张震), Shanghai University

37.3 *Invited Paper*: Novel Stacked OLED and Pixel Design for Enhanced Lifetimes and Improved PPI (17:30-17:50)

Can Yuan (袁燦), Hefei BOE Joint Technology Co., Ltd.

37.4 N-Doped High-Tg Phenanthroline Derivatives as Charge-Generation Layer for Stable Tandem OLEDs (17:50-18:10)

Xu-Hui Zhu, South China University of Technology

37.5 Device Engineering for High-Performance White OLEDs/Quantum-Well LEDs (18:10-18:30)

Baiquan Liu, Sun Yat-sen University

Session 38: AR/VR/MR Measurement and Standards (VR/AR/MR)

Tuesday, April 2/16:50-18:50/ Room 202

Chair: Li Song (宋立), Everfine Corporation

38.1 *Invited Paper*: Optimizing Eyewear Displays: Optical Measurement Aligning with Visual Ergonomics (16:50-17:10)

Jianping Wang (王建平), Hangzhou SanTest Technology Co., Ltd.

38.2 *Invited Paper*: Characteristics and Classifications of Near-Eye Display of Extended Reality (XR) Products (17:10-17:30)

Lei Zhao (赵蕾), Yongjiang Laboratory

38.3 *Invited Paper*: Standardization and Measurement Challenges in See-Through Near-Eye Displays (17:30-17:50)

Xi Mou (牟希), Hangzhou SanTest Technology Co., Ltd.

38.4 Redefine Display User Metrics and Measurements in VR/AR with a User-Experience-Driven Approach (17:50-18:10)

Jerry Jia, Guardian Glow Limited

38.5 Characterization and Metrology of AR Waveguides Using Littrow Diffractometry (18:10-18:30)

Thomas Kerst, OptoFidelity Oy

38.6 Correction of Distortions in Near-Eye Displays (18:30-18:50)

Ming Wen, Wuhan Jingce Electronic Technology Corp

Session 39: MicroLED Displays (EMQ-MicroLED)

Tuesday, April 2/17:10-18:50/ Room 206

Chair: Xian Huang (黄显), Tianjin University

39.1 *Invited Paper*: Innovating for a Better Tomorrow with Sustainable Micro-Pixel Fabrication (17:10-17:30)

Reza Chaji, VueReal Inc.

39.2 *Invited Paper*: Direct View Mirco-LED Displays: Readiness Towards Commercialization (17:30-17:50)

Nag Patibandla, Applied Materials

39.3 *Invited Paper*: RGB Nanowire Based Micro-LED Chips for Efficient and High Performance Ultra Fine Pitch Direct View Displays (17:50-18:10)

Ivan-Christophe Robin, ALEDIA

39.4 *Invited Paper*: High-Definition Vertical Stack R/G/B Micro-LED Pixel Architectures Fabricated by Advanced Epitaxy (18:10-18:30)

Young Joon Hong, Sejong University

39.5 *Invited Paper*: NanoLEDs for Augmented Reality Applications (18:30-18:50)

Victor Hsia, NS Nanotech, Inc.

Session 40: QD Light Emitting-Diodes Display (EMQ-Quantum Dots)

Tuesday, April 2/17:10-18:30/ Room 203

Chair: Huaiting Shi (施槐庭), BOE Technology Group Co.,Ltd.

40.1 Invited Paper: Performance Enhancement of Blue QLEDs via a P-Type Doped Hole Transport Layer (17:10-17:30)

Qing Li (李青), Southeast University

40.2 Invited Paper: Enhanced Performance of Quantum Dot Light-Emitting Diodes by Core/Shell Interface Modification (17:30-17:50)

JEONGHUN Kwak, Seoul National University

40.3 Invited Paper: Quantum Dot Light-Emitting Diodes for Micro Display (17:50-18:10)

Xiaowei Sun (孙小卫), Southern University of Science and Technology

40.4 Invited Paper: Green and Bio-Renewable Solvent Selection for Solution-Processed Inverted QDLED (18:10-18:30)

Jang-Kun Song, Sungkyunkwan University

Session 41: TFT Circuits and Systems (Active-Matrix Device)

Wednesday, April 3/8:30-10:10/ Room 212

Chair: Hang Zhou (周航), Peking University Shenzhen Graduate School

41.1 Invited Paper: Internal Compensation Type OLED Display Using a-IGZO TFTs (8:30-8:50)

Pan Xu (徐攀), Hefei BOE Joint Technology Co. Ltd.

41.2 Invited Paper: Active-matrix Digital Microfluidic System for High-Throughput Droplet Sample Processing (8:50-9:10)

Jun Yu (于俊), Shandong University

41.3 Invited Paper: Thin-Film-Transistor-Based Active-Matrix Neurostimulation Systems (9:10-9:30)

Chen Jiang (蒋琛), Tsinghua University

41.4 Exploration of Critical Performance Metrics in AMOLED Pixel Circuits Using an all AOS 2T1C as a Foundation (9:30-9:50)

Andrew Russell, Amorphyx

41.5 A High-Accuracy Display Compensation Method for Full-Display with Camera (9:50-10:10)

Chao Zeng, Chengdu BOE Optoelectronics Technology Co., Ltd.

Session 42: New Display Interaction Technology (Display System)

Wednesday, April 3/8:30-10:10/ Room 210

Chair: Zhidong Yuan (袁志东), Hefei BOE Joint Technology Co., Ltd.

42.1 Invited Paper: Fast and Accurate Eye Positioning in Eye Tracking-Based 3D Display (8:30-8:50)

Jia Jia (贾甲), Pengcheng Laboratory

42.2 Spatial Reality Display System Based on Eye Tracking and Pixel Interleaving Technology (8:50-9:10)

Xitong Ma, BOE Technology Group Co., Ltd.

42.3 Intelligent Color Calibration Scheme for LCD Displays a Cost-Efficient and Industry-Applicable Method (9:10-9:30)

Yuefeng Su, Lenovo (Beijing) Co. LTD.; TCL CSOT Co. LTD.

42.4 Binocular Camera Eye Tracking Algorithm for Naked Eye 3D Display (9:30-9:50)

Tingting Wang, BOE Technology Group Co., Ltd.

42.5 Research on Lip Recognition Algorithm in Display Interaction (9:50-10:10)

Chao Liu, Southeast University

Session 43: Printable Display Technology (Printed Display)

Wednesday, April 3/8:30-9:50/ Room 211

Chair: Meng Xu (徐萌), Shanghai University

43.1 *Invited Paper*: The Latest Update of Flexible Printed OLED TV Display Technology (8:30-8:50)

Juenggil(James) Lee, Guangdong Juhua Printed Display Technology

43.2 *Invited Paper*: Recent Developments of High PPI Printing OLED Display Technology (8:50-9:10)

Huifeng Wang (王辉锋), Hefei BOE Joint Technology Co., Ltd.

43.3 *Invited Paper*: The Development of Printable Materials for Flexible Electronics (9:10-9:30)

Wen-Yong Lai (赖文勇), Nanjing University of Posts & Telecommunications

43.4 *Advanced Laser Technologies for Display Applications (9:30-9:50)*

Weiping Wu, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences

Session 44: LC Materials & Alignment Technology (Liquid-Crystal Technology)

Wednesday, April 3/8:30-10:10/ Room 204

Chair: Tong Li (李同), Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences

44.1 *Invited Paper*: Absorption Problem of Multilayer Optical Structures Based on High Anchoring Azo-dye Photoalignment of Polymerizable Liquid Crystals (8:30-8:50)

Alexander Muravsky, MTLCD

44.2 *Invited Paper*: Liquid Crystal Photoalignment by Azodye Nanolayers: New Liquid Crystal Photonics Devices (8:50-9:10)

Vladimir Chigrinov, The Hong Kong University of Science and Technology

44.3 *Invited Paper*: Ferroelectric Nematics as New Switchable Liquid Crystal Materials with High-Dielectricity and Low Electric-Field Driving (9:10-9:30)

AYA SATOSHI, South China University of Technology

44.4 *Multi-domain Vertically Aligned LCD by Azo-Dye Photo-alignment Method (9:30-9:50)*

Shu-Tuen Tang, The Hong Kong University of Science and Technology

44.5 *Optimize the One Drop Filling (ODF) Operation Process for Ferroelectric Liquid Crystal (9:50-10:10)*

Yipeng Huo, The Hong Kong University of Science and Technology

Session 45: Device Physics of OLEDs (OLEDs)

Wednesday, April 3/8:30-10:30/ Room 209

Chair: Ying Shen (申莹), Hefei Visionox Technology Co., Ltd.

45.1 *Invited Paper*: High-Performance for Stable Organic Light-emitting Diodes with Reduced Efficiency Roll-Off (8:30-8:50)

Shijian Su (苏仕健), South China University of Technology

45.2 *Invited Paper*: Surface Plasmonic Coupled PHOLED Device Performance: Improving Efficiency, Stability and Angle Dependence (8:50-9:10)

Zhaoqun Zhou, Universal Display Corporation

45.3 High Performance and High Color Purity Green OLEDs with Narrow Spectrum Emission (9:10-9:30)

Guomeng Li, Visionox Technology Inc.

45.4 Comprehensive Exploration of Exciton Quenching in OLEDs through Combined Characterization and Computational Simulation (9:30-9:50)

Sandra Jenatsch, Fluxim AG

45.5 Boosting the Performance of Phosphor-assisted Fluorescence Devices by Fine-tuning the Peripheral Groups of Multi-resonance Fluorescent Dopants (9:50-10:10)

Minghan Cai, Yungu (Gu'an) Technology Co., Ltd.

45.6 Investigation of Triplet-induced Annihilation in Phosphorescent and Thermally Activated Delayed Fluorescent Organic Light-emitting Diodes (10:10-10:30)

Jixin Jiang, Beijing Jiaotong University

Session 46: Display Measurement (Display Measurement)

Wednesday, April 3/8:30-10:10/ Room 202

Chair: Penge Dang (党鹏乐), Kunshan Govisionox Optoelectronics Co., Ltd.

46.1 *Invited Paper*: Pixel Level Optical Characterization of Modern Electronic Displays Using a Hyper Spectral Imaging Technique (8:30-8:50)

William (Il-Ho) Kim, LMS Corp

46.2 *Invited Paper*: The Optimized Method for Sparkle Contrast Measurement of Anti-Glare Covered Vehicle Display (8:50-9:10)

Li Song (宋立), Everfine Corporation

46.3 Automatic Tuning Methodology of Hysteresis Compensation for AMOLED Display Application (9:10-9:30)

Hsueh-Yen Yang, GalaxyCore Microelectronics

46.4 A Novel Method for Evaluating Short-Range Uniformity of Micro-LED Display (9:30-9:50)

Yingteng Zhai, Tianma Advanced Display Technology Institute (Xiamen) Co., Ltd.

46.5 Photon-to-Photon Latency Test Solution in Video See Through of Mixed Reality Headset (9:50-10:10)

Longyun Xiao, Gravity XR (Ningbo) Electronic Technology Co., Ltd.

Session 47: MicroLED Full Color Technology (EMQ-MicroLED)

Wednesday, April 3/8:30-10:10/ Room 206

Chair: Quanlin Liu (刘泉林), University of Science and Technology Beijing

47.1 *Invited Paper*: Small-sized and Efficient Red-emitting Phosphor for Mini-LED Display (8:30-8:50)

Quanlin Liu (刘泉林), University of Science and Technology Beijing

47.2 *Invited Paper*: Design of Band-pass Films to Improve Color Saturation for Micro LEDs Display (8:50-9:10)

Zhi Ting Ye (叶志庭), National Chung Cheng University

47.3 *Invited Paper*: Electrohydrodynamic Inkjet Specialized Perovskite non-polar Ink for Printing Color Conversion Layer of Micro-LED Display (9:10-9:30)

Yue Lin (林岳), Xiamen University

47.4 High-Resolution Patterning of Fluorescent Films by Femtosecond Laser-Induced Forward Transfer (9:30-9:50)

Yue-Feng Liu, Jilin University

47.5 Ultrafine-pitch AlGaIn Ultraviolet-C MicroLED Displays for Quantum Dots Color Conversion (9:50-10:10)

Feng Feng, The Hong Kong University of Science and Technology

Session 48: Quantum Dot Color Conversion (EMQ-Quantum Dots)

Wednesday, April 3/8:30-9:50/ Room 203

Chair: Chengzhao Luo (罗成招), Soochow University

48.1 Invited Paper: Enabling MicroLED Application with Quantum Dot Color Conversion (8:30-8:50)

ZhongSheng Luo (罗忠升), Nanosys

48.2 Invited Paper: Upconversion Luminescence from Sol-Gel-Derived Erbium- and Ytterbium-Doped BaTiO₃ Film Structures (8:50-9:10)

Nikolai V. Gaponenko, Belarusian State University of Informatics and Radioelectronics

48.3 Novel Highly Stable Organic Phosphors and Their Application to Cd-free Color Conversion Sheets for Wide Color Gamut LCDs (9:10-9:30)

Fangrong Xu, Toray Advanced Materials Research Laboratories

48.4 Modeling the Impact of the Illumination Geometry on the Light Conversion Efficiency in Quantum Dot Down-Conversion Films (9:30-9:50)

Moon K. Heo, Fluxim AG

Session 49: 3D Display (Display Application)

Wednesday, April 3/10:20-12:00/ Room 212

Chair: Xi Mou (牟希), Hangzhou SanTest Technology Co., Ltd.

49.1 Invited Paper: Research on Holographic Dynamic Three-dimensional Display (10:20-10:40)

Hongyue Gao (高洪跃), Shanghai University

49.2 Resolution-enhanced Integral Imaging 3D Display by Using Lateral Aberration Optimization (10:40-11:00)

Xuerui Wen, Beihang University

49.3 Large Glasses-free 3D Display Based on LED Screen and Parallax Barrier (11:00-11:20)

Changxiong Zheng, Southern University of Science and Technology

49.4 Optimized Sampling Rendering for Real-time and High-resolution Light Field 3D Display (11:20-11:40)

Xing-Yu Lin, Beihang University

49.5 3D Applications: OLED Smartphone Glasses-Free 3D Display Conversion System Based on 5G Communication Technology (11:40-12:00)

Yue Xie, Southern University of Science and Technology

Session 50: Novel Display System Technology (Display System)

Wednesday, April 3/10:20-11:40/ Room 210

Chair: Jia Jia (贾甲), Pengcheng Laboratory

50.1 Invited Paper: An Innovative Decoder-type GOA for Intelligent Split-Screen and External Compensation Technology (10:20-10:40)

Zhidong Yuan (袁志东), Hefei BOE Joint Technology Co., Ltd.

50.2 *Invited Paper*: Tunable Diffraction Phase Gratings and Their Applications (10:40-11:00)

Yury Gushcho, NanoRelief Display Ltd.

50.3 Research on Adaptive Voltage Regulation Algorithm on TFT-LCD (11:00-11:20)

Shijie Deng, TCL China Star Optoelectronics Technology Co., Ltd.

50.4 A New Driving Solution for the Problem of Abnormal Display During Panel Power On (11:20-11:40)

Weifeng Chen, TCL China Star Optoelectronics Technology Co., Ltd.

Session 51: Printed TFT Technology (Printed Display)

Wednesday, April 3/10:00-11:20/ Room 211

Chair: Shumeng Wang (王淑萌), Changchun Institute of Applied Chemistry, Chinese Academy of Sciences

51.1 *Invited Paper*: Reducing Hysteresis in Carbon Nanotube Thin-Film Transistors through ALD Laminated HfO₂/Al₂O₃ (10:00-10:20)

Jun-Biao Peng (彭俊彪), South China University of Technology

51.2 *Invited Paper*: Optimizing Photonic Annealing Technique for Full-Solution-Processed Oxide Thin Film Transistor (10:20-10:40)

Meng Xu (徐萌), Shanghai University

51.3 *Invited Paper*: Printed Active-Matrix Electrochromic Displays (10:40-11:00)

Aimin Song (宋爱民), University of Manchester, Chongqing Zhiwei Technologies LTD

51.4 R2R Printed Flexible High-resolution Carbon Nanotube-based TFT Active Matrixes (11:00-11:20)

Junfeng Sun, Huzhou University

Session 52: Novel LCD Architecture (Liquid-Crystal Technology)

Wednesday, April 3/10:20-12:00/ Room 204

Chair: Chair: Tong Li (李同), Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences

52.1 *Invited Paper*: Synergistic Effect of IGZO in UV2A for Next Generation of UV2A Mode (10:20-10:40)

Yuanhui Guo (郭远辉), BOE Technology Group Co., Ltd.

52.2 *Invited Paper*: Intelligent Display Design Integrated in the 55 4K LCD Cell (10:40-11:00)

Dongchuan Chen (陈东川), Beijing BOE Display Technology Co., Ltd.

52.3 Time-multiplexing Method Using Dual Ferroelectric Liquid Crystal Shutters for Light Field 3D Display (11:00-11:20)

Zhi-Bo Sun, The Hong Kong University of Science and Technology

52.4 Research on the Process of Single Polarizer Reflective LCD (11:20-11:40)

Tao Liu, Institute of Jiangsu (IVO) Flat-Panel-Display Technologies

52.5 A Novel Vertical Tri-gate Pixel Structure for Liquid Crystal Display (11:40-12:00)

Shuaichen Si, Guangzhou China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

Session 53: High Performance OLED Display (OLEDs)

Wednesday, April 3/10:40-12:20/ Room 209

Chair: Shijian Su (苏仕健), South China University of Technology

53.1 *Invited Paper:* Research on Adhesion of Acrylic Photoresist on Different Substrates for OLED Display (10:40-11:00)

Ying Shen (申莹), Hefei Visionox Technology Co., Ltd.

53.2 Minimization of Color Shift Due to Diffracted Light in COE OLED Panel (11:00-11:20)

Sangmin Shin, LinkGlobal21

53.3 Technical Challenges of OLED Display Technology in High-Latitude Regions (11:20-11:40)

Huan Yan, China Research and Development Academy of Machinery Equipment

53.4 Research on Power Consumption Optimization Scheme for AMOLED DDIC (11:40-12:00)

Jingjing Lu, Yungu (Gu'an) Technology Co., Ltd.

53.5 Research on HDR True Black Performance of Foldable Active-matrix Organic Emitting Display in Notebook Application (12:00-12:20)

Xing Huang, Chengdu BOE Optoelectronics Technology Co., Ltd.

Session 54: Antenna-on-Display (AoD) and Stylus (Touch & Interactive Displays)

Wednesday, April 3/10:20-11:40/ Room 202

Chair: Huan-Chu Huang (黄奂衢), Visionox Technology Inc.

54.1 *Invited Paper:* Promising Conceptual Designs of 2-in-1 Antenna-on-Display (AoD) for Mobile Phones (10:20-10:40)

Huan-Chu Huang (黄奂衢), Visionox Technology Inc.

54.2 Process Window Variation of Moire Depending on Metal Wire Pitch (10:40-11:00)

Sangmin Shin, LinkGlobal21

54.3 *Invited Paper:* Novel Anti-interference Multi-solutions to Enhance Display Performance during Active Stylus-Screen Interaction (11:00-11:20)

Meng He (何蒙), Shenzhen Qianfenyi Intelligent Technology Co., Ltd.

54.4 Peratech's Under-Display Force Digitizer for Touch, Stylus and Calligraphy Input (11:20-11:40)

Sarah Dempsey, Peratech Holdco Ltd.

Session 55: MicroLED Evaluation (EMQ-MicroLED)

Wednesday, April 3/10:20-12:00/ Room 206

Chair: Xian Huang (黄显), Tianjin University

55.1 *Invited Paper:* Yield and Manufacturing Challenges for MicroLED Micro-displays (10:20-10:40)

Soeren Steudel, MICLEDI microdisplay BV

55.2 *Invited Paper:* Massive MicroLED Electroluminescence Detection Based on Flexible 3-dimensional Probe Arrays (10:40-11:00)

Xian Huang (黄显), Tianjin University

55.3 *Invited Paper:* Wafer Level Cathodoluminescence Analysis for MicroLED Process Development (11:00-11:20)

Samuel Sonderegger, Attolight

55.4 *Invited Paper:* Design Diversity: Emerging Trends in MicroLED Chip Architecture, Metrology, and Inspection (11:20-11:40)

David Lewis, InZiv

55.5 Investigation of Light Leakage on the Thin-Film-Transistors Depending on the Micro-LED Backplane Structures (11:40-12:00)

Peixuan Chen, Tianma Advanced Display Technology Institute (Xiamen) Co., Ltd.

Session 56: Quantum Dot Patterning (EMQ-Quantum Dots)

Wednesday, April 3/10:00-11:40/ Room 203

Chair: ZhongSheng Luo (罗忠升), Nanosys

56.1 *Invited Paper*: High Resolution Quantum Dot Display Technology (10:00-10:20)

Fushan Li (李福山), Fuzhou University

56.2 *Invited Paper*: High-Resolution, Highly Transparent, and Efficient Quantum Dots Light-Emitting Diodes (10:20-10:40)

Chengzhao Luo (罗成招), Soochow University

56.3 *Invited Paper*: A Universal Inkjet Printing Strategy of Perovskite Towards Wide Color Gamut Displays (10:40-11:00)

Guijun Li (李贵君), Shenzhen University

56.4 Direct in Situ Patterning of Perovskite Quantum Dots (11:00-11:20)

Gaoling Yang, Beijing Institute of Technology

56.5 Four-inch Wafer-scale and Spherical Light-emitting Diodes Based on Perovskite Quantum Wire Arrays (11:20-11:40)

Beitao REN, The Hong Kong University of Science and Technology

Session 57: Advanced Circuit & Algorithm (Display Electronics)

Wednesday, April 3/13:30-14:50/ Room 205

Chair: Xuehuan Feng (冯雪欢), Hefei BOE Joint Technology Co. Ltd.

57.1 *Invited Paper*: Engineering Considerations for the Application of Threshold Voltage One-Time Detection Method (VthOTDM) in LTPO AMOLED Displays (13:30-13:50)

Weijing Wu (吴为敬), South China University of Technology

57.2 Micro Display Sub-Pixel Capacitor Design Balancing Performance, Yield, and Cost (13:50-14:10)

Gang Chen, Meta Reality Labs

57.3 Integrated Gate Driver Circuit with Self-compensation Function Using Oxide TFTs for AMOLED Displays (14:10-14:30)

Xuehuan Feng, Hefei BOE Joint Technology Co. Ltd.

57.4 High Performance LTPS TFT Backplane Using Blue Laser Diode Annealing for Mini/Micro LED Display (14:30-14:50)

Jinming Shi, TCL China Star Optoelectronics Display Technology

Session 58: Display Effecton (Display Application)

Wednesday, April 3/13:30-15:10/ Room 212

Chair: Bo Yuan, Kunshan New Flat Panel Display Technology Center Co., LTD,

58.1 Advanced Ambient Adaptive Display Solution Considering Chromatic Adaptation (13:30-13:50)

Minchen Wei, The Hong Kong Polytechnic University

58.2 Transflective ADS LCD with High Contrast Ratio and Wide Color Gamut for Better Productivity (13:50-14:10)

Jing Wang, Beijing BOE Display Technology Co., LTD.

58.3 Improvement of High Quality OLED Display Lifetime (14:10-14:30)

Zhengfang Xie, Kunshan Govisionox Optoelectronics Co., Ltd.

58.4 Outdoor 55-Inch 4K-resolution and High-Brightness Liquid Crystal Display (14:30-14:50)

ZhiXin Sun, Peking University Shenzhen Graduate School

58.5 Microstructure-based High-gain, Large-viewing Angle Laser Projection Curtains and Its Application (14:50-15:10)

Hao Cao, Wuhan University

Session 59: 3D Display System (Display System)

Wednesday, April 3/13:30-14:50/ Room 210

Chair: Huan Deng (邓欢), Sichuan University

59.1 Invited Paper: Light Field 3D Displays with High Performance (13:30-13:50)

Yan Xing (邢妍), Beihang University

59.2 Invited Paper: High Realistic 3D Light-field Display System with Large Depth-of-field (13:50-14:10)

Xunbo Yu (于迅博), Beijing University of Posts and Telecommunications

59.3 Invited Paper: Holographic Display with Optimized Diffraction Fields (14:10-14:30)

Hao Zhang (张浩), Tsinghua University

59.4 Metasurface-based Holographic Display Systems (14:30-14:50)

Jin Li, Beihang University

Session 60: Printed Display Materials and Devices 1 (Printed Display)

Wednesday, April 3/13:30-14:50/ Room 211

Chair: Minghung Hsu (许名宏), Hefei BOE Joint Technology Co., Ltd.

60.1 Invited Paper: A Novel Inkjet Printing Device for 8K2K OLED MNT (13:30-13:50)

Minghung Hsu (许名宏), Hefei BOE Joint Technology Co., Ltd.

60.2 Invited Paper: Construction and Application of TADF Polymers (13:50-14:10)

Junqiao Ding (丁军桥), Yunnan University

60.3 Observation of Subtle Interfacial Mixing in Solution-processed OLEDs (14:10-14:30)

Kaixuan Zhang, Guangdong Juhua Printed Display Technology Co., Ltd.

60.4 Functional Study of High-Transparency Encapsulation Films Based on Inkjet Printing Technology (14:30-14:50)

Chufeng Yang, Hangzhou First Applied Material Co., Ltd.

Session 61: LC Phase Modulator (Liquid-Crystal Technology)

Wednesday, April 3/13:30-15:10/ Room 204

Chair: Dan Luo (罗丹), South University of Science and Technology of China

61.1 Invited Paper: 3D Floating Holographic Display with 12K x 2K LCoS-SLM (13:30-13:50)

Chun-Wei Tsai (蔡君伟), National United University

61.2 Invited Paper: Multidimensional Manipulable Optical Fields with Geometric Phase LC Planar Optics (13:50-14:10)

Wei Duan (段薇), University of Electronic Science and Technology of China

61.3 The Influence of Fringing Field Effect of Liquid Crystal on Silicon Devices with Different Liquid Crystal Thickness for Telecommunication Applications (14:10-14:30)

Quan Gao, Southeast University

61.4 Implementation of Phased Array Antennas Based on Liquid Crystal Technology in Simulated Satellite Communication Systems (14:30-14:50)

Jin Liu, University of Electronic Science and Technology of China

61.5 Generation and Optimization of Flat-top Beams on Phase-only Liquid Crystal on Silicon (14:50-15:10)

Yuntao Wang, Southeast University

Session 62: Device Processing of OLED Display (OLEDs)

Wednesday, April 3/13:30-15:10/ Room 209

62.1 *Invited Paper*: TurboLED: Smart Display Design (13:30-13:50)

Peter Levermore, Excyton

62.2 Improvement of Low Gray Scale Black Spots by HTM Morphologies (13:50-14:10)

Chuanzhi Xu, Kunshan Govisionox Optoelectronics Co., Ltd.

62.3 Optimizing Under Display Infrared Technology: A Comprehensive Analysis of Diffraction Issues (14:10-14:30)

Zhibin Wang, OTI Lumionics

62.4 The Effect of OLED Device Capacitance on Low Gray Levels Motion Blur (14:30-14:50)

Xuesen Zhao, Hefei Visionox Technology Co., Ltd.

62.5 A Brightness Compensation Technology for OLED UDC Panel (14:50-15:10)

Yuqing Wang, Kunshan Govisionox Optoelectronics Co., Ltd.

Session 63: Metaoptics for AR/VR/MR (VR/AR/MR)

Wednesday, April 3/13:30-15:10/ Room 202

Chair: Xi Mou (牟希), Hangzhou SanTest Technology Co., Ltd.

63.1 *Invited Paper*: Extended-DOF Near-Eye 3D Display using a Polarization-Multiplexing Metalens Array for Interactive Augmented Reality (13:30-13:50)

Jianwen Dong (董建文), Sun Yat-Sen University

63.2 *Invited Paper*: Maxwellian Viewing AR Display Based on a Metalens Visor (13:50-14:10)

Yan Li (李燕), Shanghai Jiao Tong University

63.3 *Invited Paper*: Thin Film Neuromorphics: Fantasy or Reality? (14:10-14:30)

Kai Wang (王凯), Sun Yat-sen University

63.4 *Invited Paper*: Eye-tracking Super Multi-view 3D Display Enabled by the Metagrating (14:30-14:50)

Jianyu Hua (华鉴瑜), Soochow University

63.5 Full Degree-of-freedom Liquid Crystal Holographic Optics for AR/VR Displays (14:50-15:10)

Jianghao Xiong, Beijing Institute of Technology

Session 64: Improving Perovskite QD Light-Emitting Diode (EMQ-Quantum Dots)

Wednesday, April 3/13:30-14:30/ Room 203

Chair: Zugang Liu (刘祖刚), CHINA JILIANG UNIVERSITY

64.1 *Invited Paper*: The Interface Engineering in PeLEDs and QLEDs (13:30-13:50)

Zugang Liu (刘祖刚), CHINA JILIANG UNIVERSITY

64.2 *Invited Paper*: Suppression of Ion Migration for Stable Perovskite LEDs (13:50-14:10)

Zhengguo Xiao (肖正国), University of Science and Technology of China

64.3 Low-Dimensional Metal Halide Perovskites for Efficient Light-Emitting Diodes (14:10-14:30)

Tongtong Xuan, Xiamen University

Session 65: Driving Architecture (Display Electronics)

Wednesday, April 3/15:00-16:40/ Room 205

Chair: Xuehuan Feng (冯雪欢), Hefei BOE Joint Technology Co. Ltd.

65.1 *Invited Paper*: The Advantages of “Clocked-Analog” Video Transport in Source Driver ICs (15:00-15:20)

Alex Henzen, Hyphy USA Inc.

65.2 *Invited Paper*: Advanced Modelling of Field Emission (15:20-15:40)

Ian Underwood, University of Edinburgh

65.3 *Invited Paper*: Investigation of Flexible Synaptic Transistors with Inorganic/Polymer Composite Gate Dielectrics (15:40-16:00)

Rihui Yao (姚日晖), South China University of Technology

65.4 A Novel GOA Circuit for Large-size TFT-LCD Display (16:00-16:20)

Yanling Chen, Peking University Shenzhen Graduate School

65.5 Face Tracking and Recognition Based on Projection Technology (16:20-16:40)

Jiaqi Zhou, Southeast University

Session 66: Display Application (Display Application)

Wednesday, April 3/15:20-16:40/ Room 212

Chair: Hongyue Gao (高洪跃), Shanghai University

66.1 *Invited Paper*: Recent Progress of GaN Based Technology for Metaverse and EV (15:20-15:40)

Hao-Chung Kuo (郭浩中), National Yang Ming Chiao Tung University

66.2 Process and Technical Challenges of Trifold Display (15:40-16:00)

Bo Yuan, Kunshan New Flat Panel Display Technology Center Co., Ltd.

66.3 Research on Laser Display Technology and Standards (16:00-16:20)

Chensi Wu, China Electronics Standardization Institute

66.4 Research on Wearable Brain-Computer Interface Based on SSVEP (16:20-16:40)

Jing-Ye Huang, Southeast University

Session 67: 3D Display Imaging (Display System)

Wednesday, April 3/15:00-16:40/ Room 210

Chair: Yan Xing (邢妍), Beihang University

67.1 *Invited Paper*: Depth of Field Enhancement in Integral Imaging Using Diffractive Optical Elements and CNN (15:00-15:20)

Juan Liu (刘娟), Beijing Institute of Technology

67.2 *Invited Paper*: Design and Fabrication of Freeform Holographic Optical Elements (15:20-15:40)

Rengmao Wu (吴仍茂), Zhejiang University

67.3 *Invited Paper*: Elemental Image Array Generation Method Based on the Voxel Space of the InIm-based LFD (15:40-16:00)

Huan Deng (邓欢), Sichuan University

67.4 *Quality, Uniformity Computation Improvement Of Compressive Light Field Displays With U-Net (16:00-16:20)*

Chen Gao, Fujian Normal University

67.5 *Freeform Liquid-Crystal Polarization Imaging Optics with Aberration Correction and Efficiency Control (16:20-16:40)*

Chunyang Pei, Zhejiang University

Session 68: Printed Display Materials and Devices 2 (Printed Display)

Wednesday, April 3/15:00-16:20/ Room 211

Chair: Minghung Hsu (许名宏), Hefei BOE Joint Technology Co., Ltd.

68.1 *Invited Paper*: Realization of High PPI Notebook using inkjet Printing Technology and IGZO Backplate (15:00-15:20)

Ting Shi (史婷), TCL China Star Optoelectronics Technology Co., Ltd.

68.2 *Invited Paper*: Development of Solution-processed Organic Light-emitting/Functional Materials and Devices (15:20-15:40)

Shumeng Wang (王淑萌), Changchun Institute of Applied Chemistry, Chinese Academy of Sciences

68.3 *Invited Paper*: High-Performance Organic Materials and Electronic Inks for Inkjet Printing OLEDs (15:40-16:00)

Hai Bi (毕海), Jihua Laboratory

68.4 *Invited Paper*: Efficiency Enhancement of Solution-Processed OLED by Adopting a Sensitized Fluorescence Strategy (16:00-16:20)

Le Zhang (张乐), Zhejiang HongWu Technology Company

Session 69: LC Optics (Liquid-Crystal Technology)

Wednesday, April 3/15:20-16:40/ Room 204

Chair: Dan Luo (罗丹), South University of Science and Technology of China

69.1 *Invited Paper*: Liquid Crystal Polarization Grating/Lens for AR Displays (15:20-15:40)

Dan Luo (罗丹), South University of Science and Technology of China

69.2 *Invited Paper*: Cholesteric Liquid Crystals with Dynamic Structure (15:40-16:00)

Hongbo Lu (陆红波), Hefei Polytechnic University

69.3 *Invited Paper*: Lyotropic Liquid Crystal in Optical Devices (16:00-16:20)

Tianzi Shen (沈田子), Beihang University

69.4 *Invited Paper*: Fabrication and Applications of Electrically Tunable Liquid Crystal Microlens Arrays (16:20-16:40)

Yanjun Liu (刘言军), South University of Science and Technology of China

Session 70: Device Physics and Processing Techniques of OLEDs (OLEDs)

Wednesday, April 3/15:20-17:20/ Room 209

Chair: Ying Shen (申莹), Hefei Visionox Technology Co., Ltd.

70.1 *Invited Paper:* Capacitance Reduction of Red OLED through Device Optimization (15:20-15:40)

Huiqing Pang (庞惠卿), Beijing Summer Sprout Technology Co., Ltd.

70.2 *Invited Paper:* Analysis of TADF-OLED Intrinsic Degradation by GCIB-TOF-SIMS and Study of Water Impact with In Situ Exposure Methodology (15:40-16:00)

Kentaro Harada, OPERA Solutions

70.3 Photoresist Simulation About the Sidewall Angle of Micro-lens for OLED Light Extraction (16:00-16:20)

Liang Hu, Xiamen Tianma Display Technology Co., Ltd.

70.4 Research on Bulging Mechanism of Super Clean Foam Based on OLED (16:20-16:40)

Yongqiang Du, BOE Technology Group Co., Ltd.

70.5 The Effect of Curing Agent on the Reliability of Carbon Fiber Foldable Bracket (16:40-17:00)

Xiaodong Ai, Visionox Technology Inc.

70.6 Research on Reliability Bulging of Carbon Fiber Bracket Based on Folding Products (17:00-17:20)

Miao Luo, Chengdu BOE Optoelectronics Group Co., Ltd.

Session 71: Microprojector for AR/VR/MR (VR/AR/MR)

Wednesday, April 3/15:20-17:00/ Room 202

Chair: Jianyu Hua (华鉴瑜), Soochow University

71.1 *Invited Paper:* Field Sequential Color Micro-LCD Enabling High-resolution Light Field Displays (15:20-15:40)

Zong Qin (秦宗), Sun Yat-Sen University

71.2 *Invited Paper:* A New AMOLED Pixel Circuit for AR/VR Application Based on LTPS TFT (15:40-16:00)

Kook Chul Moon, Sungkyunkwan University

71.3 *Invited Paper:* High-Quality Image Transmission with Reduced Bandwidth: A Strategy for Selective Downsampling and Precise Reconstruction (16:00-16:20)

Tzung-Yuan Lee, Viewtrix Technology

71.4 Enhanced Optical Efficiency by Applying Dual Micro-Lens Structure in AR/VR Application (16:20-16:40)

Sangmin Shin, LinkGlobal21

71.5 Investigating Driving Current and Environmental Conditions on Micro-LED Performance Metrics (16:40-17:00)

Liang Zhang, Yongjiang Laboratory

Session 72: Perovskite QD Light-Emitting Diode Display (EMQ-Quantum Dots)

Wednesday, April 3/14:40-15:40/ Room 203

Chair: Zugang Liu (刘祖刚), CHINA JILIANG UNIVERSITY

72.1 *Invited Paper:* Why Perovskite Quantum Dots Will Be Key for LCD-, uLED- and OLED Displays (14:40-15:00)

Fangjian Lin, Avantama Ltd.

72.2 *Invited Paper:* Efficient and Stable Perovskite Light Emitting Diodes (15:00-15:20)

Chaoyu Xiang (向超宇), Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences

72.3 Enhancing the Efficiency of Perovskite Quantum Dot Light-Emitting Diodes through Surface Engineer with Organic Small Molecule Ligands (15:20-15:40)

Hanming Li, TCL China Star Optoelectronics Technology Co., Ltd.

Poster Session

P 1. Active-Matrix Devices

P 1.1 The Back-Channel Effect in Low Temperature Poly-Si Thin Film Transistors

Ying Shen, Hefei Visionox Technology Co., Ltd.

P 1.2 Hot Carrier Effect in Self-Aligned In-Ga-Zn-Sn-O High Mobility Thin Film Transistors

Jingang Fang, BOE Technology Group Co., Ltd.

P 1.3 High Performance of Amorphous IGZO TFTs with Different Chemical Composition

Deposited by PEALD

Shuaiying Zheng, Shandong University

P 1.4 Synergistic Enhancement of Stability and Mobility in ZrO₂-Doped ITZO TFTs with MLO

Passivation

Delang Lin, South China University of Technology

P 1.5 Mechanism of Hysteresis in InGaZnO Thin-Film Transistors

Songna Chen, Guangzhou China Star Optoelectronics Technology Co., Ltd.

P 1.6 Influence of Bandgap of SiN_x Gate Insulator on the Degradation Behavior of Amorphous Silicon Thin-Film Transistors under Reliability Test

Xiaoliang Zhou, TCL China Star Optoelectronics Technology Co., Ltd.

P 1.7 Junction Resistance and Junction Diffusion Depth in InGaZnO-Based Thin Film Transistors with Thermally Induced Source/Drain Region

Zhichao Zhou, China Star Optoelectronics Technology Co., Ltd.

P 1.8 High Performance 12.7 Inch 3K*2K DEMUX TDDI TPC LCD Fabricated by TGSA Bilayer Oxide TFT Technology

Haixiong Zhang, BOE HEFEI XINSHENG Optoelectronics Tec. Co., Ltd.

P 1.9 High Performance Amorphous IZO/IGZO Bilayer Thin Film Transistors for Ink-jet Printed AMOLED Displays

Chenning Liu, TCL China Star Optoelectronic Technology Co., Ltd.

P 1.10 Enhanced Stability under Positive Bias Temperature Stress of Ln-Doped InZnO Thin Film Transistors Fabricated with Back-Channel-Etch Structure

Juncheng Xiao, Peking University Shenzhen Graduate School

P 1.11 A VCO-Based ADC Design Using N-Type Oxide TFTs

Zhaoyu Deng, South China University of Technology

P 1.12 Back-End-of-Line Compatible Al-doped Indium Zinc Oxide Transistors with Excellent Thermal Stability

Jingye Xie, Peking University

P 1.13 Sub-200nm Nano-scale Indium-Zinc-Oxide Ultra-thin Channel Transistors

Minghe Zhang, Peking University

P 1.14 Electrical Performance of Side Wrapped Thin Film Transistor

Zhuang Li, Wuhan China Star Optoelectronic Technology Co. Ltd.

P 1.15 Research Progress in the Preparation Process of 2D MoS₂ for Thin Film Transistors

Qianqian Bu, BOE Technology Group Co., Ltd.

P 1.16 Effects of Active Layer Thickness on Performance of InZnO Transistors

Jianbing Shi, Peking University

P 1.17 Improving the Performance of IZO Transistor by Adding Buffer Layer

Longhai Xiong, Peking University

P 1.18 Study on Influencing Factors of Low Frequency Display

Haiyao Liang, Beijing BOE Display Technology Co., Ltd.

P 1.19 High Performance Dual-Gate a-Si:H TFTs for High-Refresh-Rate LCDs

Shuren Zhang, Suzhou China Star Optoelectronics Technology Co., Ltd.

P 1.20 Research on the Mechanism of Moving Head Pattern Aggravation after Reducing Refresh Rate of Column Architecture with High Refresh Rate

Gongda Chen, Beijing BOE Display Technology Co., Ltd.

P 1.21 Excessive Oxygen Induced Threshold Voltage Shifts in High Mobility Top-Gate PrIZO TFTs

Yu-Hua Dong, Guangzhou China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

P 1.22 Temperature-Controlled Dip-Coating Flexible Carbon Nanotube Thin-Film Transistors

Lin Xu, South China University of Technology

P 1.23 The Effect of Poly Silicon Grain Boundary Reduction on LTPS Devices and Display Effects Applied to Flexible AMOLED

Bing Meng, YunGu (Gu'an) Technology Co., Ltd.

P 1.24 Stability of Hydrogenated Amorphous Silicon Thin-Film Transistors in High-Brightness Liquid Crystal Displays

ZhiXin Sun, Peking University Shenzhen Graduate School

P 1.25 High-Resolution, High-Refresh-Rate VA Product VCOM Compensation Research

Hengsuo He, Chengdu BOE Display SCI-Tech Co., Ltd.

P 1.26 Influence of Electrode Materials on the Electrical Properties of IGZO TFTs

Hongyu Wu, Chongqing University

P 1.27 High-Performance Dual-Gate a-IGZO/a-IZO Thin-Film Transistors

Huan Yang, Peking University

P 1.28 Research on Stability of Operational Amplifier with Optimized Performance Based On a-IGZO TFTs

Fanzhao Meng, Shanghai University

P 1.29 Investigation of Abnormal Degradation Behaviors under Negative Bias Stress in a-Si:H TFTs

Zhixiong Jiang, South China University of Technology

P 2. AI for Imaging and Display

P 2.1 Development Prospects and Current Status of Deep Learning Neural Network-based Facial Capture in the Metaverse Field

Hongyu Qin, North China University of Technology

P 2.2 Few-Shot Image Classification Based on Ensemble Metric Learning

Kaixi Chen, Big Data Research Center, University of Electronic Science and Technology of China

P 2.3 A Based Machine Learning Model for the Prediction of Initial Gamma Value for OLED Panels

Hao Shen, Guangzhou Govisionox Optoelectronics Technology Co., Ltd.

P 2.4 Determination of Optimal Illumination Angle for Blood Velocity Estimation with Laser Speckle Contrast Imaging

Li Han, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences

P 2.5 Multi-Scale Feature Fusion Generative Adversarial Network for Image Inpainting

Lunze Hu, Fuzhou University

P 2.6 Research on a Method for Optimizing Flicker of AMOLED Display Screen

Yongbin Yang, Kunshan Govisionox Optoelectronics Co., Ltd.

P 3. Applied Vision

P 3.1 Display Quality and Visual Fatigue Effect of LTPO and LTPS

Jiaxin Ye, Guangzhou Govisionox Technology Co., Ltd.

P 3.2 A Study on Perceptual Brightness Model Related to Pupil Size

Nailong He, Southeast University

P 3.3 Investigation into the Relationship between Depth and Quality of Naked-Eye 3D Images

Yuan Gao, Yongjiang Laboratory

P 3.4 Plenoxels-based Parallax Map Generation for Flexible Scale Ultra-High Resolution in 3D Imaging

Changwei Yang, Zhengzhou University

P 3.5 Research on Reducing Moiré Patterns in Naked-eye 3D Displays through Optimizing Lenticular Lens Tilt Angle

Yuan Gao, Yongjiang Laboratory

P 3.6 The International (recommended) Standard of Next-Generation Colour Display Technology

Halpin Tseng, TCL Corp. MOKA Branch

P 3.7 Study on the Distribution of Perceived Brightness Level Based on HK Effect in Three-Dimensional CIELAB Color Space of Laser Display

Dabo Guo, Ocean University of China

P 3.8 A Review: Anti-Bacteria and Anti-Virus Healthy Displays

Xianqin Meng, BOE Technology Group Co., LTD

P 3.9 Differences in Visual Comfort of Smartphones between Comfortable and Uncomfortable Luminance

Chenyu Wu, Southeast University

P 3.10 The Influence of Parallax and Shape Type Factors on the Perception of AR Equipment in Dark Environment

Huiqiang Xia, Southeast University

P 3.11 A Model-based Study on Perceived Brightness under Various Ambient Illuminance Levels

Xinhang Ling, Southeast University

P 4. AR/VR/MR & Metaverse

P 4.1 Research on Fusion Calibration Algorithm of Camera and IMU Improved by Maximum Likelihood Method

Jingliang Wang, North China University of Technology

P 4.2 High-Precision Human Eye Simulation Device

Guanghang Mei, Yongjiang Laboratory

P 4.3 Brief Introduction of VR Industry Development Trends

Sha Liu, BOE Technology Group Co., Ltd.

P 4.4 Research on Key Technologies for Psychological Relief Based on Virtual Reality Exposure Therapy

Yanfei Wang, North China University of Technology

P 4.5 Double-layer Waveguide System for Improving the Optical Efficiency

Yusong Guo, Hefei University of Technology

P 4.6 Curved Augmented Reality Display Using Printed Freeform Holographic Optical Element

Tian Shu, Zhejiang University

P 4.7 Development Status and Application of the Integration of VR and EEG

Yan Zhang, North China University of Technology

P 4.8 The Diffraction Simulation of FFS VR LCD Panel

Cheng Wei, Wuhan China Star Optoelectronics Technology Co., Ltd.

P 4.9 Effect of Metal BM as Inducer Electrode in Liquid Crystal Display

Cheng Wei, Wuhan China Star Optoelectronics Technology Co., Ltd.

P 4.10 The Research Status and Prospect of Virtual Reality in Rescue Field

Yang Hu, North China University of Technology

P 4.11 A Comprehensive Study of VR Exposure Therapy Combined with EEG Signals in the Treatment of Psychiatric Disorders

Hanwen Li, North China University of Technology

P 4.12 A Review of Metaverse Technology and Application Research

Chen Wang, North China University of Technology

P 4.13 Research on VR/AR Technology and Its Application under New Technology Environment

Luran Xing, North China University of Technology

P 4.14 Narrow Channel a-IGZO TFTs for 1500PPI VR LTPO LCD Display

Huihui Zhao, Wuhan China Star Optoelectronics Technology Co., Ltd.

P 4.15 Flexible Multi-view Synthesis from a Single Image

Yusi Chen, BOE Technology Group Co., Ltd.

P 4.16 D-Vcom Adjustment Algorithm for VR Display Products Research and Experimental Validation

Jingyong Li, BOE Technology Group Co., Ltd.

P 4.17 Multi-Viewpoint Glasses-Free 3D Display Technology Based on Representation Fusion NeRF

Wenhao Huang, Southern University of Science and Technology

P 4.18 Extending Eyebbox with Big FOV for Holographic Retinal Projection Display

Yumeng Su, Hefei University of Technology

P 4.19 High Linearity Low-power Digital Scanning Algorithm for Driving OLED-on-silicon Microdisplays

Xingyan Liu, Shanghai University

P 4.20 Improvement Plan for High Brightness MiniLED BLU VR Crosstalk

Can Huang, Wuhan China Star Optoelectronics Technology Co., Ltd.

P 4.21 Research on Polarization Stress Relief in VR/AR Resin Lenses

Chenxi Yang, Dega Smart Photoelectric Technology (Zhenjiang)Co., Ltd.

P 4.22 Tuning the Diffraction Efficiency of Polarization Volume Grating by UV Erosion

Nan Lin, Southeast University

P 4.23 Unique Simulation Design for Crossed-type Exit Pupil based on Polarization Volume Grating

Ran Wei, Southeast University

P 4.24 Design and Fabrication of Short-Focus Lenses Based on Pancharatnam-Berry Optical Elements

Xusheng Pan, Southeast University

P 4.25 Design of Diffractive Waveguide Display with High Angular Uniformity

Ziyin Li, Zhejiang University

P 4.26 Multi-Channel Field of View Transmission Based on Polarization Volume Grating

Yuchen Gu, Southeast University

P 4.27 Design of High-Angular Uniformity Two-Dimensional Gratings for AR Head-Mounted Devices

Hui Yang, Zhejiang University

P 4.28 Optical System Design for AR Smart Contact Lens

Qi Liu, Kyushu University

P 4.29 AR Waveguide Display with Enlarged Eyebox Based on Polarization Volume Gratings

Zijian Lin, Fuzhou University

P 4.30 Virtual Reality Headsets with Ultra-Compact Pancake Optics Utilizing Free-Form Optical Lenslet Array Simulation Models

Tianwen Hou, YONGJIANG Laboratory

P 4.31 Analysis of the Eye-protection Principle of 3D Display

Fengming Li, BOE Technology Group Co., LTD

P 4.32 Dynamic Distortion Analysis Methods in Virtual Reality

Yining li, YONGJIANG Laboratory

P 4.33 Color and Brightness Non-Uniformity Compensation for Virtual Reality System and Evaluation of the Impact on Human Visual Perception

Mengna Zhao, Yongjiang Laboratory

P 4.34 Large-Size Continuous Ultra-Large Viewing Angle Stereoscopic Display

Lin Li, BOE Technology Group Co., Ltd.

P 4.35 Modeling Eye Movement and Reflection in Virtual Environments for Eye Tracking

Alex Zhou, Gravityxr

P 4.36 Influence of Grating Microstructural Parameters on Mitigating Screen Door Effect

Linqing Liu, Yungu (Gu'an) Technology Co., Ltd.

P 4.37 The Research on Virtual Reality Field Based on Gesture Recognition

Junshuai Zhang, North China University of Technology

P 4.38 Integral Compressive Light Field Display based on Multi Layers and Micro Lens Array

Qiyang Chen, Hefei University of Technology

P 4.39 2D/3D Fusion Display Method Based on Integral Photography

Yutong Wu, Tsinghua University

P 4.40 A Light Field Glasses-Free Rendering Method Based on Ray Tracing

Ningtong Chen, Southern University of Science and Technology

P 4.41 Research on Natural Background Text Recognition Technology Based on AR Glasses

Kang Zhang, Southeast University

P 4.42 Computational Super-Resolution for Integral Imaging Light Field Displays

Yifan Ding, Sun Yat-Sen University

P 4.43 Trustworthy Metaverse: A Comprehensive Investigation into Security Risks and Privacy Issues in Artificial Intelligence-Extended Reality Systems

Tianhao Li, North China University of Technology

P 4.44 Virtual Reality Content Generation for Anxiety and Stress Management: Current Status, Challenges, and Future Developments

Yujia Zheng, North China University of Technology

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Peiren Wang, Tianjin Research Institute for Water Transport Engineering, Ministry of Transport

P 5.2 The Efficient Depth Offset Mapping Encoding Algorithm for Glasses-free Three-Dimensional Display

Peiren Wang, Tianjin Research Institute for Water Transport Engineering, Ministry of Transport

P 5.3 A Novel Driving Scheme to Achieve Low Frame Rate and Low Power Consumption with Narrow Border

Huiling Lu, Kunshan Govisionox Optoelectronics Co., Ltd.

P 5.4 Enhancing Volumetric Display Systems with an Effective Axis-Shift Slicing Algorithm for Various Plane Pose Transformations

Hongzhan Song, Sun Yat-Sen University

P 5.5 Three-Dimensional Continuous Expression Synthesis Method Based on Facial Expression Feature Map

Ruilin Yang, Shanghai University

P 5.6 Ghost Removal HDR Fusion Algorithm Based on Enhanced Reference Image

Wenxuan Nie, Shanghai University

P 5.7 An Optimized Robust Watermarking Algorithm for Video Based on Spatio-temporal Feature Fusion

Yisheng Fan, Shanghai University

P 5.8 Synergistic Low-Light Image Enhancement: A Fusion of Dark Channel Dehazing and K-means Clustering

Nan Xue, Shanghai University

P 5.9 Examining Pressure-Sensitive Damping Silicone Adhesive with Excellent Cushioning Capabilities for AMOLED Display

Xuelin Fan, Hefei Visionox Technology Co., Ltd.

P 5.10 Investigation of Acrylic Inkjet Printed OCR for Mid-Size Flexible OLED

Yu Gu, Visionox Technology Inc.

P 5.11 Spherical Forming-a Design and Production of Spherical Display from 2D Plane to 3D Surface

Siyu Li, Guangzhou Govisionox Technology Co., Ltd.

P 5.12 A Method of Reducing the Warpage of Medium Size AMOLED Modules in High Temperature and Humidity Environment

Jianbing Ou, Guangzhou Govisionox Technology Co., Ltd.

P 5.13 The Effect of the Anti-Glaring Layer on an Autostereoscopic Display

Min Lu, Shenzhen Yinglun Tech. Ltd.

P 5.14 Research on Simulation Method for Pixel Arrangement Effect on Display Quality

Lan Lan, Yungu (Gu'an) Technology Co., Ltd.

P 5.15 Research and Application of New Display Technology with Multiple Maximum Brightness Viewing Angles

Chengyi Xu, BOE Technology Group Co., Ltd.

P 5.16 Wrinkle-Free Stack-up Design of Watch Display with 3D Spherical Glass by FEM Simulation

Shuangbing Zhang, Hefei Visionox Technology Co., Ltd.

P 5.17 Application of Smart GOA Model to Panel with Lower Power

Zhou Peng, Beijing BOE Display Technology Co., Ltd.

P 5.18 Spatial Multi-Directional Local Compensation in 3D Display

Yiying Pu, Shenzhen Yinglun Technology Co., Ltd.

P 5.19 Research on Enhancing the Lifetime of a-Si TFT-LCD Outdoor Displays

Tao Wang, Hefei BOE Display Technology Co., Ltd.

P 5.20 Research on a Novel Low Reflectivity Composite Film for Borderless LCD Display Applications

Lixing Zhao, Hefei BOE Display Technology Co., Ltd.

P 5.21 Research on the New Type of Full Attachment Double-Sided LCD Screen

Chaoyue Wang, Hefei BOE Display Technology CO., Ltd.

P 5.22 Improving the Key Specifications Performance of A-Si LCD Research

Hongri Wang, Tianma Microelectronics Co., Ltd.

P 5.23 Application and Optimization of 2D-to-3D Conversion Algorithm in 3D Display

Yiying Pu, Shenzhen Yinglun Tech Co., Ltd

P 5.24 Brightness Gain Study of High Refractive Index Brightness Enhancement Film

Qianqian Hao, BOE Technology Group Co., Ltd.

P 5.25 Study on the Reflection Diffraction of COE

Hongyan Xue, Hefei Visionox Technology Co., Ltd.

P 5.26 An Array of Microstructure for Anti-Reflective Film

Ziyan Zhang, Beijing BOE Opto-electronics Technology Co. Ltd.

P 5.27 The Ambient Contrast Ratio of Liquid Crystal Display with Anti-Reflection and Anti-Glare Film

Wei-heng Yang, TCL China Star Optoelectronics Technology

P 5.28 Improvement of a-Si TFT Performance on Adjustable Frequency G-sync Function Monitor Display

Zhixiao Yao, Beijing BOE Display Technology Co., Ltd.

P 5.29 Research on Infrared Sensor Anti-Low Saturation Technology in High Latitude Environment

Qianyu Hu, China Research and Development Academy of Machinery Equipment

P 5.30 A Content-Adaptive Filtering Algorithm Based on Local-Dimming LCDs

Xiangjun Peng, BOE Technology Group Co., LTD.

P 5.31 Mechanical Design and Simulation Design of Support Layer of the Crossed Foldable Display Module

Yapeng Cheng, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

P 5.32 Application of Multi-function Device based on Perovskite-CdSe Bilayer Device Structure on Pulse Oximetry

Zeyue Xie, Shenzhen University

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P 6.1 Improvement of Electrical Consistency between TEG and AA Devices

Manman Li, Kunshan Govisionox Optoelectronics Co., Ltd.

P 6.2 Research on Screen Splitting of 8T1C Pixel Circuit

Wenquan Chu, Hefei Visionox Technology Co., Ltd.

P 6.3 The Research of New Umbrella Structure based on High Light Efficiency of OLED

Guijiao Xia, Visionox Technology Inc.

P 6.4 A Novel Mode of Device Failure Due to the Photosensitive Properties of Silicon Oxide Defects

Fei Ai, Wuhan China Star Optoelectronics Technology Co., Ltd.

P 6.5 The Influence of OLED ELVDD 2.8V on Electricity & Optics

Qing Yang, Guangzhou Govisionox Technology Co., Ltd.

P 6.6 An Innovation for Detecting Mini-LED Dead Zone or Dead Dot in Non-PWM

Jian Hu, BOE MLED Technology Co., Ltd.

P 6.7 IGZO- Based TFT Design for Imaging Sensor in X-Ray Detector

Zhe Dong, Hefei University of Technology

P 6.8 A Study on Evaluation Methods of Gray Pattern Flicker Based on Mobile Low-Frequency Display

Xiaojuan Gao, Beijing BOE Display Technology Co., Ltd.

P 6.9 Research on Compensation Algorithm for the Uniformity of AMOLED Brightness

Ke Liu, Hefei Visionox Technology Co., Ltd.

P 6.10 Exploring the Application of Vertical Synchronization Technology in OLED Display

Fayong Wang, Visionox Technology Inc.

P 6.11 Research on Fine-HD Display System Drive in a-Si LCD

Litao Fan, Beijing BOE Optoelectronics Technology Co., Ltd.

P 6.12 Research on the Technologies of Dual Side Mix GOA to Realize the Narrow Border on the Panel

Peirong Huo, Ordos Yuansheng Optoelectronics Co., Ltd.

P 6.13 Color Demura Compensation on Technology for Small and Medium-Sized AMOLED Modules

Feng Chen, Kunshan Govisionox Optoelectronics Co., Ltd.

P 6.14 Optimizing AMOLED Product Data Programming via eDP Interface

Hufeng Zhang, Hefei Visionox Technology Co., Ltd.

P 6.15 Research on Current Simulation of Relevant Signal Nodes in GOA Circuits

Gongda Chen, Beijing BOE Display Technology

P 6.16 3D Stacked Hybrid TFT Integrated Circuits for 1100 PPI AMOLED Display

Yunfei Liu, Peking University

P 6.17 Improvement of Image Sticking Performance in AMOLED Display by Extending Scan Pulse Width via a Novel Driving Circuit

Genmao Huang, Visionox Co., Ltd.

P 6.18 Improving High Speed Signal Transmission Attenuation in Driving System of Large Size Display

Xiuqin Zhang, BOE Technology Group Co., LTD.

P 6.19 Design of Hardware Accelerator for Real-Time Edge Detection System Based on FPGA

LiuJun Yuan, Fuzhou University

P 6.20 Design of Compact A-PWM Gate Driver Based on LTPS TFTs for Progressive-Mode μ LED Displays

Yuxuan Zhu, Peking University

P 6.21 Research on Lifetime Compensation Method for OLED Brightness Decay Caused by Temperature Changes

Pengkun Zheng, Hefei Visionox Technology Co., Ltd.

P 7. Display Manufacturing

P 7.1 Research on VA Type LCD Wide Viewing Angle Display Technology

Lesheng Yu, Shenzhen China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

P 7.2 Chromodot III: Non-Electrical Color Changeable Pixel Dots for Board/Window Signage Display Using Birefringence Colors with Brightness Control

Kunio Sakamoto, Konan University

P 7.3 Research and Development of Lithography Technology for Panel Display

Shuming Ren, Shanghai Micro Electronics Equipment (Group) Co., Ltd.

P 7.4 Study on the Spraying Mechanism of Cone-Jet Mode Electrohydrodynamic Atomization Printing for OLED Organic Thin-film Encapsulation

Chao Hu, Huazhong University of Science and Technology

P 7.5 Numerical Modeling of GaN Growth by MOCVD on Metal Substrate

Xiubo Fang, Fuzhou University

P 7.6 Failure Analysis of AMOLED Rigid Display Screens Based on Finite Element Simulation

Qiu Yue, Kunshan Govisionox Optoelectronics Co., Ltd.

P 7.7 Research on the Application of Liquid Optically Clear Adhesive for Foldable OLED

Chuang Chen, Hefei Visionox Technology Co., Ltd.

P 7.8 The Study on Ultimate Bending Performance of UTG

Shen Chong, Hefei Visionox Technology Co., Ltd.

P 7.9 Systematic Study on Inkjet Printing Features of Polyimide Solution Used in Liquid Crystal Displays

Duokai Zhao, TCL China Star Optoelectronics Technology Co., Ltd.

P 7.10 Study on Improvement of Aberrant TFT Pattern by Mask Design

Hejing Zhang, Chongqing HKC Optoelectronics Technology Co., Ltd.

P 7.11 Resistance Reduction in Molybdenum Gate Electrode by W Seed Layer

Zecui Gao, Plansee (Shanghai)

P 7.12 Investigation on Driving Backboard of Electronic Paper Based on Low-Temperature Polycrystalline Silicon

Yu Jin, Visionox Technology Inc.

P 7.13 Analyzing the Influence of Diffuser on the Polarization of Side-emitting Backlight Unit

Changjing Zeng, Fuzhou BOE Display Technology Co., Ltd.

P 7.14 Investigations on the Mechanization for Strength Failures of TFT-LCD Panel

Yi Liu, Beijing BOE Display Technology Co. Ltd.

P 7.15 Improve the Reliability of a-IGZO TFT through Optimizing the Threshold Voltage and Channel Thickness in AMOLED Hybrid Backplane

Dongliang Yu, Visionox Technology Inc.

P 7.16 Effect of Etching Conditions, MoNb Thickness on Gate Profile and CD Bias of ADS Pro TFT

Dan Liu, Chongqing BOE Optoelectronics Technology CO., Ltd. & Chongqing University

P 7.17 Influence of Plasma Treatment before Evaporation on OLED Performance

Wei Pan, Kunshan Govisionox Optoelectronics Co., Ltd.

P 7.18 Analysis and Research on the Effect of Static Electricity for Ultra Large OLED Display

Leilei Cheng, BOE Technology Group Co., Ltd.

P 7.19 Design and Analysis of Protection for TFT Single-layer Area in Display Module

Cunqing Guo, BOE Technology Group Co., Ltd.

P 7.20 Mechanical Analysis of Tearing Risk of OLED Display Screen Based on Finite Element Method

Jiajun Jiang, Wuhan China Star Optoelectronics Semiconductor Display Technology Co., Ltd.

P 7.21 Research on Influencing Factors of Ball Impact Test of Flexible AMOLED Module

LiuBin Fan, Yungu (Gu'an) Technology Co., Ltd.

P 7.22 The Application of Dye Sensitized Solar Cells in Passive IoT Terminal Products

Xiaoling Xu, BOE Technology Group Co., Ltd.

P 7.23 Analysis of the Influence Factors of LTPS-TFT Characteristics on Module Brightness Stability

Lixian Zhang, Yungu (Gu'an) Technology Co., Ltd.

P 7.24 Effect of Gate Materials and Stack Structure on Threshold Voltage of ADS Pro TFT

Dan Liu, Chongqing BOE Optoelectronics Technology CO., Ltd. & Chongqing University

P 7.25 Color Holographic Polymers: a Method for Real-time Monitoring of Volume Contraction

Yan Yuyan, Yongjiang Laboratory

P 7.26 Investigation on the Stress of Color Filter and Subsequent Failure Behavior of COA Structure

Ji Li, TCL China Star Optoelectronics Technology Co. Ltd.

P 7.27 Photolithographic OLED Technological Development

Jun Zhang, Shanghai Micro Electronics Equipment (Group) Co., Ltd.

P 7.28 Novel Small Mask G5 Lithography Equipment

Jun Zhang, Shanghai Micro Electronics Equipment (Group) Co., Ltd.

P 7.29 Performance Control of Printed Graphene Based on Interlayer Annealing

Jinyao Zhong, South China University of Technology

P 7.30 Novel Type of Mask Compensation Improves Incomplete Exposure Mura

Bocheng Tao, AUO (Shanghai) Co. Ltd. Shenzhen Branch

P 7.31 Pulsed Laser Deposition of Wide-Bandgap and Low Leakage Current Density Hafnium Oxide Thin Films

Dingrong Liu, South China University of Technology

P 7.32 Preparation and Performance Optimization of Ag-ITO Composite Electrode in Electrochromic Devices

Muyun Li, South China University of Technology

P 7.33 Research on Redundancy and Wrinkle of OLED Display

Liuyang Wang, Hefei Visionox Technology Inc.

P 7.34 Exploration of Microbial Control Method in Wet Cleaning Equipment during LCD Production Process

Yulong Chen, BOE Technology Group Co., Ltd.

P 7.35 The Application of Compound Inhibitors in Copper Etching Solutions

Gongchu Liu, TCL China Star Optoelectronics Technology Co., Ltd.

P 7.36 Study on the Mechanism of Rainbow Patterns on PET and Methods for Rainbow Pattern Elimination

Gang Liu, TCL China Star Optoelectronic Technology Co, Ltd.

P 7.37 The Study on Cost Down and Performance Improvement of Foldable Display Module

Yaling Wang, Hefei Visionox Technology Co., Ltd.

P 8. Display Measurement

P 8.1 The Influence of Shear Stress on TFT-LCD Water Vapor Protection

Juping Zhou, TCL China Star Optoelectronics Technology Co., Ltd.

P 8.2 A Scheme for the Optical Evaluation of Waviness on the Flexible Display

Jinjin Liu, Hefei Visionox Technology Co., Ltd.

P 8.3 The Method to Calculate the Effect of Polarization Characteristics on Transmittance

Bowen Li, BOE Technology Group Co., Ltd.

P 8.4 Discussion on Methods to Improve the Measurement Accuracy of OLED Display Products

Tonghai Liu, Hefei Visionox Technology Co., Ltd.

P 8.5 Analysis and Application of the Key Factors of Mini-LED LCM Temperature

Le Liu, TCL China Star Optoelectronics Technology Co., Ltd.

P 8.6 Research on Flowmeter Signal Processing Method Based on Improved Kalman Filter

Xiaoxiao Zhang, North China University of Technology

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