

# **2024 31st International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD 2024)**

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2-5 July 2024**



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# PROGRAM

Date: Tuesday, July 2

**Opening Session** (13:30~13:45)

**Chairperson:** Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*

**Welcome Address**

H. Hamada, *Kindai University, JAPAN*

**Award Presentation**

**Keynote Address** (13:45~16:00)

**Chairpersons:** A. Wakamiya, *Kyoto University, JAPAN*

H. Tanabe, *Iwate University, JAPAN*

**13:45-14:30 K\_1 High Performance LCD for Future VR (INVITED)...1**

Y. Wang<sup>1,\*</sup>, F. Peng<sup>1</sup>, Y. Geng<sup>1</sup>, J. Gollier<sup>1</sup> and B. Silverstein<sup>1</sup>

<sup>1</sup> Meta, USA

**14:30-15:15 K\_2 Amorphous Oxide Semiconductor TFTs toward Memory Application (INVITED)...4**

H. Hosono<sup>1,\*</sup>

<sup>1</sup> Tokyo Institute of Technology & National Institute for Materials Science, JAPAN

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N.-G. Park<sup>1,\*</sup>

<sup>1</sup> Sungkyunkwan University, KOREA

— Coffee Break —

**Symposium 1 : Photovoltaics for a Sustainable Future: Technology,  
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T. Kaneko, *Tokai University, JAPAN*

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<sup>1</sup> NPC Incorporated, JAPAN

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<sup>1</sup> University of Glasgow, UK, <sup>2</sup> Princess Nourah Bint Abdulrahman University, SAUDI ARABIA,

<sup>3</sup> University of Leicester, UK

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<sup>1</sup> EneCoat Technologies Co., Ltd., JAPAN

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Future Automotive Displays and Environmental Technology Trends (9:30~17:20)

**Greeting** (9:30~9:40)

B. Straub, *Automotive Display Technology, Germany*

**Special Symposium 1 : Variety of Automotive Millimeter-Wave**

**Technology** (9:40~12:00)

**Chairpersons:** H. Okada, *University of Toyama, JAPAN*

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<sup>1</sup> *Japan Display Inc., JAPAN*

— *Coffee Break* —

**Chairpersons:** H. Tanabe, *Iwate University, JAPAN*

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<sup>1</sup> *SteraVision, Co., Ltd., JAPAN*

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**Chairpersons:** H. Tanabe, *Iwate University, JAPAN*

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<sup>1</sup> *Omdia, TAIWAN*

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<sup>1)</sup> *Volvo, SWEDEN*

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**Chairpersons:** Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*  
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**Banquet** (17:30~19:30)

Date: Thursday, July 4

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<sup>1</sup> *Kyoto University, JAPAN*

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<sup>1</sup> *Kyushu Institute of Technology, JAPAN*, <sup>2</sup> *National Institute of Technology, JAPAN*

— *Coffee Break* —

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**Chairpersons:** H. Okada, *University of Toyama, JAPAN*  
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<sup>1</sup> *Japan Display Inc., JAPAN*

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<sup>1</sup> *Sungkyunkwan University, KOREA*, <sup>2</sup> *Samsung Display, KOREA*

— *Lunch* —

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<sup>1)</sup> *National Institute of Advanced Industrial Science and Technology, JAPAN*

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<sup>1</sup> *National Yang Ming Chiao Tung University, TAIWAN,*

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<sup>3</sup> *UiT The Arctic University of Norway, NORWAY*

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<sup>1</sup> *National Cheng Kung University, TAIWAN,* <sup>2</sup> *2AUO Corporation, TAIWAN*

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<sup>1</sup> *Tunghai University, TAIWAN,* <sup>2</sup> *Ming Chi University of Technology, TAIWAN,*

<sup>3</sup> *Chang Gung University, TAIWAN*

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<sup>1</sup> *Tunghai University, TAIWAN,*

<sup>2</sup> *Kyushu University, JAPAN*

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<sup>1</sup> *National Chin-Yi University of Technology, TAIWAN,*

<sup>2</sup> *National Yang Ming Chiao Tung University, TAIWAN*

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<sup>1</sup> *Aichi Institute of Technology, JAPAN*

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<sup>1</sup> *National Yang Ming Chiao Tung University, TAIWAN,*

<sup>2</sup> *National Chin-Yi University of Technology, TAIWAN,*

<sup>3</sup> *Taiwan Semiconductor Research Institute, TAIWAN,*

<sup>4</sup> *UiT The Arctic University of Norway, NORWAY*



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<sup>1</sup> *Ryukoku University, JAPAN*, <sup>2</sup> *Kindai University, JAPAN*,

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<sup>1</sup> *Ryukoku University, JAPAN*, <sup>2</sup> *Kindai University, JAPAN*,

<sup>3</sup> *Nara Institute of Science and Technology, JAPAN*, <sup>4</sup> *Murata Manufacturing Co., Ltd., JAPAN*

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<sup>1</sup> *National Yang Ming Chiao Tung University, TAIWAN*

Date: Friday, July 5

## Session 2 : Advanced Process and Materials for Future TFTs

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**Chairpersons:** S. Horita, *Japan Advanced Institute of Science and Technology, JAPAN*  
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<sup>1</sup> *Tokyo University of Agriculture and Technology, JAPAN*  
<sup>2</sup> *Nissin Ion Equipment Co., Ltd., JAPAN*

— Coffee Break —

## Session 3 : Emerging Quantum Computing and Optoelectronic Devices

(11:00~12:00)

**Chairpersons:** P. K. Iyer, *Indian Institute of Technology, Guwahati, INDIA*  
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<sup>1</sup> *Westlake University, CHINA*, <sup>2</sup> *Zhejiang University, CHINA*,  
<sup>3</sup> *Westlake Institute for Optoelectronics, CHINA*, <sup>4</sup> *Westlake Institute for Advanced Study, CHINA*

— Lunch —

## Session 4 : Advanced Driving Circuits

(13:30~14:30)

**Chairpersons:** R. Hattori, *Kyushu University, JAPAN*  
M. Tamaki, *KYOCERA Corporation, JAPAN*

- 13:30-13:50 4\_1 Compensable A-PWM  $\mu$ LED Pixel Circuit with 381 PPI by Reusing Reference Lines Based on p-type LTPS TFTs...175**  
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<sup>1)</sup> *Peking University, CHINA*
- 13:50-14:10 4\_2 a-IGZO TFT  $\mu$ LED Pixel Circuit for PWM Driving and Its Color Shift with Different Duty Ratios and Current Amplitudes...179**  
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<sup>1)</sup> *Seoul National University, KOREA*
- 14:10-14:30 4\_3 A PWM Mini-LED Pixel Circuit with Source-Follower Compensation Structure...183**  
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<sup>1)</sup> *National Cheng Kung University, TAIWAN*, <sup>2)</sup> *AUO Corporation, TAIWAN*

— *Coffee Break* —

## Session 5 : Emerging Display Technologies

(14:55~15:55)

**Chairpersons:** K. Omoto, *Apple Inc., JAPAN*  
 H. Okada, *University of Toyama, JAPAN*

- 14:55-15:15 5\_1 Localized Adaptive Compensation of Temperature Color Shift in Micro-LED Based on Machine Learning Algorithms...187**  
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<sup>1)</sup> *Shanghai Tianma Microelectronics Co., Ltd, CHINA*, <sup>2)</sup> *Shanghai Jiao Tong University, CHINA*
- 15:15-15:35 5\_2 A Study on Flexibility Improvement of AMOLED Back Plane and Mask Reduction Process Architecture Using Photo-sensitive Organic Insulation Films...191**  
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<sup>1)</sup> *Seoul National University of Science and Technology, KOREA*,  
<sup>2)</sup> *Samsung Display Co., Ltd., KOREA*
- 15:35-15:55 5\_3 Three-Outputs-Single-Stage Gate Driver on Array for Internal Compensation Method Applications...195**  
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<sup>1)</sup> *National Yang Ming Chiao Tung University, TAIWAN*

## LATE NEWS (15:55~16:25)

**Chairpersons:** H. Kajii, *Osaka University, JAPAN*  
 T. Nagase, *Osaka Metropolitan University, JAPAN*

- 15:55-16:10 L\_1 Effect of Added Ethanol or Water Vapor in NH<sub>3</sub> Gas Annealing on Reduction of Residual OH Groups at < 200°C in Si Oxide Films...199**  
 S. Horita<sup>1,\*</sup>  
<sup>1)</sup> *Japan Advanced Institute of Science and Technology, JAPAN*
- 16:10-16:25 L\_2 Fabrication and Optical Characteristics of InP/ZnSe/ZnS Quantum Dot Color Filters Utilizing Electrophoretic Process...201**  
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<sup>1)</sup> *Osaka University, JAPAN*  
<sup>2)</sup> *ULVAC-Osaka University Joint Research Laboratory for Future Technology, JAPAN*

## Closing Remarks (16:25~16:30)

Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*