ADVANCE PROGRAM

AM-FPD 25

THE THIRTY-SECOND INTERNATIONAL WORKSHOP ON

ACTIVE-MATRIX FLATPANEL DISPLAYS AND DEVICES

-TFT TECHNOLOGIES AND FPD MATERIALS-

July 1 - 4, 2025
Ryukoku University Fukakusa Campus Jojukan, Kyoto, Japan

Sponsorship:
International Society of Functional Thin Film Materials & Devices

Technical Sponsorship:
The Electrochemical Society - Electronics and Photonics Division -
The Electrochemical Society - Japan Section -
IEEE Electron Devices Society

In cooperation with:
The Japan Society of Applied Physics
The Institute of Electronics, Information and Communication Engineers
The Institute of Image Information and Television Engineers
The Institute of Electrical Engineers of Japan
The Chemical Society of Japan
The Laser Society of Japan
Japanese Liquid Crystal Society
Thin Film Materials & Devices Meeting
Society of Automotive Engineers of Japan, Inc.
Society for Information Display
Molecular Electronics and Bioelectronics in The Japan Society of Applied Physics

GENERAL INFORMATION

The 32nd International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD '25) will be held at the Ryukoku University Fukakusa Campus Jojukan from July 1 (Tuesday) to 4 (Friday), 2025. This international workshop was established in 1994 to present the latest research and development in Active-Matrix Liquid Crystal Display technologies and their applications. In addition to AMLCDs and AMOLEDs, the scope has been widened to novel flat panel displays (FPD), materials for displays, flexible technologies, related physical phenomena and novel thin-film devices such as thin-film transistors (TFT), photovoltaics (PV) technologies, and other thin-film materials and devices (TFMD).

We hope that you will attend and enjoy our workshop.

WORKSHOP THEME

AM-FPD '25 will prepare an attractive program focusing on *"Innovative Devices Driving the Green AI Era"*.

SYMPOSIA

In addition to the regular sessions, we will prepare symposia which numerous speakers discuss for attractive and interesting themes.
Special Symposium on Vehicular Displays will focus on exciting developments paving the future of invehicle displays. The automotive industry is currently experiencing profound changes in its business environment, which will also have a strong impact on design and requirements of the human-vehicular interface, specifically displays and safety.
Symposia, "***8G LTPS/LTPO Technologies: Enabling HD Displays***", "***Advanced TFT Technologies for Displays and Emerging Applications***" , "***Recent Advances in Photovoltaics: Driving Sustainability and Innovation***" and "***Recent Progress in Thin Film Materials for Advanced Applications***" are scheduled. Invited speakers will talk about the latest topics from the viewpoints of functional materials, device structures, fabrication processes, driving schemes, circuit technologies, etc.

PRESENTATION TIMES FOR SPEAKERS

	Total	Presentation	Discussion
Keynote	45 min.	40 min.	5 min.
Special Symposium	40 min.	35 min.	5 min.
Invited	25 min.	20 min.	5 min.
Symposium	30 min.	25 min.	5 min.
Oral	20 min.	15 min.	5 min.
Late News	15 min.	12 min.	3 min.
Poster	17:30-19:00 July 3		

THE PROCEEDINGS OF AM-FPD '25

The Proceedings of AM-FPD '25 will be distributed in our workshop special website from July 1.
The download password will be provided at the registration desk.

LANGUAGE

The official language of the workshop is English.

REGISTRATION

For Registration, access our online registration page (http://www.amfpd.jp) and enroll your information and complete payment. Registration fee is discounted until June 9 (JST). Registration and other fees should be paid in Japanese yen via credit cards. VISA, Master, AMEX, JCB, Diners Club, Discover are acceptable. Apple Pay and Google Play are also acceptable. Once payment is complete, you can download the receipt and name plate. Please print the name plate and bring it to the venue and hand the folder at the reception. If you are unable to print it, please contact the AM-FPD Secretariat (secretariat@amfpd.jp).

<table>
<tr><th>Category</th><th>Advance Registration Fee until June 9, 2025 (JST)</th><th>Registration Fee</th><th>[One day] Special Symposium Only*2</th></tr>
<tr><td colspan="3">WORKSHOP*1</td><td rowspan="5">¥35,000</td></tr>
<tr><td>Member*3</td><td>¥50,000</td><td>¥55,000</td></tr>
<tr><td>Non-Member</td><td>¥52,000</td><td>¥57,000</td></tr>
<tr><td>Student</td><td>¥20,000</td><td>¥22,000</td></tr>
<tr><td>Senior*4</td><td colspan="2">¥25,000</td></tr>
<tr><td colspan="4">TUTORIAL</td></tr>
<tr><td rowspan="2">Regular</td><td>Tutorial Only</td><td colspan="2">¥7,000</td></tr>
<tr><td>Conference Attendee</td><td colspan="2">¥5,000</td></tr>
<tr><td colspan="2">Student</td><td colspan="2">Free</td></tr>
</table>

*1The registration fee of the workshop includes the admission to all sessions, banquet and the proceedings.
*2One day pass of “Special Symposium Only” is available to attend Special Symposium on Wednesday, July 2. The proceedings of the AM-FPD '25 is included in the fee.
*3The member of the societies which sponsor and support AM-FPD '24.
*4The category of senior is adapted for attendees who are 65 years old or older

BANQUET

The banquet will be held on July 2, from 17:30 to 19:30 at “Café Ryukoku” on the 1st floor of Jojukan. After the banquet, we will take you to JR Kyoto Station by bus a chartered.

VISAS

Every foreign visitor entering Japan must have a valid passport. Visitors from countries whose citizens must have visas should apply to a Japanese consular office or diplomatic mission in their own country.

CANCELLATION POLICY

In case of cancellation after payment, please contact to the secretariat (secretariat@amfpd.jp).

Cancel Charge

Before June 9-------Cancel fee 6%

After June 10---------100% of the registration fee / NO REFUND

Endorsement Letter

The endorsement letters to IEEE Journal Electron Device Society (J-EDS), Open Journal on Immersive Displays (OJ-ID) or ECS Journal Solid State Science and Technology (JSS) will be issued for excellent papers, which are chosen at our internal rating processes by AM-FPD program committees.

Please select which journal you wish getting the endorsement letter when you submit a paper to AM-FPD.

1. Endorsement letters will be issued to excellent papers from the AM-FPD committee after AM-FPD '25 workshop is held.

2. After you receive the endorsement letter,
   - Please attach your paper of AM-FPD '25 and the endorsement letter when submitting your manuscript to each journal,
   - You make sure to add in your reference list when you reuse the contents (figures / tables) used in your paper of AM-FPD '25.

Your ID and password are required to be registered before submitting your manuscript to each journal.

IEEE XPLORE DIGITAL LIBRARY

The Proceedings of AM-FPD '25 will be published in the IEEE Xplore digital library in around 2 months after the workshop.

TUTORIAL

These classes are widely aimed at many people from beginners to researchers who hope to review their knowledge. Presentations and documents will be in Japanese. Documents will be distributed to the participants who have registered in advance. These classes are available for an additional fee (see page 2).

Tuesday, July 1 (10 : 00 ～ 12 : 00)

10:00 (T-1)

Chairperson : T. Kaneko, *Tokai University, JAPAN*

Strategies for High-Efficiency of Organic Photovoltaics Based on Device Analyses
H. Ohkita, *Kyoto University, JAPAN*

11:00 (T-2)

Chairperson : H. Okada, *University of Toyama, JAPAN*
Fundamentals of Oxide Semiconductors: Understanding Semiconductor Properties from Chemical Bonds and Quantum Calculations
T. Kamiya, *Institute of Science Tokyo, JAPAN*

AWARDS

Papers presented at this workshop will be considered for “AM-FPD Paper Awards”, “AMFPD-ECS Japan Section Young Researcher Award”. These winners will be presented at the award ceremony in AM-FPD '26 workshop.

AM-FPD Paper Awards

“Best Paper Award”, “Poster Award” and “Student Paper Award” will be presented. The winners of them are selected by AM-FPD '25 award committee chaired by Professor Yukiharu Uraoka (*NAIST*).

AMFPD-ECS Japan Section Young Researcher Award

AM-FPD Organizing Committee and ECS Japan Section have jointly established “AMFPD-ECS Japan Section Young Researcher Award”. This award will be given to the author under the age of 35 that belongs to the university or the research institute in Japan.

AM-FPD '24 PAPER AWARD

Best Paper Award

(3_1) **Analysis of Liquid Crystal Optical Switching Devices Aimed at Quantum Computing**
Hiroyuki Okada
University of Toyama, Japan

Poster Paper Award

(P_23) **Utilizing Cabarzole/Bicarbazole-based A-π-D-π-A Small Molecules as Guest Donors to Achieve Ternary Organic Photovoltaics with Efficiencies Exceeding 17%**
Chun-Yu Lin[1], Bing-Huang Jiang[2], Pei-Jui Weng[2], Yu-Hsuan Lin[1], Zhong-En Shi[2], Chih-Ping Chen[2, 3,*] and Yuan Jay Chang[1,*]
[1]*Tunghai University, Taiwan*
[2]*Ming Chi University of Technology, Taiwan*
[3]*Chang Gung University, Taiwan*

Student Paper Award

Yuxuan Zhu, *Peking University, China*

(4_1) Compensable A-PWM μLED Pixel Circuit with 381 PPI by Reusing Reference Lines Based on p-type LTPS TFTs

Chanjin Park, *Seoul National University, Korea*

(4_2) a-IGZO TFT μLED Pixel Circuit for PWM Driving and Its Color Shift with Different Duty Ratios and Current Amplitudes

AMFPD-ECS Japan Section Young Researcher Award

Yuki Kurokawa, Kyushu Institute of Technology, *Japan*

(2_3) Influence of Adding Room Temperature Solid Base in the Electrolyte for the Fabrication and Characterization of Solid-State Dye-Sensitized Solar Cells

AM-FPD '25 COMMITTEE

ORGANIZING COMMITTEE

Chair: Hiroki Hamada (*FTFMD*)
Vice-Chair: Hiroshi Tsutsu (*PVTEC*)
Members: Junya Kiyota (*ULVAC*)
Yue Kuo (*Texas A&M Univ.*)
Atsushi Masuda (*Niigata Univ.*)
Nobuo Sasaki (*Sasaki Consulting*)
Advisor: Makoto Ohkura
Akira Okada

STEERING COMMITTEE

Chair: Yukiharu Uraoka (*NAIST*)
Vice-Chair: Mutsumi Kimura (*Ryukoku Univ.*)
Members: Hiroyuki Okada (*Univ. of Toyama*)
Toshiaki Arai (*Japan Display Inc.*)
Toshio Kamiya (*Tokyo Inst. of Technol.*)
Tatsuo Mori (*Aichi Inst. of Technol.*)
Hiroshi Tanabe (*Iwate Univ.*)

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Yongtaek Hong *(Seoul Nat'l Univ.)*
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Ryoichi Ishihara *(Delft Univ. of Technol.)*
Jin Jang *(Kyung Hee Univ.)*
Tetsuya Kaneko *(Tokai Univ.)*
Hyun Jae Kim *(Yonsei Univ.)*
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Takashi Noguchi *(Univ. of the Ryukyus)*
Hideo Ohkita *(Kyoto Univ.)*
Keisuke Omoto *(Apple)*
Itaru Osaka *(Hiroshima Univ.)*
Shyam S. Pandey *(Kyushu Inst. of Technol.)*
Itaru Raifuku *(Aoyama Gakuin Univ.)*
Taizoh Sadoh *(Kyushu Univ.)*
Akinori Saeki *(Osaka Univ.)*
Nobuyoshi Saito *(Kioxia)*
Isao Suzumura *(Japan Display Inc.)*
Tetsuya Taima *(Kanazawa Univ.)*
Taishi Takenobu *(Nagoya Univ.)*
Masaya Tamaki *(KYOCERA Corp.)*
Jun Tanaka *(Tianma Japan)*
Atsushi Wakamiya *(Kyoto Univ.)*
Yung-Hui Yeh *(ITRI)*

ADVANCE PROGRAM

Date: Tuesday, July 1

Opening Session (13:30～13:45)

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

Welcome Address

H. Hamada, *International Society of Functional Thin Film Materials & Devices, JAPAN*

Award Presentation

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

Keynote Address (13:45～15:15)

Chairperson: N. Matsuki, *Kanagawa University, JAPAN*
Co-Chairperson: T. Nagase, *Osaka Metropolitan University, JAPAN*
Moderator: H. Okada, *University of Toyama, JAPAN*

13:45-14:30 K_1 Aiming for All-Perovskite Tandem Solar Cells with High Efficiency (INVITED)
S. Hayase[1,*)]
[1)] *The University of Electro-Communications, JAPAN*

14:30-15:15 K_2 In-Ga-Zn-O Vertical Transistor Technology for the New Type of $4F^2$ DRAM Application (INVITED)
K. Haga[1,*)], S. Kabuyanagi[1)], K. Ariyoshi[1)], K. Ikeda[1)], K. Sakamoto[1)], S. Fujii[1)], T. Fujimaki[1)], T. F. Lu[2)], S. Y. Chang[2)] and C. -L. Shih[2)]
[1)] *Kioxia Corporation, JAPAN*
[2)] *Nanya Technology Corporation, TAIWAN*

— ***Coffee Break*** —

Symposium 1 : Advancements in Photovoltaics: Driving Sustainability and Innovation (15:35～16:50)

Chairperson: A. Wakamiya, *Kyoto University, JAPAN*
Co-Chairperson: T. Kaneko, *Tokai University, JAPAN*
Moderator: N. Matsuki, *Kanagawa University, JAPAN*

15:35-16:05 S1_1 Towards Sustainable Perovskite Photovoltaics: Challenges and Opportunities (INVITED)
R. G. Charles[1)], R. G. Rodriguez[1)], K. V. Villalobos[1)] and M. L. Davies[1,2,*)]
[1)] *Swansea University, UK* [2)] *University of KwaZulu-Natal, SOUTH AFRICA*

16:05-16:35 S1_2 Sulfur-Plasma-Driven Reactive Sputtering for Various Sulfide Semiconductors (INVITED)
I. Suzuki[1,*)]
[1)] *Tohoku University, JAPAN*

16:35-16:50 S1_3 Effect of Voids within Copper Iodine Hole Transport Layer Using the Ethanol/Iodine Solution Method in Inverted Planar Perovskite Solar Cells

A. Ploypradit[1,*)] and T. Kaneko[1)]

[1)] *Tokai University, JAPAN*

Date: Wednesday, July 2

The Special Symposium :
Human-Friendly In-Vehicle Display, Device, and System Technologies (9:30～17:20)

Greeting (9:30～9:40)

B. Straub, *Automotive Display Technology, GERMANY*

Special Symposium 1 : Advanced Display and Materials for Future Automotive (9:40～11:00)

Chairperson: H. Okada, *University of Toyama, JAPAN*
Co-Chairperson: M. Kimura, *Ryukoku University, JAPAN*
Moderator: A. Masuda, *Niigata University, JAPAN*

09:40-10:20 SS1_1 Optical Technologies For Conventional and Advanced Head-Up Display (INVITED)
K. Sugiyama[1,*)], K. Kasazumi[1)], K. Imawaka[1)], S. Kuzuhara[2)] and Y. Asai[2)]
[1)] *Panasonic Automotive Systems Co., LTD., JAPAN*
[1)] *Panasonic Holdings Corporation, JAPAN*

10:20-11:00 SS1_2 Advanced materials for next-generation Micro LED Displays (INVITED)
T. Fujiwara[1,*)],
[1)] *Toray Industries, Inc. JAPAN*

— ***Coffee Break*** —

Special Symposium 2 : Variety of Automotive Displays and Systems (11:20～12:40)

Chairperson: M. Kimura, *Ryukoku University, JAPAN*
Co-Chairperson: H. Okada, *University of Toyama, JAPAN*
Moderator: A. Masuda, *Niigata University, JAPAN*

11:20-12:00 SS2_1 The Next Chapter of Automotive Displays and HMI (INVITED)
S. Wu[1,*)],
[1)] *Omdia Res., TAIWAN*

12:00-12:40 SS2_2 Automotive Display Systems - Key for Advanced User Experience (INVITED)
B. Straub[1,*)],
[1)] *Steinbeis-Consulting Center Automotive Display Technol., GERMANY*

— ***Lunch*** —

Special Symposium 3 : Novel Automotive Displays and Ics

(14:10～15:30)

Chairperson: Y. Uraoka, *Nara Institute of Sceince and Technology, JAPAN*
Co-Chairperson: T. Mori, *Aichi Institute of Technology, JAPAN*
Moderator: J. Tanaka, *Tianma Japan, Ltd., JAPAN*

14:10-14:50 SS3_1 Novel Setups for Switchable Privacy In-Vehicle Displays (INVITED)
A. Heber[1,*)],
[1)] *siOPTICA GmbH, GERMANY*

14:50-15:30 SS3_2 Innovative Driver ICs for Automotive LED Applications - Interior lighting- LCD+FALD - MiroLED Displays (INVITED)
C. Lin [1,*)],
[1)] *Raffar, TAIWAN*

— ***Coffee Break*** —

Special Symposium 4 : Digital Twins for Vehicles and Smart Mobility Systems and Software-Defined Vehicles (15:50～17:10)

Chairperson: T. Mori, *Aichi Institute of Technology, JAPAN*
Co-Chairperson: Y. Uraoka, *Nara Institute of Sceince and Technology, JAPAN*
Moderator: J. Tanaka, *Tianma Japan, Ltd., JAPAN*

15:50-16:30 SS4_1 Digital Twins Driving Safe, Efficient Vehicles and Smart Mobility Systems (INVITED)
Y. Tao[1,*)]
[1)] *Institute of Sciense Tokyo, JAPAN*

16:30-17:10 SS4_2 Displays in the Era of Software-Defined Vehicles (INVITED)
D. S. Hermann[1,*)]
[1)] *Volvo Car Corp., SWEDEN*

Special Symposium Closing (17:10～17:20)

H. Okada, *University of Toyama, JAPAN*

Banquet (17:30～19:30)

Date: Thursday, July 3

Session 1 : Leading Edge in PV Technologies

(9:30～10:45)

Chairperson: T. Miyadera, *National Institute of Advanced Industrial Science and Technology, JAPAN*
Co-Chairperson: A. Saeki, *The University of Osaka, JAPAN*
Moderator: T. Nishimura, *Institute of Science Tokyo, JAPAN*

09:30-10:00 **1_1 What Could a Circular Economy for Solar Look Like? (INVITED)**
P. R. Dias[1,*)]
[1)] *SOLARCYCLE Inc., USA*

10:00-10:25 **1_2 Organic and Perovskite Solar Cells Using Single-Walled Carbon Nanotubes Transparent Electrodes (INVITED)**
Y. Matsuo[1,*)]
[1)] *Nagoya University, JAPAN*

10:25-10:45 **1_3 Advancing CIGSe Solar Cell Efficiency Under Low-Temperature Deposition via Ag Additives**
Y. Abe[1,*)], T. Nishimura[1)] and A. Yamada[1)]
[1)] *Institute of Science Tokyo, JAPAN*

— ***Coffee Break*** —

Symposium 2 : 8G LTPS/LTPO Technologies: Enabling HD Displays

(11:00～12:40)

Chairperson: K. Omoto, *Apple Inc., JAPAN*
Co-Chairperson: M. Tamaki, *KYOCERA Corporation, JAPAN*
Moderator: H. Okada, *University of Toyama, JAPAN*

11:00-11:25 **S2_1 Ti/Al/Ti Dry Etch System with Corrosion Control for IT OLED Production (INVITED)**
S. Sato[1,*)], M. Kubota[1)], H. Yoda[1)] and M. Fujinaga[1)]
[1)] *Tokyo Electron Ltd., JAPAN*

11:25-11:50 **S2_2 Recent Progress in Nikon's FPD Lithography System (INVITED)**
C. Luo[1,*)], T. Akiyama[1)], Y. Mizutani[1)] , K. Higuchi[1)]
[1)] *Nikon Corporation, JAPAN*

11:50-12:15 **S2_3 Manufacturing Equipment Technology for IT-OLED Panel (INVITED)**
T. Isobe[1,*)]
[1)] *ULVAC, Inc, JAPAN*

12:15-12:40 **S2_4 New era arrival for FPD industry ~Advantage of New F-ELA~ (INVITED)**
F. Kawasaki[1,*)]
[1)] *JSW Aktina System Co., Ltd, JAPAN*

— ***Lunch*** —

Symposium 3 : Recent Progress in Thin Film Materials for Advanced Applications (13:40～15:10)

Chairperson: S. S. Pandey, *Kyushu Institute of Technology, JAPAN*
Co-Chairperson: H. Kajii, *The University of Osaka, JAPAN*
Moderator: A. Heya, *University of Hyogo, JAPAN*

13:40-14:10 S3_1 Recent Advances in Quantum Computing using Liquid Crystal Devices (INVITED)
H. Okada[1,*)], T. Watanabe[1)], S. Yokotsuka[1)] and A. Terazawa[1)]
[1)] University of Toyama, JAPAN

14:10-14:40 S3_2 Antisolvent free perovskite solar cell fabrication under ambient conditions (INVITED)
T. Singh[1,*)]
[1)] Indian Institute of Technology, New Delhi, INDIA

14:40-15:10 S3_3 Flexible Organic Transistors for Sustainable Electronics (INVITED)
S. P. Tiwari[1,*)]
[1)] Indian Institute of Technology, Jodhpur, JAPAN

— ***Coffee Break*** —

Symposium 4: Advanced TFT Technologies for Displays and Emerging Applications (15:25～16:55)

Chairperson: H. Kumomi, *Japan Science and Technology Agency, JAPAN*
Co-Chairperson: M. Miyakawa, *JAPAN BROADCASTING COARPORATION, JAPAN*
Moderator: T. Nagase, *Osaka Metropolitan University, JAPAN*

15:25-15:55 S4_1 Active Matrices of Organic Single-Crystal TFTs and Large-Area Flexible Mini-LED Displays (INVITED)
J. Takeya[1,*)]
[1)] The University of Tokyo, JAPAN

15:55-16:25 S4_2 Research Progress and Future Directions of Oxide Thin-Film Transistor for Next-Generation AMOLED Displays (INVITED)
I. S. Lee[1,2,*)] and H. J. Kim[2)]
[1)] LG Display Co., KOREA [2)] Yonsei University, KOREA

16:25-16:55 S4_3 Oxide TFT Integration for DRAM Cell Transistor Applications (INVITED)
J. W. Na[1,*)]
[1)] ETRI, KOREA

Poster Session (16:55～18:25)

FPDp

P_1 Achieving Over 20% EQE in White Light-Emitting Electrochemical Cells via Quantum-Dot Color Conversion Layers
S.-M. Ho[1)], D. Luo[1)], C.-L. Chang[2)], Z.-P. Yang[1)], C.-W. Lu[2)], C.-H. Chang[3)] and H.-C. Su[1,*)]
[1)] National Yang Ming Chiao Tung University, TAIWAN [2)] Providence University, TAIWAN
[3)] Yuan Ze University, TAIWAN

P_2 Low Speckle Laser Projectors using Liquid Crystal Microlens Arrays
K.-C. Chen[1)] , H.-H. Yen[1,*)], J.-W. Pan[1)] , S.-C. Jeng[1)]
[1)] National Yang Ming Chiao Tung University, TAIWAN

P_3 Advancements in Video and Text Summarization: A Review of Multimodal Transformers, Deep Learning, and Unsupervised Techniques

V. P[1,*)], S. Chattopadhyay[1)], L. L. P[1)], J. Immanuel[1)] and S. B. Latha[1)]
[1)] REVA University, Bangalore, INDIA

P_4 AI-Powered Predictive Analytics for Renewable Energy Systems: Leveraging Machine Learning and Time Series Forecasting

H. Singh[1,*)], C. Chaudhary[1)] and E. A. Devi[1)]
[1)] Chandigarh University, Mohali, INDIA

P_5 Sky-Blue OLEDs with Fluorene-Triazine Exciplex Co-Host Architectures

Y.-C. Kung[1,*)] and W.-Y. Hung[1)]
[1)] National Taiwan Ocean University, TAIWAN

P_6 Novel PWM Mini-LED Pixel Circuit without VSWEEP Signal for Thin-Bezel Displays

C.-T. Chiu[1,*)], C.-I. Liu[1)], D.-L. Shih[1)], M.-Y. Deng[2)] and C.-L. Lin[1)]
[1)] National Cheng Kung University, TAIWAN [2)] AUO Corp., TAIWAN

P_7 High-Performance Carbazole–Benzocarbazole-Based Host Materials for Red Phosphorescent OLEDs: Enhanced Stability and Efficiency

Y. -F. Ye[1,*)], S. -J. Wang[1)], C. -H. Huang[1)], Y. -H. Chen[1)], C. -H. Chang[1)], D. Tavgeniene[2)], D. Blazevicius[2)], E. Skuodis[2)] and S. Grigalevicius[2)]
[1)] Yuan Ze University, TAIWAN [2)] Kaunas University of Technology, LITHUANIA

P_8 Multifunctional Dibenzofuran-carbazole Host Materials for High-Performance Red Phosphorescent OLEDs

S. -J. Wang[1,*)], Y. -F. Ye[1)], Z. -R. He[1)], F. -Y. Yang[1)], C. -H. Chang[1)], R. Beresneviciute[2)], D. Blazevicius[2)], E. Skuodis[2)] and S. Grigalevicius[2)]
[1)] Yuan Ze University, TAIWAN [2)] Kaunas University of Technology, LITHUANIA

P_9 Transferable AC-driven Flexible White Wavelength-Tunable OLED for Wearable Display

Y. Cho[1,*)], C. Lee[1)], S. Kim[1)], Y. Bak[1)], Y. Woo Kim[1)], Y. J. Shin[1)], S. J. Kwon[1)], E. -S. Cho[1)] and Y. Jeon[2)]
[1)] University of Gachon, KOREA [2)] Kyung Hee University, KOREA

P_10 Textile-based Transparent Flexible OLED for Wearable Healthcare Display

S. Kim[(1,*)], Y. Bak[1)], Y. Cho[1)], C. Lee[1)], S. J. Kwon[1)], E. -S. Cho[1)] and Y. Jeon[2)]
[1)] University of Gachon, KOREA [2)] Kyung Hee University, KOREA

P_11 Decoder Type Scan Driver for Next-generation Display

S. Y. Kim[1,*)], J. H. Lee[1)], Y. J. Kim[1)], S. J. Moon[2)] and B. S. Bae[1)]
[1)] Hoseo University, KOREA [2)] Ulsan National Institute of Science and Technology, KOREA

P_12 Textile based Theranostics Platform using Red Organic Light-Emitting Diode for Diagnosis

Y. Bak[1,*)], S. Kim[1)], C. Lee[1)], Y. Cho[1)], S. J. Kwon[1)], E. -S. Cho[1)] and Y. Jeon[2)]
[1)] University of Gachon, KOREA [2)] Kyung Hee University, KOREA

TFTp

P_13 Thermal Reliability Study of GAA FeFETs Under Simulated Back-End Process Conditions via Nitrogen-Based RTA

Y. -W. Lai[1)], Z. -Y. Lin[2)], Y. -C. Huang[1)], C. -C. Chen[3)] and H. -C. You[2,*)]
[1)] National Yang Ming Chiao Tung University, TAIWAN
[2)] National Chin-Yi University of Technology, TAIWAN
[3)] Taiwan Semiconductor Research Institute, TAIWAN

P_14 Micro LED Pixel Circuit with Matching TFTs for Reducing Power Consumption

B. -R. Syue[1,*)], S. -C. Chen[1)], Y. -J. Chen[1)], Y. -C. Huang[1)], M. -Y. Deng[2)], J. -T. Peng[2)] and C. -L. Lin[1)]
[1)] National Cheng Kung University, TAIWAN [2)] AUO Corp., TAIWAN

P_15 Double-Gate Cu-MIC Poly-Ge TFTs on Flexible Plastic Substrates via Gate-Last Process

A. Kurihara[1,*)], D. Goshima[1)], T. Tsuchiya[2)], T. Okuyama[2)] and A. Hara[1)]
[1)] Tohoku Gakuin University, JAPAN [2)] TOYOBO CO.,LTD., JAPAN

P_16 Investigation of Low-Temperature Oxidation of Ge Substrates using Sulfuric Acid Additive

H. Harata[1,*)], Y. Iwazaki[1)] and T. Ueno[1)]
[1)] Tokyo University of Agriculture and Technology, JAPAN

P_17 A Study on the Performance Enhancement of Resistive Random Access Memory Devices Using P-Type Oxide Semiconductors

H. Park[1)], D. Kang[1)], K. J. Huh[1)], E. S. Oh[1)], S. W. Yoon[1)], K. W. Lee[1)] and H. K. Cho[1,*)]
[1)] Sungkyunkwan University, KOREA

P_18 Improvement of OTFT Characteristics Using Interface Control of the Organic / Inorganic Heterojunctions

N. Goto[1)], T. Fujitani[1,*)], G. Oriyama[1)], Y. Iwazaki[1)], T. Ueno[1)] and M. Namiki[1)]
[1)] Tokyo University of Agriculture and Technology, JAPAN

P_19 Evaluation of GeO_2 Film by Annealing Treatment

Y. Tsuchiya[1)], Y. Uchida[1,*)], Y. Iwazaki[1)] and T. Ueno[1)]
[1)] Tokyo University of Agriculture and Technology, JAPAN,

P_20 Characterization of ultrathin GeO_2/Ge interface and its application for the high performance Ge-MOSFET

K. Ishizuka[1,*)], T. Suzuki[1)], Y. Iwazaki[1)] and T. Ueno[1)]
[1)] Tokyo University of Agriculture and Technology, JAPAN

P_21 Controlling Defect States on IGZO Density of States and Improving TFT Performance Using Xenon Flash Lamp Annealing

Y. H. Jeong[1,*)], W. W. Lee[1)], D. H. Lee[1)], J. H. Jeong[1)], S. J. Park[1)], K. E. Ham[1)], S. M. Lee[1)], S. J. Kwon[1)], M. K. Park[1)] and E. -S. Cho[1)]
[1)] Gachon University, KOREA

PVp

P_22 Photovoltaic Characteristics of SiO_2/$Mo_{0.29}Cu_{0.01}O_{0.70}$/$MoO_{2.2}$ Stacked Hole-Selective Layers in Silicon-Based Solar Cell Applications

C. -L. Cheng[1,*)] and H. -Y. Lin[1)]
[1)] National Formosa University, TAIWAN

P_23 Repair of Perovskite Solar Cells with Low Performance due to Pinholes toward Higher Durability

T. Kawamura[1,2,*)], Y. Hisada[1)], M. Shima[1)], T. Horiuchi[1)] and Y. Ishikawa[2)]
[1)] EneCoat Technologies Co., Ltd., JAPAN [2)] Aoyama Gakuin University, JAPAN,

P_24 Investigation on Multi-Functional Squaraine Dye for the Fabrication and Characterization of Solid-State Dye-Sensitized Solar Cells

Y. Kurokawa[1,2,*)], A. Tyagi[1)] and S. S. Pandey[1)]
[1)] Kyushu Institute of Technology, JAPAN [2)] National Institute of Technology, JAPAN

P_25 Room Temperature Fabrication of ZnO nanorods Applying for Photonanodes in Dye-sensitized Solar Cells

M. Taguchi[1)] and C. Li[1,*)]
[1)] Kochi University of Technology, JAPAN

TFMDp

P_26 Study on Extremely Weak Light Quantum Phase Control and Boson Statistical Distribution using Liquid Crystal Devices

A. Terazawa[1)] and H. Okada[1,*)]
[1)] University of Toyama, JAPAN

P_27 Three-Layer GTO Thin-Film Device for Neuromorphic Systems with High Switching Ratio and Stable Operation

T. Ueo[1,*)], H. Kawanishi[1)], T. Matsuda[2)] and M. Kimura[1)]
[1)] Ryukoku University, JAPAN [2)] Kindai University, JAPAN,

P_28 Influence of contact surface passivation on the performance of Organic Schottky Diodes

K. V. Gaurav[1,*)], H. Rai[1)], R. Omura[1)], S. Nagamatsu[1)] and S. S. Panday[1)]
[1)] Kyushu Institute of Technology, JAPAN

P_29 ZnCoO Nanobioengineered Thin Films for Smart and Integrated Biosensing Applications

K. R. Singh[1,*)], H. Rai[1)], A. Natarajan[2)] and S. S. Pandey[1)]
[1)] Kyushu Institute of Technology, JAPAN [2)] PSGR Krishnammal College for Women, INDIA

P_30 Surface Reaction of Polymer Films with Atomic Hydrogen for Atomic Hydrogen Sensor Applications

A Heya[1,*)], Y. Fujino[1)] and K. Sumitomo[1)]
[1)] University of Hyogo, JAPAN

P_32 Textile-based Blue Organic Light-Emitting Diode and Organic Photodiode for Wearable Sensor-Integrated Display

C. Lee[1,*)], Y. Cho[1)], S. Kim[1)], Y. Bak[1)], S. J. Kwon[1)], E. -S. Cho[1)] and Y. Jeon[2)]
[1)] University of Gachon, KOREA [2)] Kyung Hee University, KOREA

P_33 Emulating Synaptic Plasticity in Flexible Organic Transistors with Edible Semiconductor Dielectric Pair

S. Bhattacharjee[1,*)] and S. P. Tiwari[1)]
[1)] Indian Institute of Technology Jodhpur, INDIA

P_34 Low-Cost Flexible Piezoelectric Sensors with Rapid-Response for Wearable Electronics

R. K. Singh[1,*)], M. Gadhewal[1)], S. Maity[1)] and S. P. Tiwari[1)]

[1)] Indian Institute of Technology Jodhpur, INDIA

P_35 Effect of Thickness of Natural Gelatin Films in Paper-Based Humidity Sensors for Real Time Breath Rate Monitoring

M. Gadhewal[1,*)], R. K. Singh[1)], S. Maity[1)] and S. P. Tiwari[1)]

[1)] Indian Institute of Technology, Jodhpur, INDIA

LNp

P_L1 Gate Driver on Array for Variable Refresh Rate Driving

J. H. Lee[1,*)], Y. J. Kim[1)], S. Y. Kim[1)], S. J. Moon[2)] and B. S. Bae[1)]

[1)] Hoseo University, KOREA [2)] Ulsan National Institute of Science and Technology, KOREA

P_L2 Surface Treatment for Improved Performance of Solution-Processed Gate Dielectric in a-IGZO TFTs

J. H. Jeon[1,*)], J. S. Kim[1)], S. J. Choi[1)], S. J. Moon[2)] and B. S. Bae[1)]

[1)] Hoseo University, KOREA [2)] Ulsan National Institute of Science and Technology, KOREA

P_L3 Deposition of IGZO Film Using High-Power Impulse Magnetron Sputtering

T. Nagata[1)], K. Takenaka[2)], Y. Setsuhara[2)] and T. Ohta[1,*)]

[1)] Meijo University, JAPAN [2)] The University of Osaka, JAPAN

P_L4 Enhanced Solar-Blind Photodetection in Magnetron Sputtered Sn-doped Ga_2O_3 Thin Films

C. -Y. Tsay[1,*)], H. -M. Tsai[1)], P. Sittimart[2)], T. Yoshitake[3)]

[1)] Feng Chia University, TAIWAN

[2)] King Mongkut's University of Technology North Bangkok, THAILAND

[3)] Kyushu University, JAPAN

P_L5 Effect of Suspended Annealing with Water-Vapor-Added NH_3 Gas on Reduction of Residual OH groups at < 200 °C in Si Oxide Films

S. Horita[1,*)]

[1)] Japan Advanced Institute of Science and Technology, JAPAN

Date: Friday, July 4

Session 2 : Advanced Device Design and Process for Future TFTs

(9:30～10:40)

Chairperson: M. Furuta, *Kochi University of Technology, JAPAN*
Co-Chairperson: N. Saito, *KIOXIA Corporation, JAPAN*
Moderator: H. Hayashi, *Huawei Technologies Japan K.K, JAPAN*

09:30-09:55 2_1 Device Modeling of Oxide Semiconductor TFTs: Recent Studies (INVITED)
K. Abe[1,*)]
[1)] *Silvaco Japan Co., Ltd., JAPAN*

09:55-10:20 2_2 Positive Bias Instability Issues and Their Suppression Techniques in Atomic Layer Deposited In-Ga-O Channel Transistors (INVITED)
T. Takahashi[1,*)], M. Uenuma[2)], M. Kobayashi[3)] and Y. Uraoka[1)]
[1)] *Nara Institute of Science and Technology, JAPAN*
[2)] *National Institute of Advanced Industrial Science and Technology, JAPAN*
[3)] *The University of Tokyo, JAPAN*

10:20-10:40 2_3 Surface Undulation in the (100) Single-Crystal Silicon-Thin-Films Obtained by the CW Laser Crystallization of Amorphous-Si on Insulator
N. Sasaki[1,2,*)], S. Takayama[2)] and Y. Uraoka[2)]
[1)] *Sasaki Consulting, JAPAN*
[2)] *Nara Institute of Science and Technology, JAPAN*

— **Coffee *Break*** —

Session 3 : Next Generation AI and Sensing Devices

(11:00～12:00)

Chairperson: H. Kajii, *The University of Osaka, JAPAN*
Co-Chairperson: A. Heya, *University of Hyogo, JAPAN*
Moderator: M. N. Fujii, *Ritsumeikan University, JAPAN*

11:00-11:20 3_1 Glycine Incorporated Gelatin Composite Films for Flexible and Biodegradable Piezoelectric Sensors
S. Maity[1)] and S. P. Tiwari[1,*)]
[1)] *Indian Institute of Technology, Jodhpur, INDIA*

11:20-11:40 3_2 Electrical characteristics of amorphous GaOx memristors fabricated by Fine Channel mist CVD method in comparison with Hot Wall Method
R. Takahashi[1,*)], S Sugisaki[1)], T. Matsuda[2)], H. Kawanishi[1)] and M. Kimura[1)]
[1)] *Ryukoku University, JAPAN 2) Kindai University, JAPAN*

11:40-12:00 3_3 Exploring the potential of SWNT/$Mo_{72}V_{30}$ thin films for in-materio reservoir computing
H. Rai[1,*)], K. RB. Singh[1)], D. Banerjee[1)], Y. Usami[1)], S. Garai[2)], H. Tanaka[1)] and S. S. Pandey[1)]
[1)] *Kyushu Institute of Technology, JAPAN,* [2)] *Banaras Hindu University, Varanasi, INDIA*

— ***Lunch*** —

Session 4 : Special OLED Devices and Low-power Driving Technologies

(13:30～14:35)

Chairperson: H. Okada, *University of Toyama, JAPAN*
Co-Chairperson: R. Hattori, *Kyushu University, JAPAN*
Moderator: M. Tamaki, *KYOCERA Corporation, JAPAN*

13:30-13:55 4_1 Organic Optical Device with Light-Emitting and Photovoltaic Functionalities (INVITED)
S. Naka[1,*)]
[1)] *University of Toyama, JAPAN*

13:55-14:15 4_2 EL Properties of TADF-OLEDs Inserting with 1 nm-thick 4CzIPN Neat Layer
T Mori[1,*)], T. Kaida[1)], S. Masuda[1)], N. Taoka[1)], Y Ichino[1)] and Y Seike[1)]
[1)] *Aichi Institute of Technology, JAPAN*

14:15-14:35 4_3 Low-Power Emission Gate Driver Design with Programmable Pulse Widths and Enhanced Stability for Oxide TFT AMOLED Displays
P. Liang[1)], C. Liao[1)], C. Chen[2)], X. Yuan[2)], Z. Ye[2)], X. Zhou[2)], G. Li[2)] and S. Zhang[1,*)]
[1)] *Peking University, CHINA* [2)] *MianYang HKC Optoelectronics Technology Co., Ltd, CHINA*

— ***Coffee Break*** —

Session 5 : Advanced LED Display Technologies

(14:55～16:00)

Chairperson: R. Hattori, *Kyushu University, JAPAN*
Co-Chairperson: M. Tamaki, *KYOCERA Corporation, JAPAN*
Moderator: H. Okada, *University of Toyama, JAPAN*

14:55-15:20 5_1 Development of Highly Stretchable LED Display using Liquid Metal Electrodes (INVITED)
M. Miyakawa[1,*)], H. Tsuji[1)], T. Takei[1)], K Tsubouchi[1)], T. Yamamoto[2)], Y. Fujisaki[1)] and M. Nakata[1)]
[1)] *NHK Science & Technology Research Laboratories, JAPAN* [2)] *NHK Foundation, JAPAN*

15:20-15:40 5_2 A New Line-by-Line a-Si TFT SWEEP Generation Circuit with V_{th} Compensation Method for PWM Driving Micro-LED Pixel Circuits
G.-T. Zheng[1,*)], P.-T. Liu[1)], M.-C. Huang[1)] and Y.-L. Chang[1)]
[1)] *National Yang Ming Chiao Tung University, TAIWAN*

15:40-16:00 5_3 A Current Mirror Embedded Analog PWM Pixel Circuit for High-Accuracy μLED-on-Silicon Micro-displays
Y. Zhu[1)], Z. Song[1)], L. Chang[1)], X. Zheng[1)], C. Liao[1)] and S. Zhang[1,*)]
[1)] *Peking University, CHINA*

LATE NEWS

(16:00～16:30)

Chairperson: H. Kajii, *The University of Osaka, JAPAN*
Co-Chairperson: H. Hayashi, *Huawei Technologies Japan K.K, JAPAN*
Moderator: H. Okada, *University of Toyama, JAPAN*

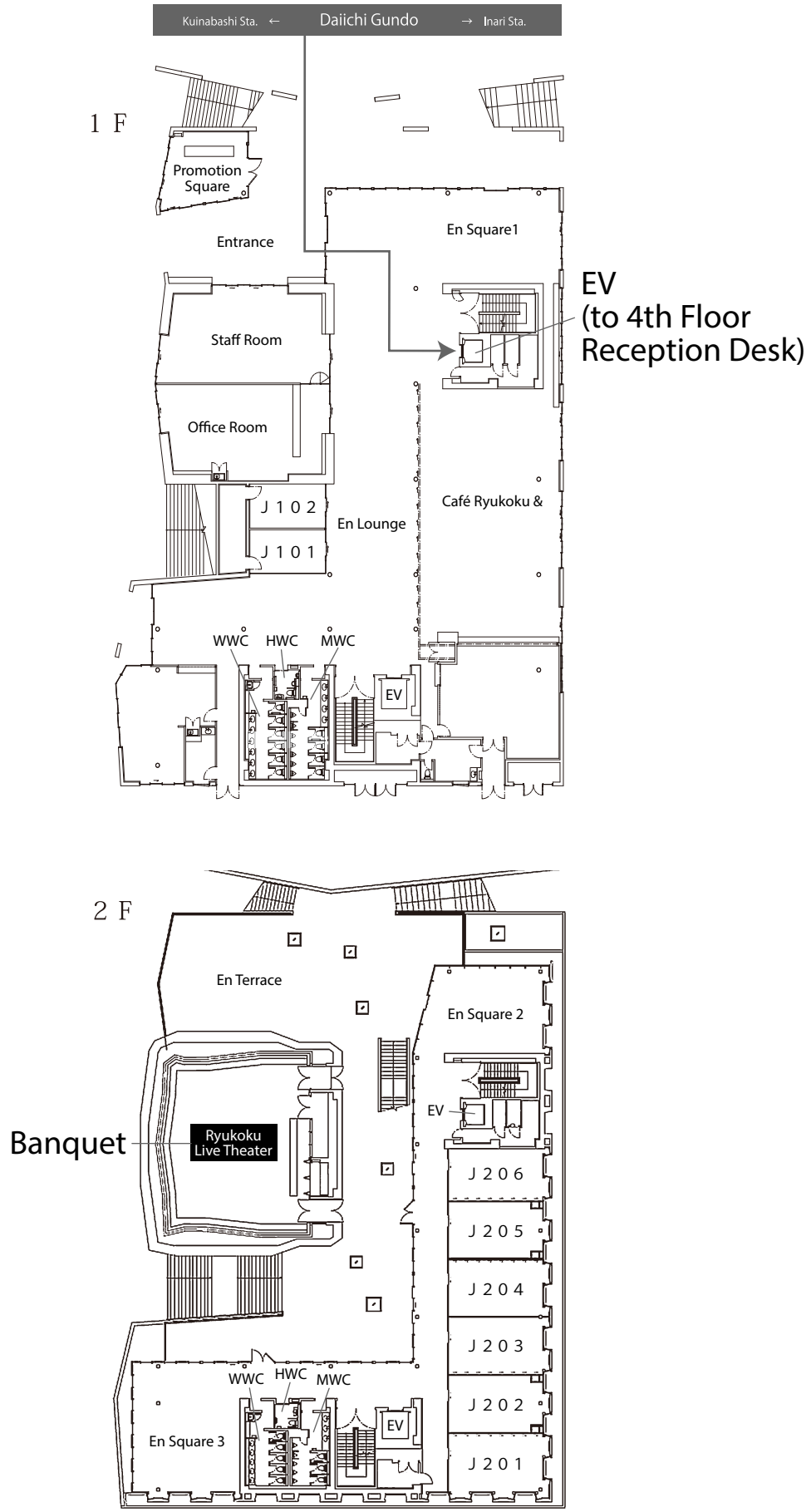
16:00-16:15 L_1 Narrowband Emission and Light-Extraction in Inverted Blue Fluorene-Type Polymer Light-Emitting Diodes with Multilayer-Structured MoO_x/Ag Anode Toward Color-Conversion Type Light-Emitting Devices Using InP-Type Quantum Dots
H. Kajii[1,*)], Y. Ashida[1)], M. Huang[1)], H. Kimura[1)], A. Okamoto[1)], S. Toda[2)]
[1)] The University of Osaka, JAPAN
[2)] ULVAC-Osaka University Joint Research Laboratory for Future Technology, JAPAN

16:15-16:30 L_2 Solution-Processed Electrically Programmable Organic Floating-Gate Memory with Ambipolar Charge Trapping Characteristics
T. Adachi[1)], N. Nishida[1)], T. Kobayashi[1)], H. Naito[2)] and T. Nagase[1,*)]
[1)] Osaka Metropolitan University, JAPAN
[2)] Ritsumeikan University, JAPAN

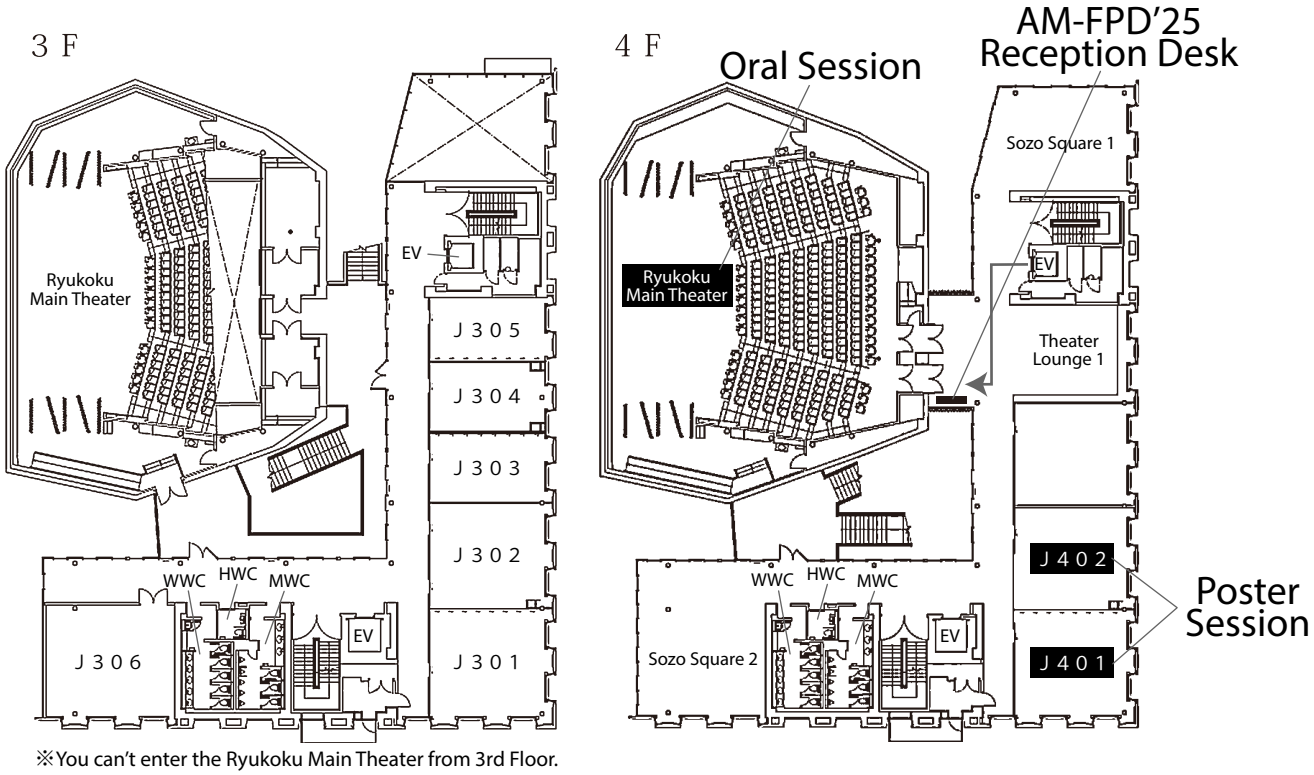
Closing Remarks (16:30～16:35)

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

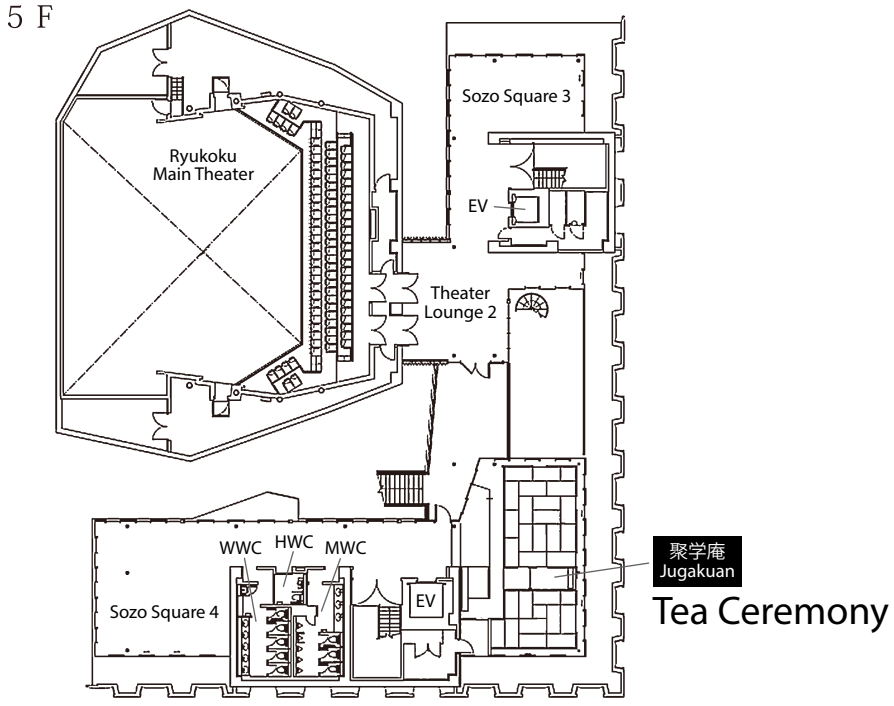
Floor Map

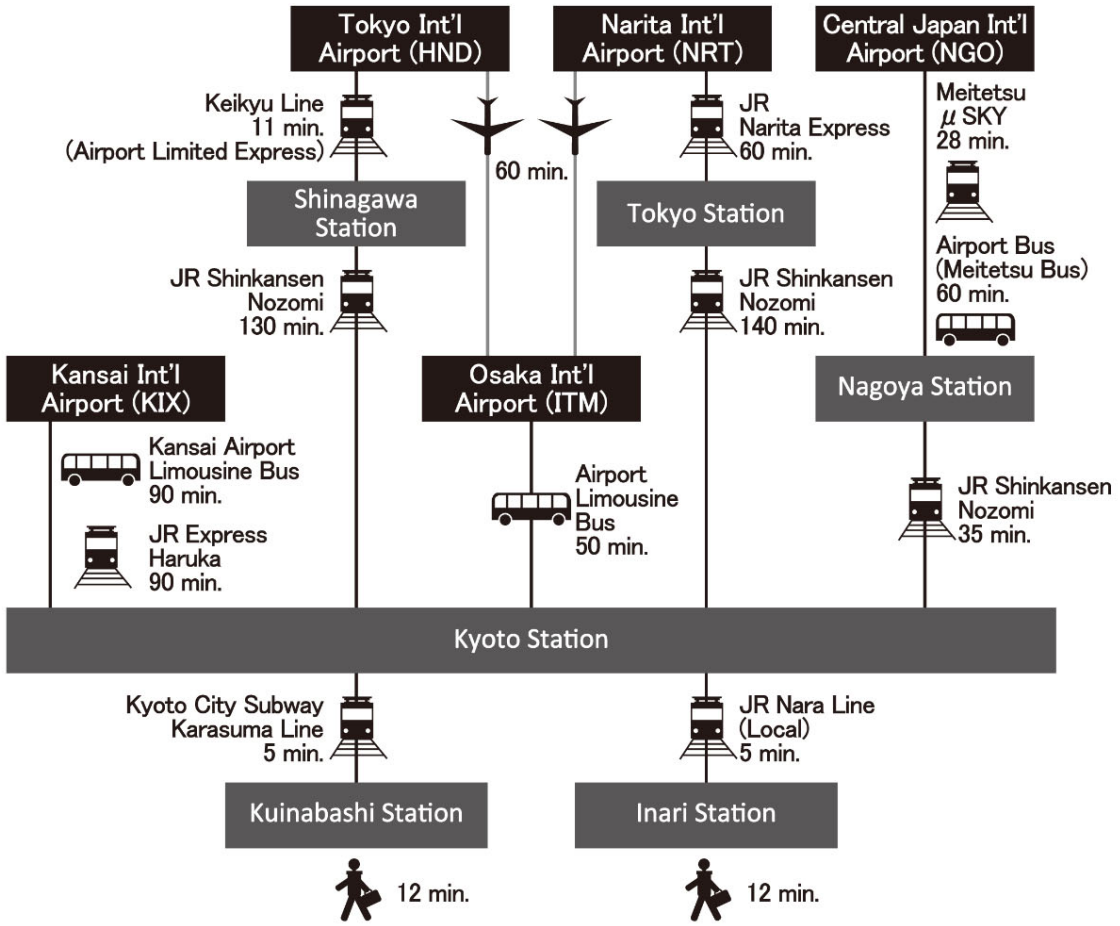

Kuinabashi Sta. ←
Daiichi Gundo
→ Inari Sta.
1 F
Promotion Square
Entrance
En Square1
EV
(to 4th Floor
Reception Desk)
Staff Room
Office Room
J 1 0 2
J 1 0 1
En Lounge
Café Ryukoku &
WWC
HWC
MWC
EV
2 F
En Terrace
En Square 2
EV
Banquet
Ryukoku
Live Theater
J 2 0 6
J 2 0 5
J 2 0 4
J 2 0 3
J 2 0 2
J 2 0 1
WWC
HWC
MWC
EV
En Square 3

Floor Map

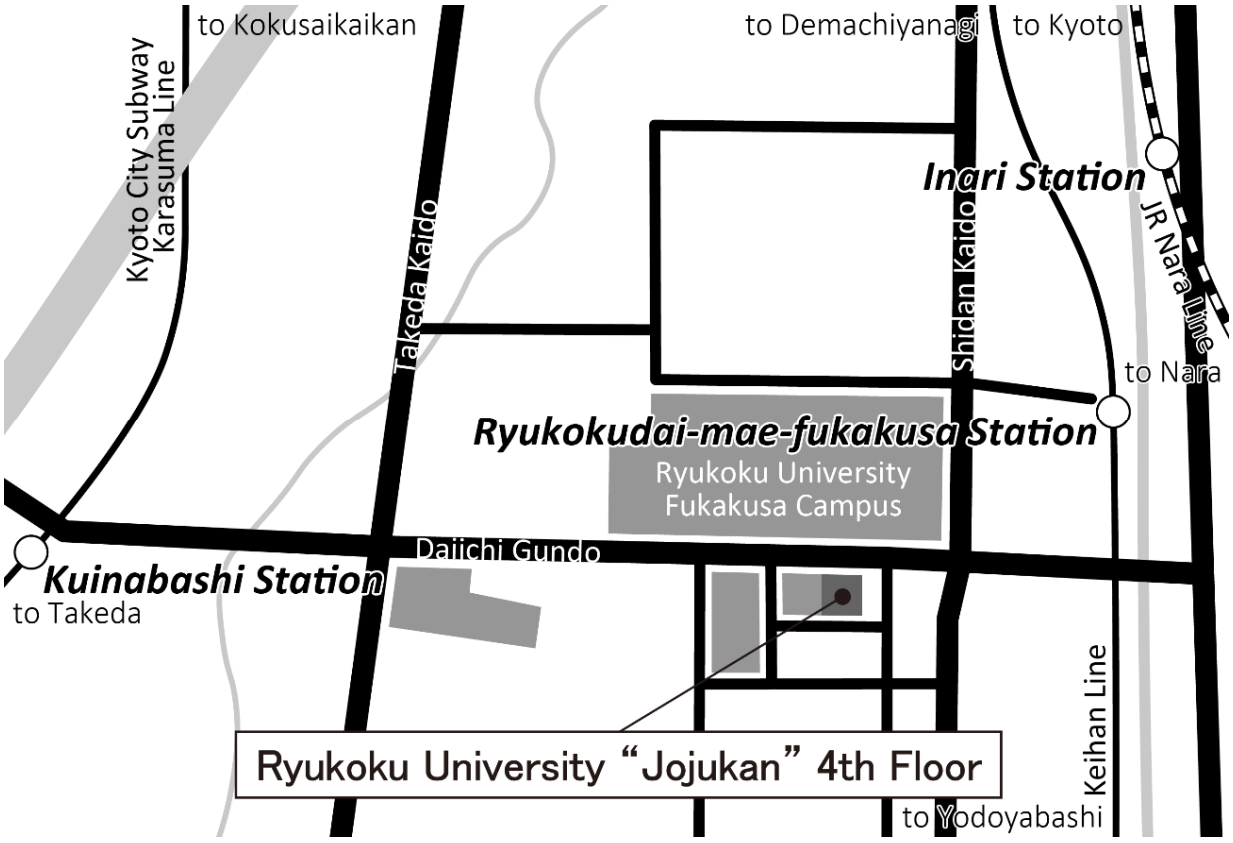


※You can't enter the Ryukoku Main Theater from 3rd Floor.





Ryukoku University Jojukan (Ryukoku Main Theater)
龍谷大学深草キャンパス成就館



THE THIRTY-SECOND INTERNATIONAL WORKSHOP ON ACTIVE-MATRIX FLATPANEL DISPLAYS AND DEVICES －TFT TECHNOLOGIES AND FPD MATERIALS － (AM-FPD '25)

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