ADVANCE PROGRAM

AM-FPD 24

THE THIRTY-FIRST INTERNATIONAL WORKSHOP ON

ACTIVE-MATRIX FLATPANEL DISPLAYS AND DEVICES

-TFT TECHNOLOGIES AND FPD MATERIALS-

July 2 - 5, 2024
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

GENERAL INFORMATION

The 31st International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD '24) will be held at the Ryukoku University Fukakusa Campus Jojukan from July 2 (Tuesday) to 5 (Friday), 2024. 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, 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 '24 will prepare an attractive program focusing on *"Innovative Thin Film Technologies for Carbon Neutral"*.

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.
Symposia, "***Innovative FPD Technologies for Carbon Neutral***", "***Emerging TFT Technologies for Future Innovation***" , "***Photovoltaics for a Sustainable Future: Technology, Innovation, and Challenges***" and "***Thin Film Fabrication for Next-Generation Technologies***" 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	16:55-18:25 July 4		

THE PROCEEDINGS OF AM-FPD '24

The Proceedings of AM-FPD '24 will be distributed in our workshop special website from July 2.
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 10 (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 AMFPD Secretariat.

Category	Advance Registration Fee until June 10, 2024 (JST)	Registration Fee	[One day] Special Symposium Only*2
WORKSHOP*1			
Member*3	¥50,000	¥55,000	¥35,000
Non-Member	¥52,000	¥57,000	
Student	¥20,000	¥22,000	
Senior*4	¥25,000		
TUTORIAL			
Regular	Tutorial Only	¥7,000	
	Conference Attendee	¥5,000	
Student		Free	

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

BANQUET

The banquet will be held on July 3, 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 10-------Cancel fee 6%

After June 11---------100% of the registration fee / NO REFUND

Endorsement Letter

The endorsement letters to IEEE Journal Electron Device Society (J-EDS) 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 '24 workshop is held.

2. After you receive the endorsement letter,
   - Please attach your paper of AM-FPD '24 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 '24.

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 '24 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 2 (10 : 00 ～ 12 : 00)

10:00 (T-1)

Chairperson : N. Matsuki, *Kanagawa University, JAPAN*

Performance Measurement of Solar Cells: Fundamentals and Applications
Y. Hishikawa, *Ritsumeikan University, Japan*

11:00 (T-2)

Chairperson : T. Kamiya, *Tokyo Institute of Science, JAPAN*

Systematic Survey of Innovation in Transparent Oxide Semiconductor "IGZO" for Next-Generation Thin-Film Transistors
M. Suzuki, *National Museum of Nature and Science, 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 ’25 workshop.

AM-FPD Paper Awards

“Best Paper Award”, “Poster Award” and “Student Paper Award” will be presented. The winners of them are selected by AMFPD ‘24 award committee chaired by Professor Yukiharu Uraoka (*NAIST*).

AMFPD-ECS Japan Section Young Researcher Award

ECS Japan Section and AM-FPD Organizing Committee 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 '23 PAPER AWARD

Best Paper Award

(3_3) **Sensitivity-Adjustable, Negatively Strain-Resistive Switch-Type Conductive Fibers for Textile-Based Stretchable Displays with Hidden-Pixel Structures**
Won Kyung Min, Chihyeong Won, Dong Hyun Kim, Sanghyeon Lee, Jusung Chung, Sungjoon Cho, Taeyoon Lee and Hyun Jae Kim
Yonsei University, Korea

Poster Paper Award

(P_23) **Bistable Resistive Switches fabricated by Unidirectional Floating Film Transfer Method**
Shubham Sharma[1], Nikita Kumari[2], Shyam S. Pandy[1]
[1]Kyushu Inst. of Technol., Japan, [2]Nara Institute of Science and Technology, Japan

Student Paper Award

In young Chung, *Seoul National University of Science and Technology, Korea*
(4_2) A Study on The Large Size AMOLED Display Backplane Less Mask Process

AMFPD-ECS Japan Section Young Researcher Award

Yuhao Shi, *Tokyo Institute of Technology, Japan*

(2_3) Novel Self-aligned Passivation Process for Oxide TFTs Utilizing Amorphous Gallium Oxide

AM-FPD '24 COMMITTEE

ORGANIZING COMMITTEE

Chair:	Hiroki Hamada (*Kindai Univ.*)
Vice-Chair:	Hiroshi Tsutsu (*PVTEC*)
	Junya Kiyota (*ULVAC*)
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	Atsushi Masuda (*Niigata Univ.*)
	Nobuo Sasaki (*Sasaki Consulting*)
Advisor:	Makoto Ohkura
	Akira Okada

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Masaya Tamaki *(KYOCERA Corp.)*
Atsushi Wakamiya *(Kyoto Univ.)*
Yung-Hui Yeh *(ITRI)*

PROGRAM

Date: Tuesday, July 2

Opening Session (13:30～13:45)

Chairperson: Y. Uraoka, *Nara Institute of Sceince 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)
Y. Wang[1,*)], F. Peng[1)], Y. Geng[1)], J. Gollier[1)] and B. Silverstein[1)]
[1)] Meta, USA

14:30-15:15 K_2 Amorphous Oxide Semiconductor TFTs toward Memory Application (INVITED)
H. Hosono[1,*)]
[1)] Tokyo Institute of Technology & National Institute for Materials Science, JAPAN

15:15-16:00 K_3 Perovskite Photovoltaics and Optoelectronics (INVITED)
N. -G. Park[1*)]
[1)] Sungkyunkwan University, KOREA

— ***Coffee Break*** —

Symposium 1 : Photovoltaics for a Sustainable Future: Technology, Innovation, and Challenges (16:20～17:50)

Chairpersons: H. Ohkita, *Kyoto University, JAPAN*
T. Kaneko, *Tokai University, JAPAN*

16:20-16:50 S1_1 Recycling Technology using Hot Knife Separation Method (INVITED)
M. Ito[1,*)] and T. Doi[1,*)]
[1)] NPC Incorporated, JAPAN

16:50-17:20 S1_2 LCA-informed approach for lower environmental impact Recycling of crystalline Silicon solar cells (INVITED)
B. N. N Alsulami[1,2)], G. Zante[3)], A.P. Abbott[3)], A. Feeney[1)] and J. Kettle[1,*)]
[1)] University of Glasgow, UK, [2)] Princess Nourah Bint Abdulrahman University, SAUDI ARABIA, [3)] University of Leicester, UK

17:20-17:50 S1_3 Perovskite Solar Cells: Commercializing "EnergyAnywhere" (INVITED)
T. Horiuchi[1,*)]
[1)] EneCoat Technologies Co., Ltd., JAPAN

Date: Wednesday, July 3

The Special Symposium :
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*
H. Tanabe, *Iwate University, JAPAN*

09:40-10:20 SS1_1 Reconfigurable Intelligent Surface for Millimeter-Wave Mobile Communication System: Development and Coverage Evaluation (INVITED)
T. Ohto[1,*)], K. Yoshikawa[1)], H. Matsuno[1)] and T. Nagao[1)]
[1)] KDDI Research, Inc., JAPAN

10:20-11:00 SS1_2 Optimizing Patch and Ground Electrodes Design for Intelligent Reflecting Surface Based on Liquid Crystal Display Technology (INVITED)
K. Matsunaga[1,*)], M. Okita[1)], D. Suzuki[1)], K. Tamura[1)], T. Tsunashima[1)], S. Asakura[1)], M. Ikari[1)], D. Takano[1)] and S. Oka[1)]
[1)] Japan Display Inc., JAPAN

— ***Coffee Break*** —

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

11:20-12:00 SS1_3 Solid-State LiDAR for Autonomous Driving with No Moving Parts (INVITED)
H. Uetsuka[1,*)] and T. Tokoro[1)]
[1)] SteraVision, Co., Ltd., JAPAN

Special Symposium 2 : Market Overview

(12:00～12:40)

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

12:00-12:40 SS2_1 Understanding the Impact of Smart Mobility Transformation on Business Models, Application Markets, and Technological Innovation in Automotive Displays
S. Wu[1,*)]
[1)] Omdia, TAIWAN

— ***Lunch*** —

Special Symposium 3 : Automotive Displays and Technologies

(14:10～17:10)

Chairpersons: T. Mori, *Aichi Institute of Technology, JAPAN*
Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*

14:10-14:50 SS3_1 Impact of New Mobility Concepts on Vehicular Displays (INVITED)
B. Straub[1,*)]
[1)] *Steinbeis-Consulting Center, GERMANY*

14:50-15:30 SS3_2 New Display Technologies - User aspects and Integration challenges (INVITED)
D. S. Hermann[1,*)]
[1)] *Volvo, SWEDEN*

— ***Coffee Break*** —

Chairpersons: Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*
T. Mori, *Aichi Institute of Technology, JAPAN*

15:50-16:30 SS3_3 Revamping the Cockpit: Latest Trends in Automotive E/E Architecture, Central Computers, In-vehicle Infotainment Systems and Displays (INVITED)
I. Satou[1,*)] and M. Schmidt[1,*)]
[1)] *Bosch Corporation, JAPAN*

16:30-17:10 SS3_4 The art of Display Integration: Process, Conditions and Challenges in Different Markets (INVITED)
J. Schuhbauer[1,*)]
[1)] *SemsoTec GmbH, GERMANY*

Closing (17:10～17:20)

H. Okada, *University of Toyama, JAPAN*

Banquet (17:30～19:30)

Date: Thursday, July 4

Session 1 : Unveiling the Next Generation of Thin-Film Photovoltaics

(9:50～10:35)

Chairpersons: T. Miyadera, *National Institute of Advanced Industrial Science and Technology, JAPAN*
T. Nishimura, *Tokyo Institute of Technology, JAPAN*

09:50-10:15 **1_1 Development of Flexible Perovskite Solar Cells toward High Power-to-weight Ratio: From Small Cells to Large Modules (INVITED)**
N. Ohashi[1,*)], R. Kaneko[1)], M. A. Truong[1)], T. Nakamura[1)], K. Yazawa[1)], R. Murdey[1)], Y. Kanemitsu[1)] and A. Wakamiya[1)]
[1)] Kyoto University, JAPAN

1_2 Withdrawn

10:15-10:35 **1_3 Influence of Adding Room Temperature Solid Base in the Electrolyte for the Fabrication and Characterization of Solid-State Dye-Sensitized Solar Cells**
Y. Kurokawa[1,*)], T. Kato[2)] and S. S. Pandey[1)]
[1)] Kyushu Institute of Technology, JAPAN, [2)] National Institute of Technology, JAPAN

— ***Coffee Break*** —

Symposium 2 : Innovative FPD Technologies for Carbon Neutral

(11:05～12:25)

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

11:05-11:35 **S2_1 TFT Characteristics of High Mobility Poly-Crystalline Oxide (INVITED)**
M. Mochizuki[1,*)], M. Tsubuku[1)], H. Watakabe[1)], T. Sasaki[1)], T. Tamaru[1)] and H. Kimura[1)]
[1)] Japan Display Inc., JAPAN

11:35-12:05 **S2_2 Blue Organic Light-Emitting Diode with an Extremely Small Turn-on Voltage (INVITED)**
S. Izawa[1,*)]
[1)] Tokyo Institute of Technology, JAPAN

12:05-12:25 **S2_3 Low Power Consumption AMOLED Pixel Circuit Employing Direct Battery Output**
K. C. Moon[1,*)], J. Hong[2)], H. Im[1)] and Y. -S. Kim[1)]
[1)] Sungkyunkwan University, KOREA, [2)] Samsung Display, KOREA

— ***Lunch*** —

Symposium 3 : Thin Film Fabrication for Next-Generation Technologies

(13:55～15:25)

Chairpersons: S. S. Pandey, *Kyushu Institute of Technology, JAPAN*
A. Heya, *University of Hyogo, JAPAN*

13:55-14:25 S3_1 Defect Passivation in Triple Cation Perovskite Solar Cells Through Crystallization Modulation with Isocyanate Additive (INVITED)
M. J. Patel[1)], H. Baishya[1)], R. D. Adhikari[1)], D. Yadav[1)] and P. K. Iyer[1,*)]
[1)] Indian Institute of Technology, Guwahati, INDIA

14:25-14:55 S3_2 Catalytic Chemical Vapor Deposition for Crystalline Silicon Solar Cells (INVITED)
K. Ohdaira[1,*)]
[1)] Japan Advanced Institute of Science and Technology, JAPAN

14:55-15:25 S3_3 Thin Film/Elastomer Structures for Stretchable Electronics (INVITED)
A. Takei[1,*)], Y. Komazaki[1)], T. Nobeshima[1)], S. Kanazawa[1)], Y. Kusaka[1)] and M. Yoshida[1)]
[1)] National Institute of Advanced Industrial Science and Technology, JAPAN

Symposium 4: Emerging TFT Technologies for Future Innovation

(15:25～16:55)

Chairpersons: H. Kumomi, *JST, JAPAN*
M. Kitamura, *Kobe University, JAPAN*

15:25-15:55 S4_1 Advancements in High-Mobility SnO_2-Based Thin-Film Transistors: Unleashing the Potential for Next-Generation Electronics (INVITED)
A. Chin[1,*)] and P. Pooja[1)]
[1)] National Yang Ming Chiao Tung University, TAIWAN

15:55-16:25 S4_2 Nanosheet oxide semiconductor FETs by Atomic Layer Deposition for 3D LSI application (INVITED)
M. Kobayashi[1,*)]
[1)] The University of Tokyo, JAPAN

16:25-16:55 S4_3 Post-LTPO Display Technology Paradigm: Toward 'Better and Another' Backplane (INVITED)
H. J. Kim[1,*)]
[1)] Yonsei University, KOREA

Poster Session (16:55～18:25)

FPDp

P_1 Candle-Light Quantum-Dot Light-Emitting Electrochemical Cells
H. -L. Shen[1,*)], C. -W. Lu[2)], Z. -P. Yang[1)] and H. -C. Su[1)]
[1)] National Yang Ming Chiao Tung University, TAIWAN, [2)] Providence University, TAIWAN

P_2 Efficient Light-Emitting Electrochemical Cells Based on Optimized Diffusers
M. -C. Hou[1,*)], D. Luo[1)], Y. -T. Huang[2)], S. -W. Liu[3)], C. -W. Lu[2)], C. -H. Chang[4)] and H. -C. Su[1)]
[1)] National Yang Ming Chiao Tung University, TAIWAN, [2)] Providence University, TAIWAN, [3)] Ming Chi University of Technology, TAIWAN, [4)] Yuan Ze University, TAIWAN

P_3 Near Infrared OLEDs Utilizing Exciplex-forming Hosts with Organic Fluorescent Emitter
W. -Y. Hung[1,*)], Y. -T. Chia[1)] and Y. -C. Kung[1)]
[1)] National Taiwan Ocean University, TAIWAN

P_4 Thermally Activated Delayed Fluorescent and Fluorescent Emitters Based on Pyrazino[2,3-f] [1,10] Phenanthroline for Efficient Organic Light-Emitting Diodes
Y. -T. Chen[1,*)], G. -Y. Su[1)], C. -H. Chang[1)], P. Yadav[2)], S. Madagyal[2)], A. Chaudhari[2)] and A. Chaskar[2)]
[1)] Yuan Ze University, TAIWAN, [2)] Institute of Chemical Technology, INDIA

P_5 Biradiate-Shaped Trifluoromethyl-Carbazole-Based Donor-Acceptor-Donor Materials Servingas Hosts in Green Phosphorescent OLEDs
F. -C. Fan[1,*)], Y. -T. Chen[1)], Y. -H. Cheng[1)], J. -F. Wu[1)], C. -H. Chang[1)] and P. Gnanasekaran[2)], T -J. Chen[2)]. Y. J. Chang[2)]
[1)] Yuan Ze University, TAIWAN, [2)] Tunghai University, TAIWAN

P_7 LTPS and Oxide TFT-Based Micro-LED Pixel Circuits Using Quaternary Digital PWM

H. Im[1,*], E. K. Jung[1], K. C. Moon[1] and Y. -S. Kim[1]
[1] *Sungkyunkwan University, KOREA*

P_8 Nanoparticle-and-Dye-Doped Liquid-Crystal Phase Grating with Multistable and Dynamic Modes

H. -C. Lin[1,*], C. -Y. Tai[1] and S. -C. Chen[1]
[1] *National Formosa University, TAIWAN*

TFTp

P_9 Enhancing the Performance of Perovskite-Based Organic TFT Photodetectors by CsAc Post-treatment

Y. -S. Chen[1], Z. -Y. Lin[2], Y. -W. Lai[2], Y. -C. Huang[1], A. Al-Hagri[3], F. -H. Ko[1] and H. -C. You[2,*]
[1] *National Yang Ming Chiao Tung University, TAIWAN,*
[2] *National Chin-Yi University of Technology, TAIWAN,*
[3] *UiT The Arctic University of Norway, NORWAY*

P_10 Research on High-Performance Organic Thin-Film Transistors

Y. Irie[1], N. Goto[1,*], Y. Iwazaki[1] and T. Ueno[1]
[1] *Tokyo University of Agriculture and Technology, JAPAN*

P_11 Active Pixel Sensing Circuit with Shared Amplifying TFTs for Improving Uniformity and Reducing Pixel Area

D. Zhao[1,*], H. Ji[1], Y. Duan[1], Y. Zhu[1], T. Huang[1], C. Liao[1] and S. Zhang[1]
[1] *Peking University, CHINA*

P_12 Preparation and Evaluation of GeO_2 Film by Two-Step Oxidation

H. Saito[1], Y. Tsuchiya[1,*], K. Ishizuka[1], Y. Iwazaki[1] and T. Ueno[1]
[1] *Tokyo University of Agriculture and Technology, JAPAN*

P_13 AMOLED Pixel Circuit Using LTPO TFTs Suitable for Low Frame Rate Applications

C. -H. Huang[1,*], C. -T. Chiu[1], C. -I. Liu[1], J. -H. Chang[1], P. -C. Lai[2] and C. -L. Lin[1]
[1] *National Cheng Kung University, TAIWAN,* [2] *2AUO Corporation, TAIWAN*

PVp

P_14 Utilizing Cabarzole/Bicarbazole-Based A-π-D-π-A Small Molecules as Guest Donors to Achieve Ternary Organic Photovoltaics with Efficiencies Exceeding 17%

C. -Y. Lin[1] B. -H. Jiang[2], P. -J. Weng[2], Y. -H. Lin[1], Z. -E. Shi[2] C. -P. Chen[2,3,*] and Y. J. Chang[1,*]
[1] *Tunghai University, TAIWAN,* [2] *Ming Chi University of Technology, TAIWAN,*
[3] *Chang Gung University, TAIWAN*

P_15 Sensitizers D-A1-A2-π-A Include 10'H-Spiro[Fluorene-9,9'-Phenanthren].Benzo[c] and -10'-One. [1, 2, 5]Thiadiazole for Photocatalytic Hydrogen Production and Dye-Sensitized Solar Cells

H. Li[1], X. -F. Shen[2], Y. -S. Lin[1], Y. H. Lin[1], N. -H. Chen[1], Y. -T. Hung[1], M. Watanabe[2,*] and Y. J. Chang[1,*]
[1] *Tunghai University, TAIWAN,*
[2] *Kyushu University, JAPAN*

P_16 Optimizing Performance of Perovskite Solar Cells through AgI Doping in $CsBi_3I_{10}$ Perovskite Films is Crucial for Improving Their Efficiency

S. -P, Wang[1], Y. -C. Huang[2], Y. -S. Chen[2], Z. -Y. Lin[1], Y -W. Lai[1], C. -Y. Chang[1], F. -H. Ko[2] and H. -C. You[1,*]
[1] *National Chin-Yi University of Technology, TAIWAN,*
[2] *National Yang Ming Chiao Tung University, TAIWAN*

TFMDp

P_18 Doping Behavior and Electrical Conduction of Spiro-MeOTAD Films

T Mori[1,*], T. Hayase[1], T. Honda[1], N. Taoka[1], Y. Ichino[1] and Y. Seike[1]
[1] *Aichi Institute of Technology, JAPAN*

P_19 Benefits of Combining Gate-Field Plates Design and Hybrid Drains on Gold-Free GaN HEMT Devices

Y. -S Chen[1], Y. Lai[2], Z. -Y. Lin[2], Y. -C. Huang[1], C. -T. Yu[1], F. -H. Ko[1], C. -C. Chen[3], A. Al-Hagri[4] 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,*
[4] *UiT The Arctic University of Norway, NORWAY*

P_20 Implication of Active Semiconducting Layer Thickness on the Performance of Organic Schottky Diodes

K. V. Gaurav[1,*)], S. Sharma[1)], R. N. Tripathi[1)] and S. S. Pandey[1)]
[1)] Kyushu Institute of Technology, JAPAN

P_21 Effect of Atomic Deuterium Annealing on Titanium Substrate

A. Heya[1,*)], N. Fukumuro[1)], S. Yae[1)], S. Ito[1)] and K. Sumitomo[1)]
[1)] University of Hyogo, JAPAN

LNp

P_L1 Fast Learning in Spike-Timing-Dependent-Plasticity Using Ga-Sn-O Thin Film

H. Kita[1,*)], A. Horiuchi[1)], T. Matsuda[2)], H. Kawanishi[1,3)] and M. Kimura[1,3)]
[1)] Ryukoku University, JAPAN, [2)] Kindai University, JAPAN,
[3)] Nara Institute of Science and Technology, JAPAN

P_L2 Synaptic Device for Neuromorphic Systems Integrating Ferroelectric-Gate Field Effect Transistor and Capacitor

K. Sawai[1,*)], T. Hirano[3)], T. Matsuda[1,2)], H. Kawanishi[1,3)], T. Miyasako[4)], S. Koh[4)], T. Hosokura[4)] and M. Kimura[1,3)]
[1)] Ryukoku University, JAPAN, [2)] Kindai University, JAPAN,
[3)] Nara Institute of Science and Technology, JAPAN, [4)] Murata Manufacturing Co., Ltd., JAPAN

P_L3 Solution-Processed CuI-Based Semiconductor Films Deposited on Mica Substrate for Flexible UV Photodetector Application

C. -Y. Tsay[1,*)] and Y. -C. Chen[1)]
[1)] Feng Chia University, TAIWAN

P_L4 Transistor and Photoresponse Behaviors of Perylene Diimide Microribbon with Perovskite Nanocrystal Decoration

G. -W. Hsieh[1,*)], C. -T. Chen[1)] and H. -H. Hsu[1)]
[1)] National Yang Ming Chiao Tung University, TAIWAN

Date: Friday, July 5

Session 2 : Advanced Process and Materials for Future TFTs

(9:30～10:40)

Chairpersons: S. Horita, *Japan Advanced Institute of Science and Technology, JAPAN*
M. Miyakawa, *Japan Broadcasting Coarporation, JAPAN*

09:30-09:55 2_1 Silicon Device-based Electronic Biosensors for Sustainability and Healthcare (INVITED)
S. Zafar[1,*)], C. D'Emic[1)] and T. Ninga[1)]
[1)] IBM T. J. Watson Research Center, USA

09:55-10:20 2_2 Enabling High Performance and Strain Insensitivity in Intrinsically Stretchable Carbon-Nanotube Thin-Film Transistors (INVITED)
C. Wu[1,*)], D. Zhong[1)], Y. Nishio[1)], W. Wang[1)], J. B. -H Tok[1)] and Z. Bao[1)]
[1)] Stanford University, USA

10:20-10:40 2_3 Excimer-Laser-Induced Crystallization of Amorphous Silicon Films deposited at 300°C Using Dehydrogenation by Argon Ion Implantation at 25 and 300°C
T. Sameshima[1,*)], T. Nagao[2)], Y. Inouchi[2)], J. Tatemichi[2)], M. Hasumi[1)] and T. Ueno[1)]
[1)] Tokyo University of Agriculture and Technology, JAPAN
[2)] 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*
H. Kajii, Osaka *University, JAPAN*

11:00-11:20 3_1 Analysis of Liquid Crystal Optical Switching Devices Aimed at Quantum Computing
H. Okada[1,*)]
[1)] University of Toyama, JAPAN

11:20-11:40 3_2 Optoelectronic Anisotropy in Organic Semiconducting Thin Film Prepared on Liquid Substrate for Organic FET
G. C. Gangarao[1)] and A. S. M. Tripathi[1,*)]
[1)] VIT-AP University Amaravati, INDIA

11:40-12:00 3_3 Optoelectronic Synapses Based on Inorganic−Organic Hybrid Phototransistors
D. Li[1,2)], Y. Chen[1,2)], H. Ren[1,2)], Y. Tang[1,2)], Y. Wang[1,2)], Q. Huang[3)] and B. Zhu[1,3,4,*)]
[1)] Westlake University, CHINA, [2)] Zhejiang University, CHINA,
[3)] Westlake Institute for Optoelectronics, CHINA, [4)] 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 μLED Pixel Circuit with 381 PPI by Reusing Reference Lines Based on p-type LTPS TFTs
Y. Zhu[1,*)], L. Qian[1)], Z. Song[1)], D. Zhao[1)], C. Liao[1)] and S. Zhang[1)]
[1)] Peking University, CHINA

13:50-14:10 4_2 a-IGZO TFT μLED Pixel Circuit for PWM Driving and Its Color Shift with Different Duty Ratios and Current Amplitudes
C. Park[1,*)], K. -S. Kang[1)], J. -H. Park[1)] and S. -Y. Lee[1)]
[1)] Seoul National University, KOREA

14:10-14:30 4_3 A PWM Mini-LED Pixel Circuit with Source-Follower Compensation Structure
Y. -C. Chiu[1,*)], C. -H. Ke[1)], Y. -C. Huang[1)], M. -Y. Deng[2)] and C. -L. Lin[1)]
[1)] National Cheng Kung University, TAIWAN, [2)] 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
Y. Zhang[1,*)] and B. Lyu[1,2)]
[1)] Shanghai Tianma Microelectronics Co., Ltd, CHINA, [2)] 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
I. Y. Chung[1,2,*)], G. Jin[2)] and H. Yoon[1)]
[1)] Seoul National University of Science and Technology, KOREA,
[2)] Samsung Display Co., Ltd., KOREA

15:35-15:55 5_3 Three-Outputs-Single-Stage Gate Driver on Array for Internal Compensation Method Applications
G. -T. Zheng[1,*)], P. -T. Liu[1)], L. -C. Lin[1)], M. -C. Huang[1)]
[1)] 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*

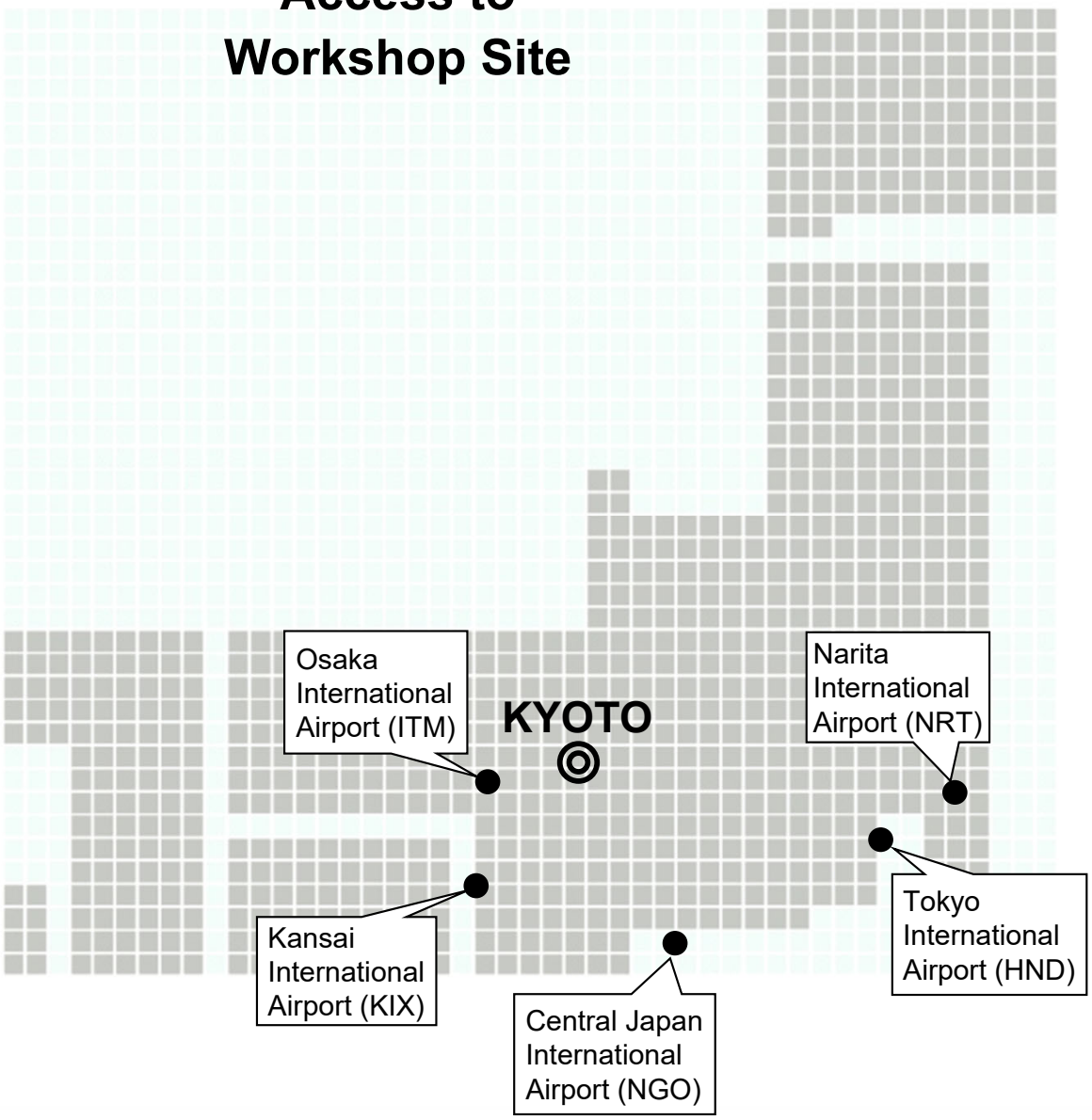
15:55-16:10 L_1 Effect of Added Ethanol or Water Vapor in NH_3 Gas Annealing on Reduction of Residual OH Groups at < 200°C in Si Oxide Films
S. Horita[1,*)]
[1)] Japan Advanced Institute of Science and Technology, JAPAN

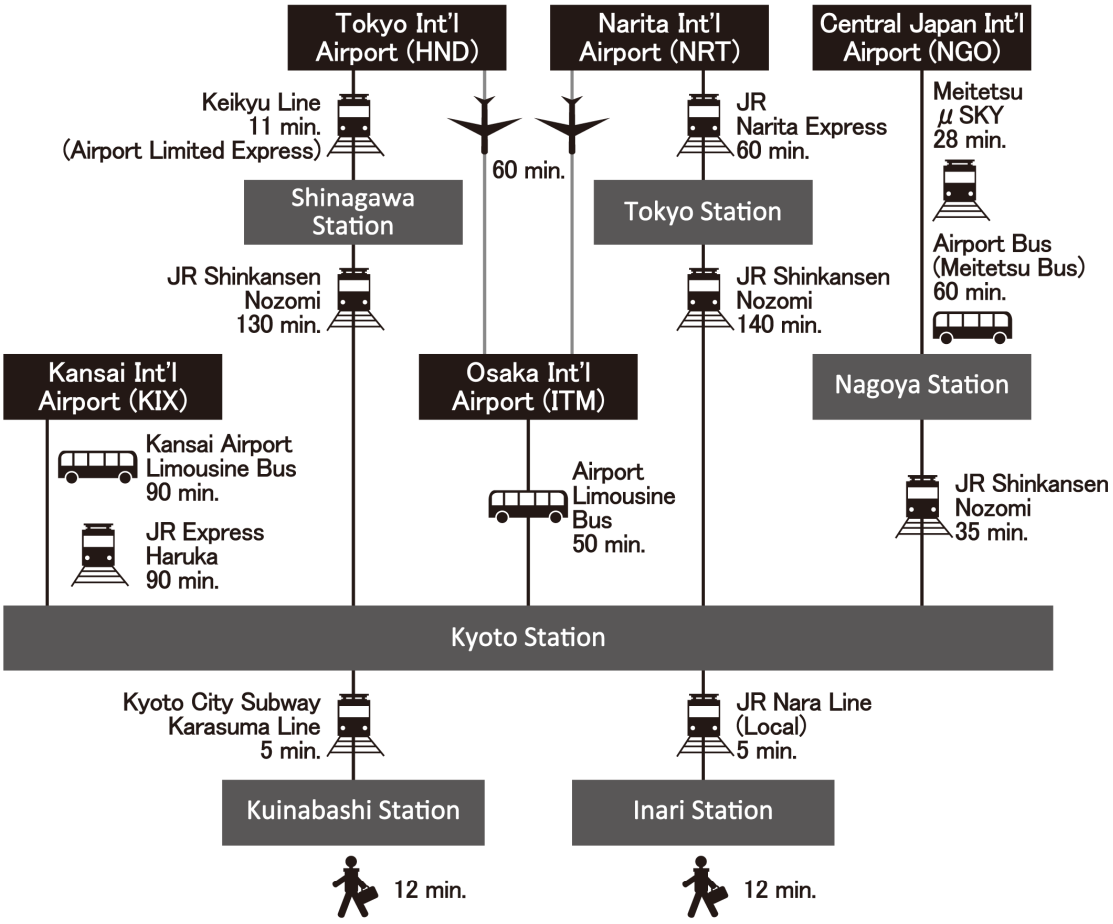
16:10-16:25 L_2 Fabrication and Optical Characteristics of InP/ZnSe/ZnS Quantum Dot Color Filters Utilizing Electrophoretic Process
H. Kajii[1,*)], M. Huang[1)], S. Yamada[1)], A. Okamoto[1)], T. Kamada[1)], S. Toda[2)] and M. Kondow[1)]
[1)] Osaka University, JAPAN
[2)] ULVAC-Osaka University Joint Research Laboratory for Future Technology, JAPAN

Closing Remarks (16:25～16:30)

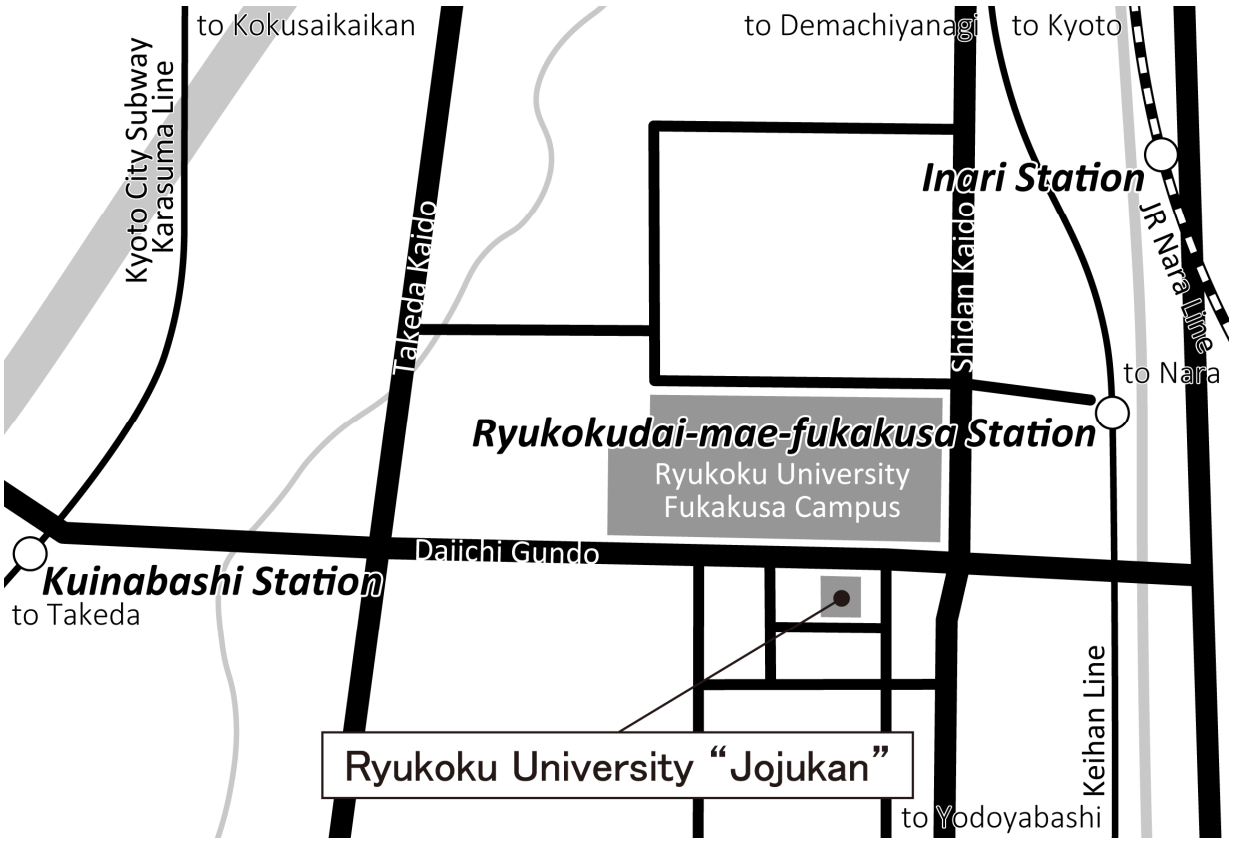
Y. Uraoka, *Nara Institute of Science and Technology, JAPAN*

Access to Workshop Site

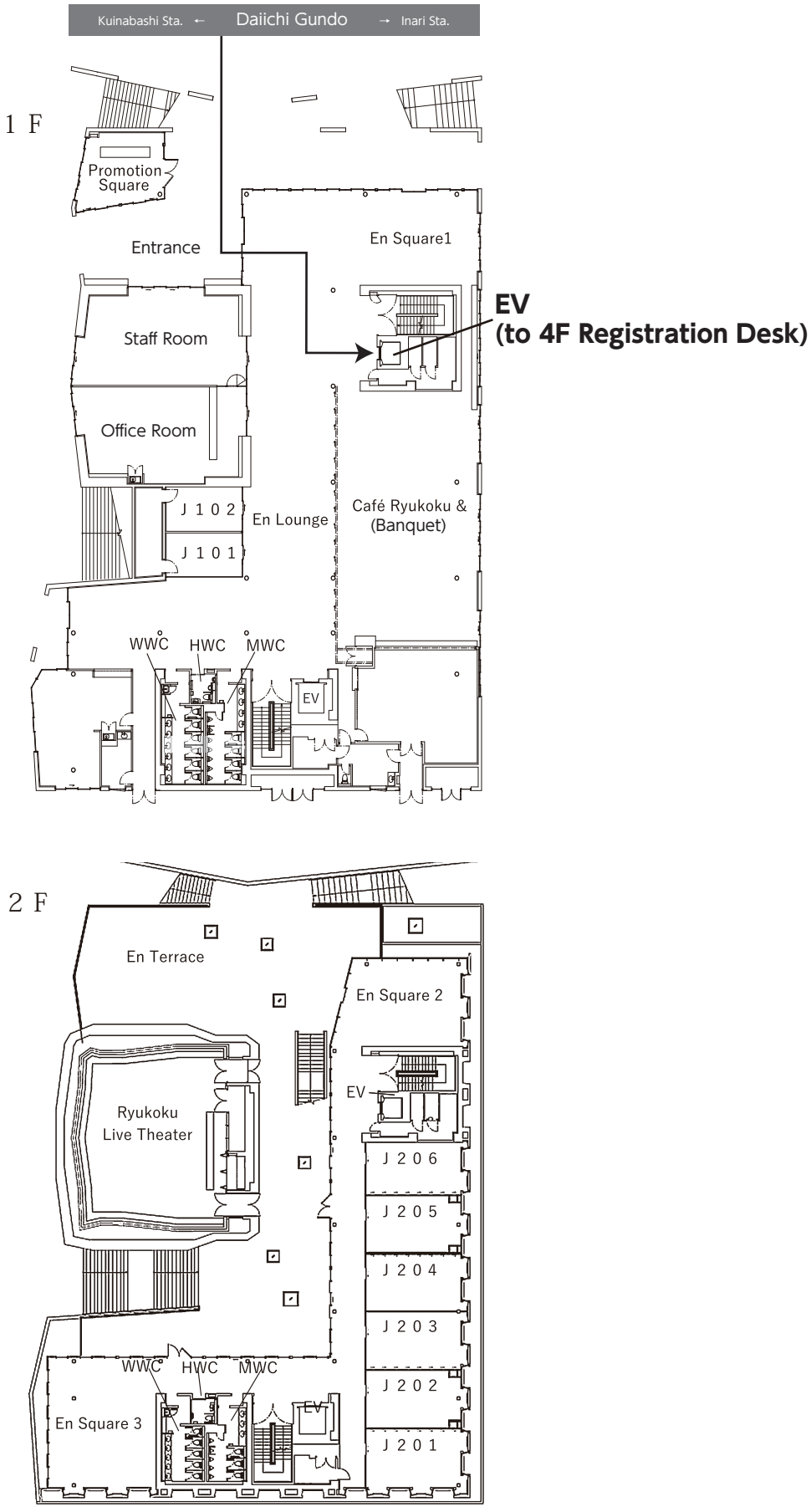




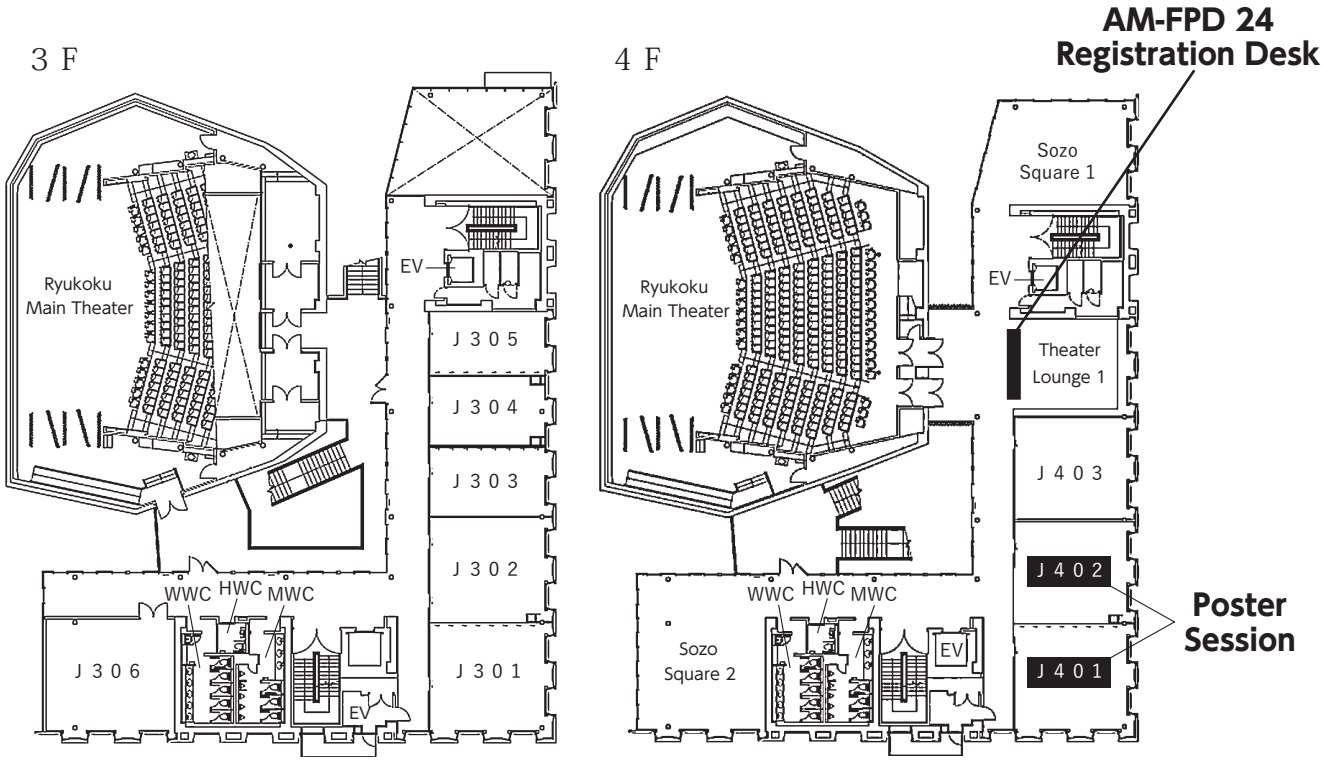
Ryukoku University Jojukan (Ryukoku Main Theater)
龍谷大学深草キャンパス成就館



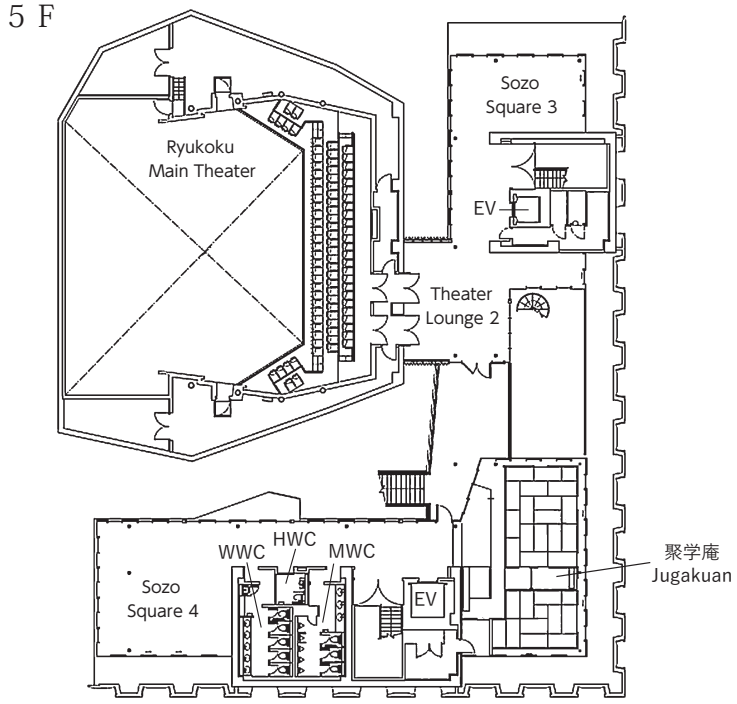
Floor Map


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



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