

ADVANCE PROGRAM

AM-FPD 11

THE EIGHTEENTH INTERNATIONAL WORKSHOP ON
**ACTIVE-MATRIX
FLATPANEL DISPLAYS AND DEVICES**

-TFT TECHNOLOGIES AND FPD MATERIALS-

JULY 11-13, 2011

Ryukoku University Avanti Kyoto Hall

Kyoto, Japan

Sponsorship:

The Japan Society of Applied Physics

Technical Sponsorship:

The Electrochemical Society Electronics and Photonics Division

Cosponsorship :

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

Japanese Liquid Crystal Society

Thin Film Materials & Devices Meeting

AM-FPD '11 Time Table

Monday, July 11		Tuesday, July 12		Wednesday, July 13	
8:30-17:00		8:30-17:00		8:30-15:00	
Registration					
Tutorial	9:00-11:00 <i>Tutorial in Japanese</i>				
Workshop	11:10-11:25 Opening Session	9:00-10:30 Symposium(1): Carrier Transport in Si, Oxide and Organic Thin Films	10:20-10:35 <i>Coffee Break</i>	9:00-10:20 Session 4 : Thin-Film Materials and Processing	
	11:25-12:25 Session 1 : Keynote Address	10:30-10:45 <i>Coffee Break</i>	Special Session: Next Generation Thin Film Technologies for Photovoltaics	10:35-12:00 Silicon and Organic Thin-Film Transistors	
	12:25-13:45 <i>Lunch</i>	10:45-12:00	<i>Lunch</i>	12:00-13:30 <i>Lunch</i>	
	13:45-15:15 Session 2 : Novel Technologies for FPD	12:00-13:30	Symposium(2): Advanced Technologies for Thin and Flexible Displays	13:30-15:00 Session 6 : Photo Sensors and Sollar Cells	
	15:15-15:30 <i>Coffee Break</i>	13:30-14:30	<i>Coffee Break</i>	15:00-15:15 <i>Coffee Break</i>	
Author Interviews	15:30-16:55 Session 3 : Oxide Thin-Film Transistors (I)	14:30-14:45	Symposium(3): Current Status and Development Trends in Carbon Based Devices	15:15-16:00 Oxide Thin-Film Transistors(II)	
	16:55-17:25 Late News	14:45-16:15	<i>Coffee Break</i>	16:00-16:30 Late News	
	17:35-18:05 Author Interviews	16:15-16:25	<i>Coffee Break</i>	16:30-16:35 Closing Remarks	
		16:25-16:55	Author Interviews	16:40-17:10 Author Interviews	
		16:25-18:25	Poster Session: FPDP / TFTp / TFMDp / LNP		
Banquet	18:30-20:30 <i>Banquet</i>				

Workshop : Ryukoku University Avanti Kyoto Hall” (Avanti, 9th Floor)

Registration : Entrance (Avanti, 9th Floor)

Poster Session : Lobby (Avanti, 9th Floor)

Author Interviews : Lobby (Avanti, 9th Floor)

Banquet : Marriage Grande “Takao” (Avanti, 8th Floor)

Tutorial : “Ryukoku University Avanti Kyoto Hall” (Avanti, 9th Floor)

(See Page 21)

GENERAL INFORMATION

The Eighteenth International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD '11, former AM-LCD) will be held at Ryukoku University Avanti Kyoto Hall, Kyoto, Japan from July 11 (Monday) to 13 (Wednesday), 2011.

This international workshop was established in 1994 to present the latest research and development in AM-LCD technologies and their applications. Recently, in addition to AM-LCD technologies, the scope has been widened to other types of displays, materials for displays, related physical phenomena and novel electronics systems such as circuits and sensors based on active-matrix, thin-film transistor (TFT) and semiconductor technologies, including organic and oxide materials.

We hope you will enjoy this exciting workshop.

SPONSORSHIP

AM-FPD '11 is sponsored by The Japan Society of Applied Physics and ECS Electronics and Photonics Division (technical sponsorship). It is supported by 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, Japanese Liquid Crystal Society, and Thin Film Materials & Devices Meeting.

SITE

Ryukoku University Avanti Kyoto Hall (Avanti 9th Floor)
31 Higashikujyo-nishisannoucho, Minami-ku, Kyoto 601-8003, Japan (see the map on page 21)

AM-FPD '11 Secretariat Tel: +81-475-23-1150

SYMPOSIUM / SPECIAL SESSION

In addition to the regular sessions, symposia, “*Carrier Transport in Si, Oxide and Organic Thin Films*”, “*Advanced Technologies for Thin and Flexible Displays*” and “*Current Status and Development Trends in Carbon Based Devices*” are also scheduled. And also, a special session “*Next Generation Thin Film Technologies for Photovoltaics*” is planned. Invited speakers will talk about the latest topics from the viewpoint of functional materials, device structures, fabrication processes, driving scheme, circuit technologies, etc.

PRESENTATION TIMES FOR SPEAKERS

	Total	Presentation	Discussion
Keynote	30 min.	25 min.	5 min.
Invited / Special Session	25 min.	20 min.	5 min.
Symposium	30 min.	25 min.	5 min.
Oral	20 min.	15 min.	5 min.
Poster	16:25-18:25, July 12		
Late News	15 min.	12 min.	3 min.

REGISTRATION

The Registration Desk will be open in front of Ryukoku University Avanti Kyoto Hall from Monday to Wednesday.

The registration hours are as follows:

Monday, July 11 8:30-17:00

Tuesday, July 12 8:30-17:00

Wednesday, July 13 8:30-15:00

For Advance Registration, access our online registration page (<http://www.amfpd.jp>) and enroll your information and complete payment by June 17(JPT). Registration and other fees should be paid in Japanese yen via bank transfer* or credit cards. VISA, Master Card, AMEX, Diners Club, Nicos and JCB are acceptable. No personal checks are acceptable. After your payment has been confirmed, confirmation will be sent by NTA (Nippon Travel Agency Co., Ltd.) (see page 3) by the end of June.

*Bank transfer for AM-FPD

A/C No.: 3104248 Mizuho Corporate Bank, Ltd. Jugogou Branch

A/C Name: Nippon Travel Agency Co., Ltd.

Registrants living in Japan can make payment via bank transfer or credit cards. Registrants living overseas can make payment by credit cards only.

	By June 17, 2011 (JPT)	On Site
Registration** Regular	¥43,000	¥48,000
Student***	¥10,000	
Tutorial in Japanese Regular	¥5,000	
Conference Attendee/ Student	¥3,000	
Extra Proceeding	¥5,000	

**The registration fee includes the Proceedings of the AM-FPD '11 (Book, USB Memory) and admission to all sessions. The banquet of AM-FPD '11 will be served without additional charge.

***Students are required to show their ID card upon registration.

In case of cancellation, a written notification should be sent to NTA by e-mail (am-fpd@nta.co.jp) or by FAX (+81-43-225-2241) to avoid any trouble.

Cancel Charge

From June 1 to 29-----JPY 3,000

After June 30---100% of the registration fee / NO REFUND

The Proceedings of the AM-FPD '11 (Book, USB Memory) will be sent to the attendees who have paid in 100% cancellation charge after the workshop.

Note: Back numbers of the Proceedings (Book, CD-ROM) are on sale. As to this Proceedings, contact the secretariat at the venue or via e-mail (amfpd@atecs.co.jp).

BANQUET

The Banquet will be held on July 11, 2011, from 18:30 to 20:30 at Mariage Grande "Takao" on the 8th floor of Avanti.

THE PROCEEDINGS OF THE AM-FPD '11

The Proceedings of the AM-FPD '11 will be distributed from July 11 at the Registration Desk.

LANGUAGE

The official language of the workshop is English.

OFFICIAL TRAVEL AGENT

Nippon Travel Agency Co., Ltd. (NTA) has been appointed as the official travel agent for the workshop and will handle all related travel arrangements, including hotel accommodations. Inquiries and applications concerning arrangements should be addressed to:

Nippon Travel Agency Co., Ltd.(NTA)

Chiba Branch

Chiba Center Square Bldg. 4F, 2-3-16, Chuo, Chuo-ku, Chiba
260-0013, Japan

Fax: +81-43-225-2241 Tel: +81-43-227-2307

E-mail:am-fpd@nta.co.jp

For hotel accommodation, please access our Web site (<http://www.amfpd.jp>) and register on the hotel accommodation page by June 17 (JPT).

There will also be an on-site travel information desk during the workshop period to handle arrangements for transportation and tours.

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.

TUTORIAL IN JAPANESE

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 attendees who have registered in advance. The attendees who make an entry on-site will be admitted into these classes, but no documents may be distributed to them. These classes are available for an additional fee (see page 2).

Monday, July 11 (9 : 00 ~ 11 : 00)

Chairperson : H. Tanabe, *NEC LCD Technol., Japan*

9:00 (T-1) Solar Cell: from Basic to Advanced Technologies
Kensuke Nishioka, *Univ. of Miyazaki, Japan*

10:00 (T-2) Driving Technologies for Electronic Paper
Reiji Hattori, *Kyushu Univ., Japan*

JAPANESE JOURNAL OF APPLIED PHYSICS

SPECIAL ISSUE

The authors of the superior papers will be recommended by the committee to submit their papers for publication in the JJAP (Japanese Journal of Applied Physics) special issue of "Active-Matrix Flatpanel Displays and Devices -TFT Technologies and FPD Materials-" (Vol. 51, No. 3, 2012). Try to include new, original and significant findings in your presentation for AM-FPD '11 and submit your manuscript using online submission no later than July 20, 2011. Note that your manuscript will be reviewed under the standard JJAP review policy. Your paper should be an original research paper with well-developed discussions based on facts and newly-obtained data. The same manuscript as used for your presentation in AM-FPD '11 cannot be accepted.

Information

<http://jjap.ipap.jp/>

The review schedule is as follows

- July 20 2011: Submission
- December, 2011: Final decision
- March, 2012: Publication

AWARD

Papers presented at this workshop will be considered for the AM-FPD Best Paper Award. The winners of the best paper award, student award, and poster award are finally chosen by AMFPD '11 award committee chaired by Professor Yukiharu Uraoka (*NAIST*). And they will be presented at award ceremony in AM-FPD '12 workshop.

AM-FPD '10 BEST PAPER AWARD

No winner

AM-FPD '10 STUDENT PAPER AWARD

- (4-2) Electrical Properties and Microstructure of Cu-Mn Electrodes on Amorphous In-Ga-Zn-O Semiconductors
Pilsang Yun, *Tohoku University, Japan*
- (7-2) High Speed Lateral Crystallization of Amorphous Silicon Films Using Micro-Thermal-Plasma-Jet and Its Application to Thin Film Transistors
Shohei Hayashi, *Hiroshima University, Japan*

ORGANIZING COMMITTEE

- Chair:** Hiroki Hamada (*Sanyo Electric*)
Vice-Chair: Hiroshi Tsutsu (*Toshiba Mobile Display*)
Members: Setsuo Kaneko (*NEC LCD Technol.*)
Hidetsugu Kawamori (*Sharp*)
Masashi Kikuchi (*ULVAC*)
Kazuhiro Kobayashi (*Mitsubishi Electric*)
Kazunori Komori (*Panasonic*)
Yue Kuo (*Texas A&M Univ.*)
Makoto Ohkura (*Hitachi Displays*)
Nobuo Sasaki (*Samsung Mobile Display*)
Toshiaki Tsuchiya (*Shimane Univ.*)

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Vice-Chair: Hidehito Kitakado (*Sharp*)
Members: Saishi Fujikawa (*Semicond. Energy Lab.*)
Mutsuko Hatano (*Tokyo Inst. of Technol.*)
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Toshio Kamiya (*Tokyo Inst. of Technol.*)
Mutsumi Kimura (*Ryukoku Univ.*)
Atsushi Masuda (*AIST*)
Naoto Matsuo (*Univ. of Hyogo*)
Hiroshi Tanabe (*NEC LCD Technol.*)
Hajime Yamaguchi (*Toshiba*)

PROGRAM COMMITTEE

- Chair:** Hiroshi Tanabe (*NEC LCD Technol.*)
- Vice-Chair:** Mutsumi Kimura (*Ryukoku Univ.*)
Takashi Noguchi (*Univ. of the Ryukyus*)
- Members:** Hajime Akimoto (*Hitachi Displays*)
Toshiaki Arai (*Sony*)
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Mamoru Furuta (*Kochi Univ. of Technol.*)
Reiji Hattori (*Kyushu Univ.*)
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Seiichiro Higashi (*Hiroshima Univ.*)
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Toshio Kamiya (*Tokyo Inst. of Technol.*)
Jerzy Kanicki (*Univ. of Michigan*)
Tadashi Kawamura (*Sharp*)
Hyun Jae Kim (*Yonsei Univ.*)
Yuji Komatsu (*ECN Solar Energy*)
Hornng-Show Koo (*Ming-Hsin Univ. of Sci. and Technol.*)
Yue Kuo (*Texas A&M Univ.*)
Atsushi Masuda (*AIST*)
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Kensuke Nishioka (*Univ. of Miyazaki*)
Sang-Hee Ko Park (*ETRI*)
Taizoh Sadoh (*Kyushu Univ.*)
Takao Someya (*The Univ. of Tokyo*)
Kazushige Takechi (*NEC LCD Technol.*)
Yasuo Toko (*Stanley Electric*)
Toshihiko Toyama (*Osaka Univ.*)
Man Wong (*Hong Kong Univ. of Sci. and Technol.*)
Hajime Yamaguchi (*Toshiba*)
Yung-Hui Yeh (*ITRI*)
Wen-Chang Yeh (*Shimane Univ.*)

PROGRAM

Monday, July 11

Opening Session (11 : 10 ~ 11 : 25)

Chairperson : Y. Uraoka, *NAIST, Japan*

Welcome Address

H. Hamada, *Sanyo Electric, Japan*

Award Presentation

Session 1 : Keynote Address (11 : 25 ~ 12 : 25)

Chairpersons : H. Tanabe, *NEC LCD Technol., Japan*

T. Toyama, *Osaka Univ., Japan*

11:25 (1-1) Ultraflexible and Stretchable Organic Transistor
Active Matrixes for Displays and Sensors (Invited)
T. Someya, T. Sekitani, *The Univ. of Tokyo, Japan*

11:55 (1-2) Large Area Thin Film Silicon: Synergy between
Displays and Solar Cells (Invited)
R. E. I. Schropp, *Utrecht Univ., The Netherlands*

— Lunch —

Session 2 : Novel Technologies for FPD (13 : 45 ~ 15 : 15)

Chairpersons : T. Someya, *The Univ. of Tokyo, Japan*

J. -C. Ho, *ITRI, Taiwan*

13:45 (2-1) Emission and Programming Time Extension
Method for Active Glass Type Stereoscopic
3-Dimensional AMOLED Displays (Invited)
H. -J. In, O. -K. Kwon, *Hanyang Univ., Korea*

14:10 (2-2) 24.5-Inch and 16.5-Inch Full HD OLED Displays
for Professional-Use Master Monitors (Invited)
M. Asano¹, K. Sugiyama¹, H. Fujioka¹, Y. Iwase¹,
T. Ishibashi², M. Mori¹, ¹*Sony Mobile Display,*
Japan, ²*Sony, Japan*

14:35 (2-3) Threshold-Voltage-Shift Compensation and
Suppression Method for Active Matrix Organic
Light Emitting Diode Displays
K. Oh, O. -K. Kwon, *Hanyang Univ., Korea*

- 14:55 (2-4) 6-Inch Novel Field-Sequential Blue-Phase LCD Including Crystalline Oxide Semiconductor
 T. Ishitani¹, D. Kubota¹, A. Yamashita¹, S. Yamagata¹, Y. Oe¹, T. Tamura¹, M. Ikenaga¹, T. Yamamoto¹, M. Kobayashi¹, M. Kato¹, M. Nakano¹, R. Hatsumi¹, Y. Kubota¹, T. Murakawa¹, M. Hayakawa¹, K. Toyotaka¹, T. Nishi¹, S. Seo¹, Y. Hirakata¹, J. Koyama¹, S. Yamazaki¹, K. Okazaki², R. Sato², T. Cho², M. Sakakura², ¹*Semicond. Energy Lab., Japan*, ²*Advanced Film Device, Japan*

— Coffee Break —

Session 3 : Oxide Thin-Film Transistors (I) (15 : 30 ~ 16 : 55)

Chairpersons : T. Kamiya, *Tokyo Inst. of Technol., Japan*
 S. Tomai, *Idemitsu Kosan, Japan*

- 15:30 (3-1) Recovery Characteristics of Oxide TFT after Bias Stress (Invited)
 B. S. Bae, *Hoseo Univ., Korea*
- 15:55 (3-2) Channel Shortening Phenomenon Due to Redox Reaction in a Lateral Direction on In-Ga-Zn-O Thin-Film Transistors
 H. Kitakado, S. Katoh, *Sharp, Japan*
- 16:15 (3-3) The Effect of Channel Length on the Reliability of a-IGZO TFTs
 S. -Y. Lee¹, S. -J. Kim¹, Y. -W. Lee¹, M. -K. Song¹, W. -G. Lee², K. -S. Yoon², M. -K. Han¹, ¹*Seoul Nat'l. Univ., Korea*, ²*Samsung Electronics, Korea*
- 16:35 (3-4) Photo-Leakage Current and Hysteresis of the ZnO TFTs under Visible Light Irradiation
 M. Furuta¹, Y. Kamada², T. Hiramatsu¹, T. Matsuda¹, S. Shimakawa¹, C. Li¹, S. Fujita², T. Hirao¹, ¹*Kochi Univ. of Technol., Japan*, ²*Kyoto Univ., Japan*

Late News (16 : 55 ~ 17 : 25)

Author Interviews (17 : 35 ~ 18 : 05)

Banquet (18 : 30 ~ 20 : 30)

Tuesday, July 12

Symposium (1)

Carrier Transport in Si, Oxide and Organic Thin Films

(9 : 00 ~ 10 : 30)

Chairpersons : D. Knipp, *Jacobs Univ. Bremen, Germany*
Y. Uraoka, *NAIST, Japan*

- 9:00 (S1-1) Carrier Transport Specific to Ionic Semiconductors (Invited)
T. Kamiya, K. Nomura, H. Hosono, *Tokyo Inst. of Technol., Japan*
- 9:30 (S1-2) Overview of Carrier Transport Band and Trap States in Organic Thin-Film Transistors (Invited)
M. Nakamura^{1,2}, R. Matsubara^{1,2}, ¹*Chiba Univ., Japan*, ²*Nara Inst. of Sci. and Technol. (NAIST), Japan*
- 10:00 (S1-3) Carrier Transport in Microcrystalline Silicon Thin-Film Solar Cells (Invited)
T. Toyama, Y. Sobajima, H. Okamoto, *Osaka Univ., Japan*

— *Coffee Break* —

Special Session

Next Generation Thin Film Technologies for Photovoltaics

(10 : 45 ~ 12 : 00)

Chairpersons : A. Masuda, *AIST, Japan*
K. Nishioka, *Univ. of Miyazaki, Japan*

- 10:45 (SP-1) Impact of Coherency of Grain Boundaries in Multicrystalline Si on Materials Properties (Invited)
N. Usami, *Tohoku Univ., Japan*
- 11:10 (SP-2) Optimal Surface Texture of Silicon Thin-Film Silicon Solar Cells (Invited)
R. Dewan, V. Jovanov, D. Knipp, *Jacobs Univ. Bremen, Germany*

- 11:35 (SP-3) Advances in Cell Performance Utilizing Advanced Superstrate Glass for Thin-Film Silicon PV (Invited)
D. Weidman¹, S. Marjanovic¹, G. Kohnke¹,
K. Koch¹, J. Liu¹, R. Modavis¹, D. Thelen¹,
S. Vallon², A. Zakharian¹, L. Fesquet³,
J. Steinhauser³, J.-B. Orhan³, S. Benagli³,
J. Meier³, ¹Corning, USA, ²Corning SAS, France,
³Oerlikon Solar-Lab SA, Switzerland

— Lunch —

Symposium (2)

Advanced Technologies for Thin and Flexible Displays

(13 : 30 ~ 14 : 30)

Chairpersons : O. -K. Kwon, *Hanyang Univ., Korea*
M. Kimura, *Ryukoku Univ., Japan*

- 13:30 (S2-1) A Novel Process to Make Flexible AMOLED with Touch Function (Invited)
J. -C. Ho, Y. -Y. Chang, C. -M. Leu, G. Chen,
C. -P. Kung, J. -Y. Yan, K. -Y. Ho, C. -C. Hsu,
S. -T. Yeh, L. -Y. Jiang, Y. -H. Chien, H. -L. Pan,
C. -C. Lee, *Industrial Technol. Res. Inst. (ITRI), Taiwan*
- 14:00 (S2-2) Flexible Polymer Network LCD Driven by Entirely Printed Organic TFT (Invited)
K. Yase, *Advanced Industrial Sci. and Technol. (AIST), Japan*

— Coffee Break —

Symposium (3)

Current Status and Development Trends in Carbon Based Devices (14 : 45 ~ 16 : 15)

Chairpersons : M. Nakamura, *NAIST, Japan*
R. Hattori, *Kyushu Univ., Japan*

- 14:45 (S3-1) Aim at Achievement of Organic Molecular Device Engineering (Invited)
M. Onoda, *Univ. of Hyogo, Japan*
- 15:15 (S3-2) Recent Advances in Organic Semiconductors for TFT Applications (Invited)
K. Takimiya, *Hiroshima Univ., Japan*

15:45 (S3-3) Carbon-Nanotube Printed Electronics (Invited)
T. Takenobu¹, H. Okimoto², K. Yanagi³,
H. Kataura^{4,5}, Y. Iwasa^{5,6}, ¹Waseda Univ.,
Japan, ²Yamagata Univ., Japan, ³Tokyo
Metropolitan Univ., Japan, ⁴Advanced Industrial
Sci. and Technol. (AIST), Japan, ⁵Core Res. for
Evolutional Sci. and Technol. (CREST), Japan,
⁶The Univ. of Tokyo, Japan

— Coffee Break —

Author Interviews (16 : 25 ~ 16 : 55)

Poster Session (16 : 25 ~ 18 : 25)

Chairpersons : S. Horita, *JAIST, Japan*
Y. Ishikawa, *NAIST, Japan*
T. Kawamura, *Sharp, Japan*
T. Noguchi, *Univ. of the Ryukyus, Japan*
K. Takechi, *NEC LCD Technol., Japan*

FPDp

- (P-1) Synthesis of Ag Wires and Their Performance at
Transparent Conductive Coatings
Y. -H. Chang, Y. -C. Lu, K. -S. Chou, *Nat'l
Tsing Hua Univ., Taiwan*
- (P-2) Optical Design of Light Guide by Using Molecular
Dynamics Method to Generate Random Dot
Distribution with Implementation of VBA
Preprocessor
J. -G. Chang¹, W. -J. Lee¹, S. -P. Ju², Y. -C. Wang²,
K. -F. Lin², L. -F. Huang², ¹*Nat'l Ctr. for High-
Performance Computing, Taiwan*, ²*Nat'l Sun-
Yat-Sen Univ., Taiwan*
- (P-3) Effect of Phosphor Atomization on Luminance
of Inorganic EL Devices Prepared by Microwave
Sintering
T. Kontani¹, S. Horiguchi¹, M. Horita^{1,3},
Y. Ishikawa^{1,3}, N. Taguchi², Y. Uraoka^{1,3},
¹*Nara Inst. of Sci. and Technol. (NAIST), Japan*,
²*Image Tech, Japan*, ³*Core Res. for Evolutional
Sci. and Technol. (CREST), Japan*

- (P-4) A Novel Pixel Circuit to Compensate for Electronic Degradation for Active Matrix Organic Light Emitting Diode Displays with LTPS-TFTs
C. -L. Fan, H. -L. Lai, B. -J. Sun, K. -C. Chao, *Nat'l Taiwan Univ. of Sci. and Technol., Taiwan*
- (P-5) A Voltage Feedback AMOLED Pixel Design Compensating for Driving TFT Threshold Voltage Deviation and OLED Degradation
C. -L. Fan, H. -L. Lai, B. -J. Sun, *Nat'l Taiwan Univ. of Sci. and Technol., Taiwan*
- (P-6) Organic Light-Emitting Diode-on-Silicon Pixel Circuit for Microdisplays with Wide Range of Data Voltage
B. -C. Kwak, J. S. An, O. -K. Kwon, *Hanyang Univ., Korea*
- (P-7) Low Power Consumption LC Display Using Crystalline Oxide Semiconductor FETs with Ultra-Low Off-State Current
T. Tanabe¹, K. Kusunoki¹, Y. Sekine¹, K. Furutani¹, T. Murakawa¹, T. Nishi¹, Y. Hirakata¹, H. Godo¹, J. Koyama¹, S. Yamazaki¹, K. Okazaki², T. Handa², M. Sakakura², ¹*Semicond. Energy Lab., Japan*, ²*Advanced Film Device, Japan*
- (P-8) Field-Sequential Blue-Phase Mode 2D/3D Display Applying Crystalline Oxide Semiconductor
T. Nishi¹, D. Kubota¹, T. Ishitani¹, A. Yamashita¹, T. Tamura¹, T. Yamamoto¹, M. Nakano¹, R. Hatsumi¹, Y. Kubota¹, T. Murakawa¹, M. Hayakawa¹, H. Miyake¹, Y. Hirakata¹, J. Koyama¹, S. Yamazaki¹, K. Okazaki², R. Sato², T. Cho², M. Sakakura², ¹*Semicond. Energy Lab., Japan*, ²*Advanced Film Device, Japan*

TFTp

- (P-9) Thin Film Devices Fabricated on Double-Layered Polycrystalline Silicon Films Formed by Green Laser Annealing
K. Yamasaki¹, E. Machida¹, M. Horita^{1,2}, Y. Ishikawa^{1,2}, Y. Uraoka^{1,2}, ¹*Nara Inst. of Sci. and Technol. (NAIST), Japan*, ²*Core Res. for Evolutional Sci. and Technol. (CREST), Japan*

- (P-10) Crystal Growth Mechanism of Polycrystalline Si on Polycarbonate Substrate
N. Kawamoto¹, K. Tadatomo¹, T. Imamura², Y. Tomizawa², G. Nakagawa³, T. Asano³,
¹Yamaguchi Univ., Japan, ²TEIJIN, Japan
³Kyushu Univ., Japan
- (P-11) Crystallization Using Biomineralized Ni Nanodots of Amorphous Si Thick Films Prepared by CVD and Sputtering Deposition
T. Nishida^{1,2}, K. Fuse^{1,2}, M. Furuta³, Y. Ishikawa^{1,2}, Y. Uraoka^{1,2},
¹Nara Inst. of Sci. and Technol. (NAIST), Japan, ²Core Res. for Evolutional Sci. and Technol. (CREST), Japan, ³Kochi Univ. of Technol., Japan
- (P-12) Thermal Sensor Using Poly-Si Thin-Film Transistor
M. Kimura^{1,2}, A. Nakashima¹, J. Taya¹, Y. Sagawa³,
¹Ryukoku Univ., Japan, ²High-Tech Res. Ctr., Japan, ³Nara Inst. of Sci. and Technol. (NAIST), Japan
- (P-13) Mechanism Analysis of Current-Voltage Characteristic in an LDD Poly-Si Thin-Film Transistor Using Activation Energy
M. Kimura^{1,2}, A. Nakashima¹,
¹Ryukoku Univ., Japan, ²High-Tech Res. Ctr., Japan
- (P-14) Deduction of TFT Parameters by Defects-Grains Model
F. Oshiro¹, K. Shirai¹, T. Noguchi¹, T. Ohachi², H. M. Koo³, H. S. Choi³,
¹Univ. of the Ryukyus, Japan, ²Doshisha Univ., Japan, ³LG Display, Korea
- (P-15) Interface Effect of High-k SrTa₂O₆/ Gate Electrode on the Characteristics of Solution Processed InZn₄O_x Thin-Film Transistors
L. Lu¹, T. Nishida^{1,2}, M. Echizen¹, Y. Ishikawa^{1,2}, K. Uchiyama³, Y. Uraoka^{1,2},
¹Nara Inst. of Sci. and Technol. (NAIST), Japan, ²Tsuruoka Nat'l College of Technol., Japan, ³Core Res. for Evolutional Sci. and Technol. (CREST), Japan
- (P-16) Optimization of p-Type Oxide Thin-Film Transistors Using Cu₂O Channels
L. Shao, K. Nomura, T. Kamiya, H. Hosono,
Tokyo Inst. of Technol., Japan

- (P-17) Effects of O₂ and H₂ Plasma Treatment on Solution-Processed Zinc Tin Oxide Thin-Film Transistors with 300 °C Low Annealing Temperature
J. -S. Lee¹, Y. -U. Lee¹, S. -M. Song¹, Y. -H. Kim², J. -Y. Kwon¹, M. -K. Han¹, ¹*Seoul Nat'l Univ., Korea*, ²*Korea Electronics Technol. Inst., Korea*
- (P-18) Novel Indium-Doped SnO Electrode with Seed Layer for Amorphous Indium-Gallium-Zinc Oxide (a-IGZO) Thin-Film Transistors (TFTs) on Glass Substrates
S. -H. Choi, M. -K. Song, S. -M. Song, M. -K. Han, *Seoul Nat'l Univ., Korea*
- (P-19) Measurement and Calculation of Off Current of Oxide Semiconductor FET
H. Godo, S. Shinohara, Y. Sekine, K. Furutani, K. Kato, Y. Shionoiri, S. Yamazaki, *Semicond. Energy Lab., Japan*
- (P-20) Measurement of Carrier Density of In-Ga-Zn-Oxide
T. Honda, K. Akimoto, H. Godo, A. Miyanaga, M. Takahashi, S. Yamazaki, *Semicond. Energy Lab., Japan*
- (P-21) The Effect of Charge Trapping/Detrapping on the Threshold Voltage Shift of IGZO TFTs under AC Bias Stress
S. -J. Kim¹, S. -Y. Lee¹, Y. -W. Lee¹, W. -G. Lee², K. -S. Yoon², M. -K. Han¹, ¹*Seoul Nat'l Univ., Korea*, ²*Samsung Electronics, Korea*
- (P-22) New AC Programmed Shift-Register Considering Bias Stability of a-IGZO TFT
J. -S. Woo, B. Kim, Y. -W. Lee, M. -K. Song, S. -M. Song, M. -K. Han, *Seoul Nat'l Univ., Korea*

TFMDp

- (P-23) Temperature Dependence of Charge Transport and Trap Density Distribution in P3HT:PCBM Based Blending Films under Illumination
Y. Lou, Z. Wang, S. Naka, H. Okada, *Univ. of Toyama, Japan*

- (P-24) Fabrication of ZnS Nanoparticles Using Electro Spray Process
T. Doe^{1,2}, M. Horita^{1,2}, T. Nishida^{1,2}, Y. Ishikawa^{1,2}, Y. Uraoka^{1,2}, ¹*Nara Inst. of Sci. and Technol. (NAIST), Japan*, ²*Core Res. for Evolutional Sci. and Technol. (CREST), Japan*
- (P-25) Surface Passivation of Crystalline Silicon by Amorphous Silicon Deposition Followed by High-Pressure H₂O Vapor Heat Treatment
T. Nagao¹, M. Hasumi¹, T. Sameshima¹, Y. Andoh², ¹*Tokyo Univ. of Agriculture and Technol., Japan*, ²*NISSIN Electric, Japan*
- (P-26) Change in Minority Carrier Lifetime Caused by Rapid Laser Heating
K. Betsuin¹, Y. Kanda¹, W. Kato¹, S. Yoshidomi¹, M. Hasumi¹, T. Sameshima¹, N. Sano², T. Mizuno³, ¹*Tokyo Univ. of Agriculture and Technol., Japan*, ²*Aurea Works, Japan*, ³*Kanagawa Univ., Japan*
- (P-27) Low-Temperature Crystallization of a-Ge, a-Si and a-SiGe Films by SR Soft X-Ray Irradiation
Y. Nonomura¹, A. Heya¹, K. Kanda¹, N. Matsuo¹, S. Miyamoto¹, S. Amano¹, T. Mochizuki¹, K. Toko², T. Sadoh², M. Miyao², ¹*Univ. of Hyogo, Japan*, ²*Kyushu Univ., Japan*
- (P-28) Indium Gallium Zinc Oxide Colloidal Solution Prepared by Co-precipitation Method
H. -S. Ou, C. -Y. Kao, K. -S. Chou, S. S. Yang, *Nat'l Tsing Hua Univ., Taiwan*
- (P-29) Effects of Growth Time on Structural, Optical and Electrical Properties of ZnO Films Grown by LP-MOCVD Using Diethylzinc and Water as Precursors
T. Terasako¹, T. Yamanaka¹, M. Tsukamura¹, Y. Nakata², M. Yagi², S. Shirakata¹, ¹*Ehime Univ., Japan*, ²*Kagawa Nat'l College of Technol., Japan*
- (P-30) Synthesis of Cu(In,Ga)Se₂ Thin Film for Solar Cell Using Single-Step Electrodeposition Technique
W. -L. Liu¹, W. -J. Chen², G. -J. Huang¹, S. -H. Hsieh¹, ¹*Nat'l Formosa Univ., Taiwan*, ²*Nat'l Yunlin Technol., Taiwan*

- (P-31) High-Pressure H₂O Vapor Heat Treatment Used to Improve Polycrystalline Solar Cell Characteristics
J. Takenezawa, M. Hasumi, T. Sameshima,
Tokyo Univ. of Agriculture and Technol., Japan
- (P-32) Structure and Damage Behavior of ITO
Diffusion Barrier between Electroplating Cu
and Si Substrate
W. J. Chen², W. L. Liu¹, C. R. Su¹, S. H. Hsieh¹,
*¹Nat'l Formosa Univ., Taiwan, ²Nat'l Yunlin
Technol., Taiwan*

Wednesday, July 13

Session 4: Thin-Film Materials and Processing

(9 : 00 ~ 10 : 20)

Chairpersons : D. L. Weidman, *Corning, USA*
S. Higashi, *Hiroshima Univ., Japan*

- 9:00 (4-1) Rewritable Photorefractive Large Area Color
Display Material
M. Yamamoto¹, N. Peyghambarian², ¹*NITTO
DENKO Technical, USA*, ²*Univ. of Arizona, USA*
- 9:20 (4-2) Low-Resistivity and High-Adhesion Cu(Ti)
Interconnects on Glass Substrates
K. Ito¹, S. Uehara¹, T. Onishi², Y. Shirai¹,
M. Murakami³, ¹*Kyoto Univ., Japan*, ²*Kobe
Steel, Japan*, ³*The Ritsumeikan Trust, Japan*
- 9:40 (4-3) A Study on the Mechanical Design for Circuit
Construction Surfaces of Digital Products Using
Micro Electrochemical Etching
P. S. Pa, *Nat'l Taipei Univ. of Education, Taiwan*
- 10:00 (4-4) Improvement of Film Quality and Electric
Property of Silicone Oxide with Methanol Gas
Assisted Thermal Annealing
T. Ito, T. Matumoto, K. Nishioka, *Univ. of
Miyazaki, Japan*

— Coffee Break —

Session 5: Silicon and Organic Thin-Film Transistors

(10: 35 ~ 12 : 00)

Chairpersons : O. Bonnaud, *Univ. of Rennes 1, France*
S. Horita, *JAIST, Japan*

- 10:35 (5-1) Non-Laser Poly-Si Crystallizations for Large
AMOLED Displays (Invited)
H. -J. Kim^{1,2}, D. -H. Shin², B. -K. Kim², ¹*Hongik
Univ., Korea*, ²*Viatron Technol., Korea*
- 11:00 (5-2) Fabrication of High Performance Crystalline
Silicon TFTs on Glass Using Micro-Thermal-
Plasma-Jet
Y. Fujita, S. Hayashi, H. Murakami, S. Higashi,
Hiroshima Univ., Japan

11:20 (5-3) Carbonaceous Electrodes for Organic Thin-Film Transistors
X. Bu, T. Fukuda, H. Nakayama, *Osaka City Univ., Japan*

11:40 (5-4) Device Simulation Analysis of Electrical Characteristics on Electrode Configuration in Organic Thin-Film Transistors
C. -H. Shim¹, T. Sekiya², R. Hattori¹, ¹*Kyushu Univ., Japan*, ²*Idemitsu Kosan, Japan*

— Lunch —

Session 6 : Photo Sensors and Solar Cells (13: 30 ~ 15 : 00)

Chairpersons : H. -J. Kim, *Hongik Univ., Korea*
T. Noguchi, *Univ. of the Ryukyus, Japan*

13:30 (6-1) Stack-Type Organic Color Image Sensor Integrated with ZnO TFT Readout Circuit (Invited)
H. Seo¹, S. Aihara¹, M. Kubota¹, N. Egami¹, M. Furuta², T. Hirao², ¹*NHK Sci. and Technol. Res. Labs., Japan*, ²*Kochi Univ. of Technol., Japan*

13:55 (6-2) From Planar to Vertical Polysilicon Thin-Film Transistor Technologies; a Way to Improve the TFT Integration and Sensor Applications (Invited)
O. Bonnaud, T. Mohammed-Brahim, *Univ. of Rennes I, France*

14:20 (6-3) Integrated Potentiostat Using Thin-Film Transistors with Electrochemical Cell
M. Kimura^{1,2}, Y. Sagawa¹, K. Setsu¹, Y. Imuro¹, ¹*Ryukoku Univ., Japan*, ²*High-Tech Res. Ctr., Japan*

14:40 (6-4) The Bending Effect of Amorphous Silicon Thin-Film Solar Cells under the Mechanical Strain
M. C. Wang, Y. Z. Chen, T. C. Hsu, D. J. Jan, C. F. Ai, *Inst. of Nuclear Energy Res., Taiwan*

— Coffee Break —

Session 7 : Oxide Thin-Film Transistors (II) (15: 15 ~ 16 : 00)

Chairpersons : B. S. Bae, *Hoseo Univ., Korea*
M. Furuta, *Kochi Univ. of Technol., Japan*

- 15:15 (7-1) Amorphous Oxide Semiconductor for High Performance Thin-Film Transistor (Invited)
S. Tomai, M. Nishimura, M. Itose, M. Matuura, M. Kasami, S. Matsuzaki, H. Kawashima, F. Utsuno, K. Yano, *Idemitsu Kosan, Japan*
- 15:40 (7-2) C-Axis Aligned Crystalline In-Ga-Zn-Oxide FET with High Reliability
M. Takahashi¹, M. Nakashima¹, T. Honda¹, A. Miyanaga¹, H. Ohara¹, T. Murakawa¹, M. Hayakawa¹, K. Akimoto¹, K. Okazaki², M. Yokoyama², M. Sakakura², S. Yamazaki¹,
¹*Semicond. Energy Lab., Japan*, ²*Advanced Film Device, Japan*

Late News (16 : 00 ~ 16 : 30)

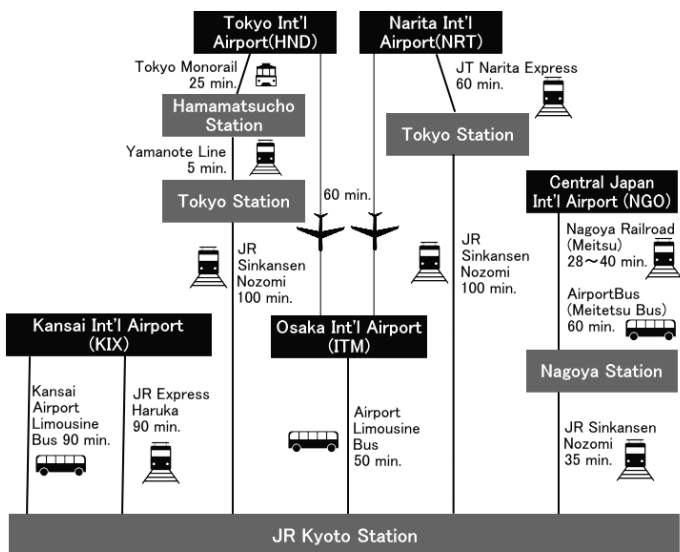
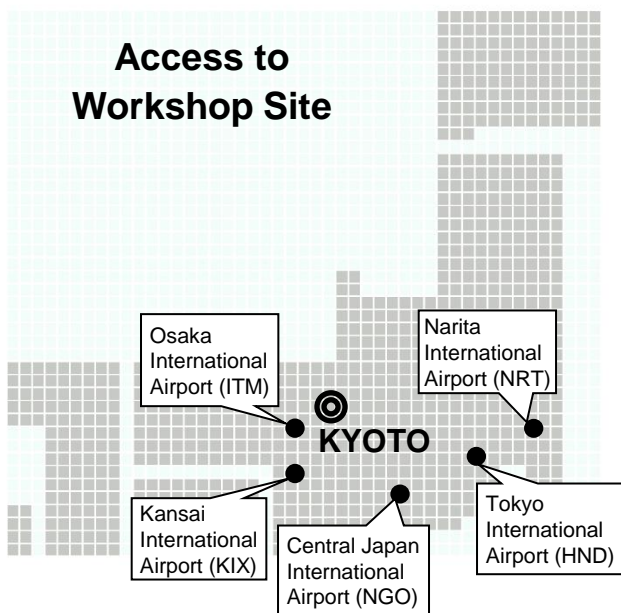
Closing Remarks (16 : 30 ~ 16 : 35)

Author Interviews (16 : 40 ~ 17 : 10)

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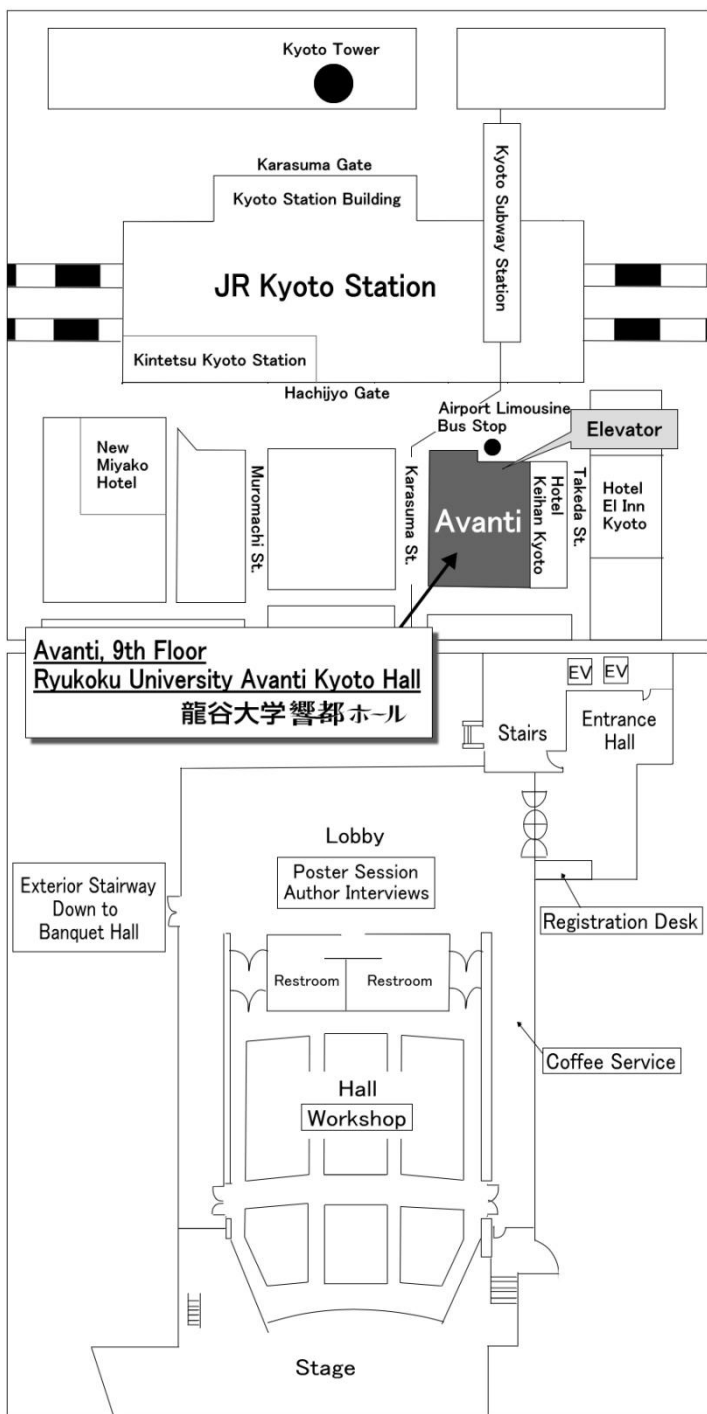
H. Akimoto (*Hitachi Displays*)
T. Arai (*Sony*)
M. Furuta (*Kochi Univ. of Technol.*)
A. Heya (*Univ. of Hyogo*)
Y. Ishikawa (*NAIST*)
T. Kawamura (*Sharp*)
K. Nishioka (*Univ. of Miyazaki*)

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