

ADVANCE PROGRAM

AM-FPD '09



THE JAPAN SOCIETY OF
APPLIED PHYSICS

THE SIXTEENTH INTERNATIONAL WORKSHOP ON
**ACTIVE-MATRIX
FLATPANEL DISPLAYS AND DEVICES**
-TFT TECHNOLOGIES AND FPD MATERIALS-

JULY 1-3, 2009
Nara Centennial Hall
Nara, Japan

Sponsored by

The Japan Society of Applied Physics

in cooperation with:

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 '09 Time Table

	Tuesday, June 30 17:00-19:00		Wednesday, July 1 8:20-17:00		Thursday, July 2 8:30-17:00		Friday, July 3 8:30-14:00	
Registration								
Workshop	9:00- 9:15	Opening Session	9:00-10:30	Symposium	9:00-10:25	Session 5 : Laser Crystallization for Poly-Si TFT		
	9:15-10:45	Session 1 : Keynote Address	10:30-10:45	(1) Applications of New TFTs	10:25-10:40	<i>Coffee Break</i>		
	10:45-11:00	<i>Coffee Break</i>	10:45-12:15	(2) Reliability of TFTs	10:40-12:05	Session 6 : New Process for Poly-Si TFT		
	11:00-12:05	Session 2 : Circuit Design & Reliability of TFT	12:15-13:30	<i>Lunch</i>	12:05-13:20	<i>Lunch</i>		
	12:05-13:30	<i>Lunch</i>	13:30-15:00	(3) FPD Materials for Next Generation "Blue Phase"	13:20-14:40	Session 7 : OLED		
	13:30-16:10	Session 3 : Oxide Semiconductor TFT	15:00-15:10	<i>Coffee Break</i>	14:40-15:00	<i>Coffee Break</i>		
	16:10-16:25	<i>Coffee Break</i>			15:00-16:40	Session 8 : New Device Structure for poly-Si TFT		
	16:25-17:10	Session 4 : LCD & FPDs						
	17:10-18:10	Late News						
	18:20-18:50	<i>Author Interviews</i>	15:10-15:40	<i>Author Interviews</i>	16:50-17:20	<i>Author Interviews</i>		
Author Interviews								
Poster Session			15:10-17:10	Poster Session : LCD&FPDp/OLED&OTFTp/TFTp /LNp				
Tutorial			18:30-21:00	Tutorial in Japanese				
Banquet	19:10-21:10	<i>Banquet</i>						

Registration : "Harmony Hall" Entrance , 2nd Floor
 Workshop : "Harmony Hall", 2nd Floor
 Author Interviews : "Harmony Hall" Foyer, 2nd Floor
 Tutorial in Japanese : "Harmony Hall", 2nd Floor
 Poster Session : "Harmony Hall" Foyer, 2nd Floor
 Banquet : Hotel Nikko Nara "HITEN", 4th Floor

GENERAL INFORMATION

The Sixteenth International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD '09, former AM-LCD) will be held from July 1 (Wednesday) to 3 (Friday), 2009 at Nara Centennial Hall, Nara, Japan.

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 technology, the scope has been widened to include active-matrix organic light-emitting-diode (AM-OLED) displays and other AM-FPD technologies. These include thin film transistors (TFTs), other thin film devices, circuits, systems, LC technologies, related materials and crystallization. Symposiums, "FPD Materials for Next Generation" and "Reliability of TFTs" are also scheduled.

We hope you will enjoy this exciting workshop.

SPONSORSHIP

AM-FPD '09 is sponsored by The Japan Society of Applied Physics. 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

Nara Centennial Hall, Nara, Japan

7-1, Miyamae-cho, Sanjo, Nara-city, Nara 630-8121, Japan

(see the map attached to this booklet)

AM-FPD '09 Secretariat Tel: +81-3-3597-1108

SYMPOSIUM

In addition to the regular sessions, symposiums, "FPD Materials for Next Generation" and "Reliability of TFTs" are also scheduled.

Invited speakers will talk about the latest topics from the viewpoint of functional materials, device structures, fabrication processes, driving schemes, circuit technologies, etc.

PRESENTATION TIMES FOR SPEAKERS

	Total	Presentation	Discussion
Keynote	30 min.	25 min.	5 min.
Invited	25 min.	20 min.	5 min.
Symposium	30 min.	25 min.	5 min.
Oral	20 min.	15 min.	5 min.
Poster	15:10-17:10, July 2		
Late News	15 min.	12 min.	3 min.

REGISTRATION

The Registration Desk will be open in front of the Harmony Hall on the 2nd floor of Nara Centennial Hall from Tuesday to Friday. The registration hours are as follows:

Tuesday, June 30	17:00-19:00
Wednesday, July 1	8:20-17:00
Thursday, July 2	8:30-17:00
Friday, July 3	8:30-14:00

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, and JCB are acceptable. No personal checks are acceptable. After your payment has been confirmed, confirmation will be sent by KNT (Kinki Nippon Tourist Co., Ltd.) (see page 3) by the end of June.

*Bank transfer for AM-FPD

A/C No.: 6103448 Sumitomo Mitsui Banking Corp. Suzuran Branch

A/C Name: Kinki Nippon Tourist Co., Ltd.

SWIFT Code: SMBCJPJT

	By June 17, 2009 (JPT)	On site
Registration Fee **		
Regular	¥43,000	¥48,000
Student ***	¥10,000	¥10,000
Tutorial in Japanese	¥3,000	
Extra Proceedings	¥5,000	
CD-ROM (from 1st to 9th) ****	¥15,000(set)	

**The registration fee includes one copy of the Proceedings of the AM-FPD'09, CD-ROM (this year, 2009) and admission to all sessions. The banquet of AM-FPD'09 will be served without additional charge.

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

****A set of CD-ROMs including the Proceedings for the 1st - 9th workshops is on sale at 15,000 yen/set. As to other back numbers of the Proceedings, contact the secretariat at the venue or via e-mail (amfpd@intergroup.co.jp)

In case of cancellation, a written notification should be sent to KNT by e-mail (am-fpd-gbm@or.knt.co.jp) or by FAX (+81-3-5256-1588) to avoid any trouble.

**Registration Fee

Before June 24-----JPY 3,000

On or After June 24---100% of the registration fee / NO REFUND

Proceedings of the AM-FPD '09 and CD-ROM(2009) will be sent to absent registrants after the workshop.

BANQUET

The Banquet will be held on July 1, 2009, from 19:10-21:10 at “Banquet hall HITEN” on the 4th floor of Hotel Nikko Nara.

THE PROCEEDINGS OF THE AM-FPD '09

The Proceedings of the AM-FPD '09 will be distributed from June 30 at the Registration Desk.

LANGUAGE

The official language of the workshop is English.

OFFICIAL TRAVEL AGENT

Kinki Nippon Tourist Co., Ltd. (KNT) 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:

Kinki Nippon Tourist Co., Ltd. (KNT)

Global Business Management Branch

Tokyo Kintetsu Bldg. 6F, 19-2 Kanda-Matsunaga-cho, Chiyoda-ku
Tokyo 101-8641, JAPAN

Fax: +81-3-5256-1588 Tel: +81-3-5256-1581

E-mail: am-fpd-gbm@or.knt.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

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.

No food or refreshments will be served, therefore it is recommended to attend after dinner.

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. 49, No. 3, 2010). Try to include new, original, and significant findings in your presentation for AM-FPD '09 and submit your manuscript using online submission no later than July 10, 2009. 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 '09 cannot be accepted.

<http://www.ipap.jp/jjap/index.htm>

The review schedule is as follows

- July 2 2009: Submission
- November, 2009: Final decision
- March, 2010: Publication

AWARD

Papers presented at this workshop will be considered for the AM-FPD Best Paper Award. The winner is chosen after the final paper and presentation, and will be presented at the AM-FPD '10 workshop.

AM-FPD '08 BEST PAPER AWARD

• "High Frequency TFT Circuits for System Displays" , Soichiro Miyano, Yoichi Kitagishi, Takashi Okada, Genshiro Kawachi, Advanced LCD Technologies Development Center Co., Ltd., Japan

AM-FPD '08 STUDENT PAPER AWARD

• 2-4 "New Synthesis Method Using Microwave Thermo Catalysis for Inorganic EL Displays" , 7-3 "Degradation in $\text{Ga}_2\text{O}_3\text{-In}_2\text{O}_3\text{-ZnO}$ Thin Film Transistors under Constant Voltage Stress", Mami Fujii, Nara Institute of Science and Technology, Japan

ORGANIZING COMMITTEE

- Chair:** Hiroki Hamada (*Sanyo Electr.*)
Vice-Chair: Hiroshi Tsutsu (*Toshiba Matsushita Display Technol.*)
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Makoto Ohkura (*Hitachi Displays*)
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Masahiro Hayama (*ULVAC*)
Sadayoshi Hotta (*Matsushita Electr. Ind.*)
Hideki Matsumura (*JAIST*)

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Toshiaki Tsuchiya (*Shimane Univ.*)
Yuka Utusmi (*Hitachi*)
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Yuka Utsumi (*Hitachi*)
Man Wong (*Hong Kong Univ. Sci. Technol.*)
Yung-Hui Yeh (*ITRI*)
Soichi Moriya (*Seiko Epson*)
Yongtaek Hong (*Seoul National Univ.*)
- Adviser:** Atsushi Masuda (*AIST*)
Shinya Yamagushi (*Hitachi*)

SCIENTIFIC PROGRAM

Wednesday, July 1

Opening Session (9 : 00~9 : 15)

Chairperson : Y. Uraoka, *NAIST, Japan*

Welcome Address

H. Hamada, *Sanyo Electr., Japan*

Award Presentation

Session 1 : Keynote Address (9 : 15 ~ 10 : 45)

Chairpersons : T. Tsuchiya, *Shimane Univ., Japan*
M. Kimura, *Ryukoku Univ., Japan*

9:15 (1-1) Thin-Film Devices and Three-Dimensional Systems (invited)
M Koyanagi, *Tohoku Univ., Japan*

9:45 (1-2) Designing P-OLED Devices and Material Structures for Low Power Consumption Applications (invited)
I. Bidd, S. Brown, N. Conway, D. Forsythe, I. Grizzi, M. McKiernan, J. Pillow, M. Roberts, A. Strevens, *Cambridge Display Tech., UK*

10:15 (1-3) Technology trends in LCD/OLED substrate glass and related materials (invited)
P. L. Bocko, *Corning Incorporated, Japan*

— *Coffee Break* —

Session 2 : Circuit Design & Reliability of TFT

(11 : 00~12 : 05)

Chairpersons : C. -H. Chang, *Oregon State Univ., USA*
M. Kimura, *Ryukoku Univ., Japan*

11:00 (2-1) Gate Drive Circuits with a-Si:H TFT (invited)
B. S. Bae¹, H. J. Moon¹, S. M. Lim¹,
Y. T. Chun², D. S. Chung², J. W. Kim², ¹*Hoseo Univ., Korea*, ²*Samsung Advanced Inst. Technol., Korea*

11:25 (2-2) Stress-Induced Off-Current under On- and Off-State Stress Voltage in Low-Temperature n-Channel Poly-Si TFTs
S. Hirata, H. Tango, *Tokyo Polytechnic Univ., Japan*

- 11:45 (2-3) Self-Heating Effect Induced Degradation in Short-Channel ($L=1.5\mu\text{m}$) p-Type Polycrystalline Silicon Thin Film Transistor
S. -H. Choi¹, S. -J. Kim¹, T. -J. Ha¹,
H. -S. Park¹, M. -K. Han¹, Y. -G. Mo²,
H. -D. Kim², ¹*Seoul Nat'l Univ., Korea*,
²*Samsung Mobile Display, Korea*

— Lunch —

Session 3-1 : Oxide Semiconductor TFT (13 : 30 ~ 14 : 55)

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

- 13:30 (3-1) Oxide Thin-Film Transistors Fabricated by Inkjet Printed Channel Layers (Invited)
S. -Y. Han¹, D. -H. Lee^{1,2}, G. S. Herman³,
C. -H. Chang¹, ¹*Oregon State Univ., USA*,
²*Yeungnam Univ., Korea*, ³*Sharp Labs America, USA*
- 13:55 (3-2) Investigation on Yttrium-Indium-Zinc-oxide thin film transistors fabricated by solgel process
H. S. Shin, G. H. Kim, W. H. Jeong, B. D. Ahn,
H. J. Kim, *Yonsei Univ, Korea*
- 14:15 (3-3) Development of Driver-Integrated Panel using Amorphous In-Ga-Zn-Oxide TFT
T. Osada, K. Akimoto, T. Sato, M. Ikeda,
M. Tsubuku, J. Sakata, J. Koyama, T. Serikawa,
S. Yamazaki, *Semicond. Energy Lab, Japan*
- 14:35 (3-4) DC-DC Converter Using N-type Indium Gallium Zinc Oxide (IGZO) Thin Film Transistors (TFTs) for Mobile Display Applications
S. -H. Hong¹, I. -S. Yang¹, J. -S. Kang¹,
T. -H. Hwang¹, O. -K. Kwon¹, C. -W. Byun²,
W. -S. Cheong², C. -S. Hwang², K. -I. Cho²,
¹*Hanyang Univ., Korea*, ²*Electronics and Telecommunications Res. Inst., Korea*

— Break —

Session 3-2 : Oxide Semiconductor TFT (15 : 10 ~ 16 : 10)

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

15:10 (3-5) Temperature Dependence of Characteristics and Electronic Structure for Amorphous In-Ga-Zn-Oxide TFT

H. Godo, D. Kawae, S. Yoshitomi, T. Sasaki, S. Ito, H. Ohara, H. Kishida, M. Takahashi, A. Miyanaga, S. Yamazaki, *Semicond. Energy Lab., Japan*

15:30 (3-6) Study of temperature dependent behavior of amorphous oxide-based thin film transistors
J. Jeong¹, Y. Hong¹, J. K. Jeong², J. -S. Park², Y. -G. Mo², ¹*Seoul Nat'l Univ., Korea*,
²*Samsung Mobile Display, Korea*

15:50 (3-7) The Instability of Oxide-based Thin Film Transistors caused by the Negative Gate Bias Stress under the Light Illumination
T. -J. Ha, S. -J. Kim, S. -H. Choi, S. -Y. Lee, H. -S. Park, M. -K. Han, *Seoul Nat'l Univ., Korea*

— Coffee Break —

Session 4 : LCD & FPDs (16 : 25 ~ 17 : 10)

Chairpersons : T. Takahashi, *Kogakuin Univ., Japan*
H. -S. Koo, *Ming-Hsin Univ. Sci. Technol., Taiwan*

16:25 (4-1) Photo-Degradation and Detection in Liquid Crystal Cells Using Focused Laser Beam (Invited)
R. Yamaguchi, M. Ogura, *Akita Univ., Japan*

16:50 (4-2) A Multi-Touch Screen Display with Embedded Liquid-Crystal Capacitance Detector Arrays
H. -S. Park, Y. -J. Kim, M. -K. Han, *Seoul Nat'l Univ., Korea*

Late News (17 : 10 ~ 18 : 10)

Author Interviews (18 : 20 ~ 18 : 50)

Banquet (19 : 10 ~ 21 : 10)

Thursday, July 2

Symposium

(1) Applications of New TFTs (9 : 00 ~ 10 : 30)

Chairpersons : T. Sekitani, *Univ. Tokyo, Japan*
R. Hattori, *Kyushu Univ., Japan*

9:00 (S-1) Flexible AM-OLED Displays Driven by Organic TFTs on a Plastic Substrate (Invited)
S. Tokito, *NHK STRL, Japan*

9:30 (S-2) Transparent Amorphous Oxide TFT and its Application to Electronic Paper (Invited)
M. Ito, C. Miyazaki, N. Ikeda, Y. Kokubo, M. Ishizaki, Y. Ugajin, *Toppa Printing, Japan*

10:00 (S-3) A stretchable and flexible organic transistor active matrix for large-area sensors and displays (Invited)
T. Sekitani, T. Someya, *Univ. Tokyo, Japan*

— Coffee Break —

(2) Reliability of TFTs (10 : 45 ~ 12 : 15)

Chairpersons : H. Tango, *Tokyo Polytechnic Univ., Japan*
Y. Uraoka, *NAIST, Japan*

10:45 (S-4) Nanocrystalline Si TFTs - Impact of Contact Resistance and Threshold Voltage Stability on Field Effect Mobility (Invited)
A. Nathan^{1,2}, A. Ahnood¹, K. Ghaffarzadeh¹, R. Chaji^{2,3}, M. Bauza¹, J. Stott¹, A. Sazonov³,
¹*Univ. College London, UK*, ²*IGNIS Innovation, Canada*, ³*Univ. Waterloo, Canada*

11:15 (S-5) Temperature dependence of performance and of hot-carrier phenomena in Low-Temperature Poly-Si (LTPS) TFTs (Invited)
M. Matsumura¹, Y. Toyota¹, M. Hatano¹, M. Ohkura², ¹*Hitachi, Japan*, ²*Hitachi Displays, Japan*

11:45 (S-6) Stability of Zinc Oxide Thin-Film Transistors (ZnO TFTs) (Invited)
M. Furuta, Y. Hiramatsu, T. Matsuda, H. Nitta, H. Furuta, C. Li, T. Hirao, *Kochi Univ. Technol., Japan*

(3) FPD Materials for Next Generation “Blue Phase”

(13 : 30 ~ 15 : 00)

Chairpersons : H. Naito, *Osaka Prefecture Univ., Japan*
Y. Takafuji, *Sharp, Japan*

- 13:30 (S-7) Electro-optics of Optically Isotropic Nano-structured Liquid Crystal Composites (Invited)
H.Kikuchi¹, Y. Heseba², S. Yamamoto²,
T. Iwata³, H. Higuchi¹, ¹*Kyushu Univ., Japan*,
²*Chisso Petrochem., Japan*, ³*NOF Corp., Japan*
- 14:00 (S-8) Electro-optical Switching in a Blue Phase Stabilized by a Designed Chiral System (Invited)
A. Yoshizawa, *Hirosaki Univ., Japan*
- 14:30 (S-9) Structure and Dynamics of Cholesteric / Smectic Blue Phases (Invited)
J. Yamamoto, *Kyoto Univ., Japan*

— Coffee Break —

Author Interviews (15 : 10 ~ 15 : 40)

Poster Session (15 : 10 ~ 17 : 10)

OLED&OTFTp

- (P-1) High Performance of Air Stable Solution Processed n-channel Organic Thin-Film Transistor with Self-Assembled Monolayer
S.H. Kim, S.H. Lee, S. H. Han, M. H. Choi,
Y. B. Jung, J. Jang, *Kyung Hee Univ., Korea*
- (P-2) The Effects of Solvents on the Electrical Properties of Top-Gate Poly (3-hexylthiophene) Thin-Film Transistors
J. -W. Lin, W. -R. She, H. -L. Cheng, W. -Y. Chou,
F. -C. Tang, *Nat'l Cheng Kung Univ., Taiwan*

TFTp

- (P-3) Photoresponse of low-voltage pentacene thin-film transistors with organic/high-*k* inorganic hybrid dielectric
M. -H. Chung, J. -H. Kwon, S. -I. Shin, T. -Y. Oh,
H. -S. Bae, J. Choi, K. -H. Cho, S. Nahm,
B. -K. Ju, *Korea Univ., Korea*

- (P-4) Characterization of Microcrystalline Silicon Thin Film Transistors Fabricated by Thermal Plasma Jet Crystallization Technique
K. Sugakawa, S. Higashi, H. Kaku, T. Okada, S. Miyazaki, *Hiroshima Univ., Japan*
- (P-5) Lateral Growth of Polycrystalline Silicon-Germanium Thin Films Enhanced by Continuous Wave Laser Crystallization
K. Hirose¹, M. Kobata¹, T. Sato², K. Kitahara¹, A. Hara², ¹*Shimane Univ., Japan*, ²*Tohoku-Gakuin Univ., Japan*
- (P-6) Infrared Semiconductor Laser Irradiation used for Fabricating Polycrystalline Silicon Thin Film Transistors
T. Haba, T. Sameshima, *Tokyo Univ. Agriculture Technol., Japan*
- (P-7) Pulsed and cw laser based a-Si crystallization using green LASER OPTICS systems for LCD and OLED TFT-panels manufacturing
H. -J. Kahlert, B. Burghardt, P. Oesterlin, H. Schmidt, M. Timm, *Innovavent, Germany*
- (P-8) Activation of Silicon with Phosphorus and Boron Atoms by Infrared Semiconductor Laser Annealing
K. Ukawa¹, T. Sameshima¹, N. Sano², M. Naito³, N. Hamamoto³, ¹*Tokyo Univ. Agriculture Technol., Japan*, ²*Hightec Systems Corp., Japan*, ³*Nissin Ion Equipment, Japan*
- (P-9) The characteristics of bias temperature stressed PMOS solid phase crystallize silicon TFT (SPC-Si TFT) on the glass substrate with various H₂ plasma treatments
S. -G. Park, D. -W. Kang, S. -H. Kuk, Y. -J. Kim, M. -K. Han, *Seoul Nat'l Univ., Korea*
- (P-10) Color Sensitivity of Thin-Film Phototransistor using Poly-Si film with p/i/n Structure
T. Hachida^{1,2}, T. Ogura¹, Y. Miura¹, Y. Nishizaki^{1,2}, T. Yamashita^{1,2}, T. Shima¹, M. Kimura^{1,3}, ¹*Ryukoku Univ., Japan*, ²*NAIST, Japan*, ³*Innovative Materials and Processing Res. Ctr., Japan*

- (P-11) Temperature dependent performance of bottom-gate Poly-Si TFT with center-offset gated structure
M. K. Park, D. H. Kang, J. Jang, *Kyung Hee Univ., Korea*
- (P-12) Improved Reliability of two Photo-masks Top Gate a-Si TFT on Colorless Polyimide Substrates
Y. -S. Huang, H. -C. Cheng, K. -Y. Ho, H. -C. Lin, C. -H. Cheng, C. -C. Lee, *ITRI, Taiwan*
- (P-13) On-Panel Analog Output Buffer with Level Shifting Function in LTPS Technology
T. -M. Wang¹, S. -C. Chen¹, M. -D. Ker^{1,2}, ¹*Nat'l Chiao-Tung Univ., Taiwan*, ²*I-Shou Univ., Taiwan*
- (P-14) Economic Production Using Round-Bar Tool in In₂O₃SnO₂ Removal with Ultrasonic MECM Processes
P.S. Pa, *Univ. NTUE, Taiwan*
- (P-15) Effects of two- step annealing on optical and structural properties of nanocrystalline InGaZnO₄ thin films
K. H. Kim^{1,2}, T. J. Kim³, G. H. Kim², H. S. Shin², Y. W. Jung³, Y. D. Kim³, H. J. Kim³, ¹*Kinki Univ., Japan*, ²*Yonsei Univ., Korea*, ³*Kyung Hee Univ., Korea*

LCD&FPDp

- (P-16) Study on the field-emission characterization of H₂ plasma-treated CNTs for FPD
M. Chen, S. -C. Lu, H. -S Koo, *Ming-Hsin Univ. Sci. Technol., Taiwan*
- (P-17) Electropolishing of Indium Tin Oxide in Oxalic and Tartaric Acid
Y. -F. Wu¹, T. -H. Tsai², ¹*MingChi Univ. Technol., Taiwan*, ²*Tamkang Univ., Taiwan*
- (P-18) Patterning of ITO Films on Flexible Substrates by Using Self-Assembled Monolayer
Y. -F. Wu, B. -R. Huang, *MingChi Univ. Technol., Taiwan*

Tutorial in Japanese (18 : 30 ~ 21 : 00)

Fundamental principles and advanced technologies of AM-OLEDs

18:30 (T-1) Organic Materials, Device structures, Fabrication Processes, Electrical Characteristics, Optical Properties, Degradation Mechanisms of OLEDs
H. Kuma, *Idemitsu, Japan*

— Break —

19:45 (T-2) TFT Backplane Technology, Driving Method of OLED Panel, Compensation Technology
Y. Matsueda, *Matsueda Consulting, Japan*

Friday, July 3

Session 5: Laser Crystallization for Poly-Si TFT

(9 : 00 ~ 10 : 25)

Chairpersons : M. -K. Han, *Seoul Nat'l Univ. Korea*
R. Ishihara, *Delft Univ. Technol.,
The Netherlands*

- 9:00 (5-1) Local Electrical Properties of Poly-Si Thin Films (Invited)
H. Ikenoue¹, E. Machida², Y. Uraoka², T. Ito³,
R. Kokawa³, ¹*Kochi Nat'l College Technol.,
Japan*, ²*NAIST, Japan*, ³*Shimazu Corp., Japan*
- 9:25 (5-2) Electrochemically-Active In-Grain Defects in Poly-Si Films Crystallized by 308nm Excimer Laser Directional SLS
N. Sasaki¹, K. Kitahara², K. Yamamoto²,
K. Hirose², ¹*Okayama Prefectural Univ., Japan*,
²*Shimane Univ., Japan*
- 9:45 (5-3) Micro-poly-Si film Formation by Blue-Multi-Laser-Diode Annealing (BLDA)
T. Noguchi¹, Y. Chen¹, Y. Ogino², Y. Iida²,
E. Sahota², M. Terao², ¹*Univ. Ryukyus, Japan*,
²*Hitachi Computer Peripherals, Japan*
- 10:05 (5-4) P and N type Microcrystalline Silicon TFTs simultaneously fabricated at T<180°C
K. Kandoussi, I. Souleiman, K. Belarbi,
R. Cherfi, C. Simon, N. Coulon,
T. Mohammed-Brahim, *Univ. Rennes, France*

— Coffee Break —

Session 6: New Process for Poly-Si TFT (10: 40 ~ 12 : 05)

Chairpersons : T. Noguchi, *Univ. Ryukyus, Japan*
A. Heya, *Univ. Hyogo, Japan*

- 10:40 (6-1) Plasma-Based Copper Etch Process for TFT and IC Fabrication (Invited)
Y. Kuo, *Texas A&M Univ., USA*
- 11:05 (6-2) Direct Patterning of Poly-Si Thin Films by Laser-Induced Backward Transfer
M. Tani, H. Ikenoue, *Kochi Nat'l College Technol., Japan*

11:25 (6-3) High Quality SiO₂ deposited at 150°C by Inductively Coupled Plasma Chemical Vapor Deposition with Pulsed Substrate Bias
T. Hiramatsu, T. Matsuda, H. Furuta, H. Nitta, T. Kawaharamura, C. Li, M. Furuta, T. Hirao, *Kochi Univ. Technol., Japan*

11:45 (6-4) Defect Reduction in Polycrystalline Silicon Thin Films at 150°C by High-Pressure H₂O Vapor Heat Treatment
Y. Mizutani¹, T. Sameshima¹, K. Motai², K. Ichimura², ¹*Tokyo Univ. Agriculture Technol., Japan*, ²*Dai Nippon Printing, Japan*

— Lunch —

Session 7 : OLED (13: 20 ~ 14 : 40)

Chairpersons : Toshiaki Arai, *Sony, Japan*
H. Akimoto, *Hitachi Displays, Japan*

13:20 (7-1) Amorphous In-Ga-Zn-Oxide TFTs with Suppressed Variation for 4.0 inch QVGA AMOLED Display
H. Ohara, T. Sasaki, K. Noda, S. Ito, M. Sasaki, Y. Toyosumi, Y. Endo, S. Yoshitomi, J. Sakata, T. Serikawa, S. Yamazaki, *Semicond. Energy Lab., Japan*

13:40 (7-2) Voltage Programming Based Pixel Circuit to Compensate Threshold Voltage and Mobility using a Natural Capacitance of Organic Light Emitting Diode (OLED)
Y. -J. Park, M. -H. Jung, S. -H. Park, O. Kim, *Pohang Univ. Sci. Technol., Korea*

14:00 (7-3) A Pixel Structure for OLED-on-Silicon Microdisplays
H. Kim, B. -C. Kwak, H. -S. Lim, O. -K. Kwon, *Hanyang Univ., Korea*

14:20 (7-4) A Simple Pixel Structure with External Compensation of Non-uniform Electrical Characteristic of Poly-Si TFTs and OLED Degradation in AMOLED Displays
H. -J. In, O. -K. Kwon, *Hanyang Univ., Korea*

— Coffee Break —

Session 8 : New Device Structure for poly-Si TFT

(15: 00 ~ 16 : 40)

Chairpersons : T. Mohamand-Brahim , *Univ. Rennes, France*
S. Higashi, *Hiroshima Univ., Japan*

15:00 (8-1) Monolithic 3D-ICs with Single Grain Si TFTs
R. Ishihara, J. Derakhshandeh,
M. R. T. Mofrad, T. Chen, C. I. M. Beenakker,
Delft Univ. Technol., The Netherlands

15:20 (8-2) Three-Dimensional Device Fabricated with
Green Laser
T. Yamashita¹, Y. Sugawara¹, Y. Uraoka¹,
M. Kimura², ¹*NAIST, Japan*, ²*Ryukoku Univ.,
Japan*

15:40 (8-3) The Effect of Intrinsic Region Length and
Temperature on the Photocurrent of Lateral
Polysilicon PIN Diodes
S. -B. Ji, H. -S. Park, S. -Y. Lee, M. -K. Han,
Seoul Nat'l Univ., Korea

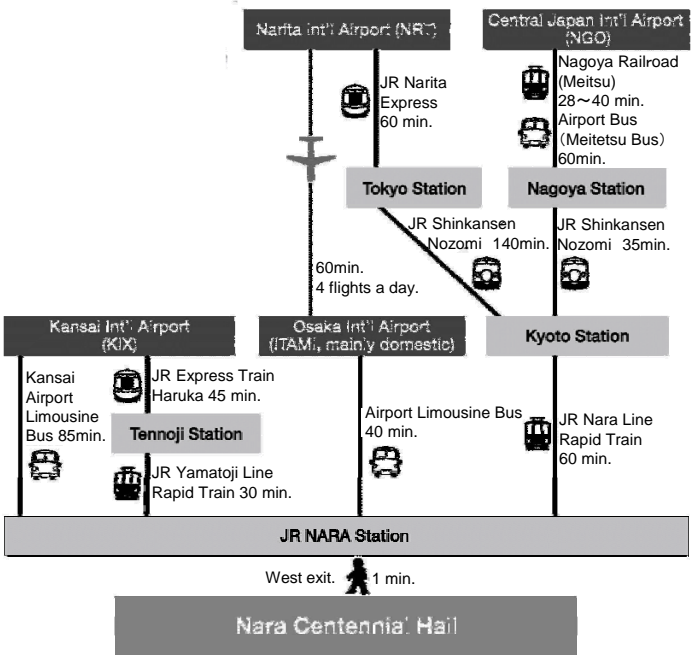
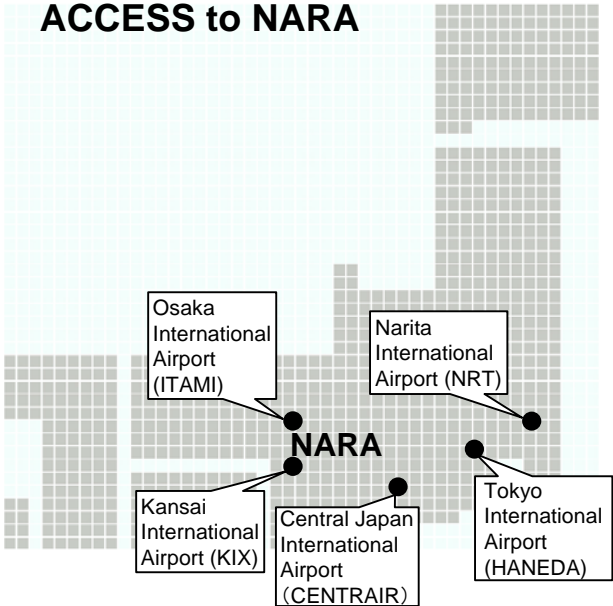
16:00 (8-4) Fabrication of 6T SRAM cell using single
grain TFTs obtained by μ -Czochralski
process
N. Golshani, R. Ishihara, J. Derakhshandeh,
C.I.M Beenakker, *Delft Univ. Technol., The
Netherlands*

16:20 (8-5) Influences of Gate Dielectric Structure and
Mechanical Bending on Memory Functions of
Floating-Gate a-Si:H TFTs
Y. Kuo, M. Coan, *Texas A&M Univ., USA*

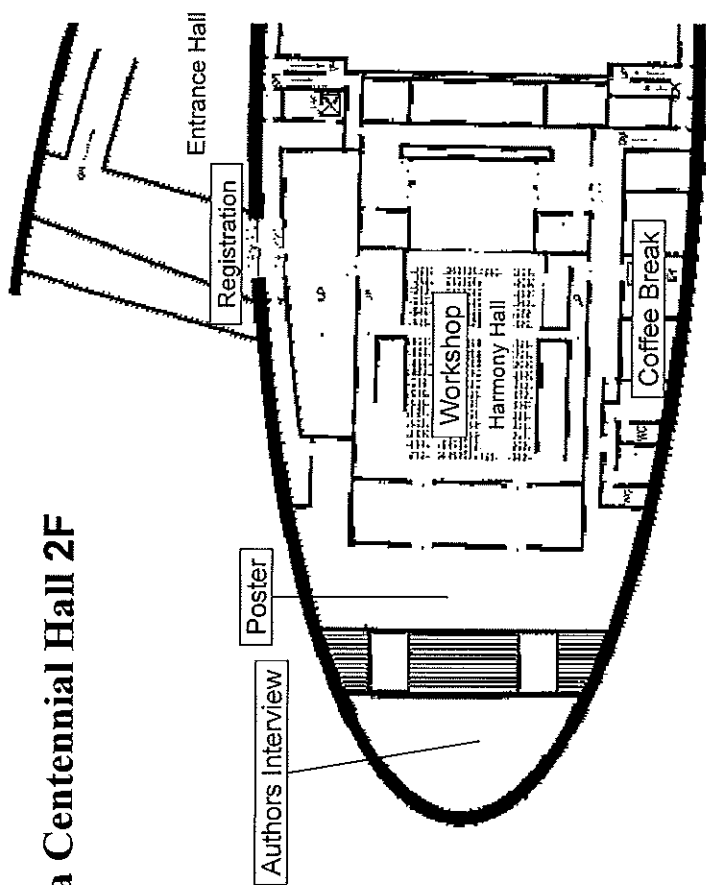
Author Interviews (16 : 50 ~ 17 : 20)

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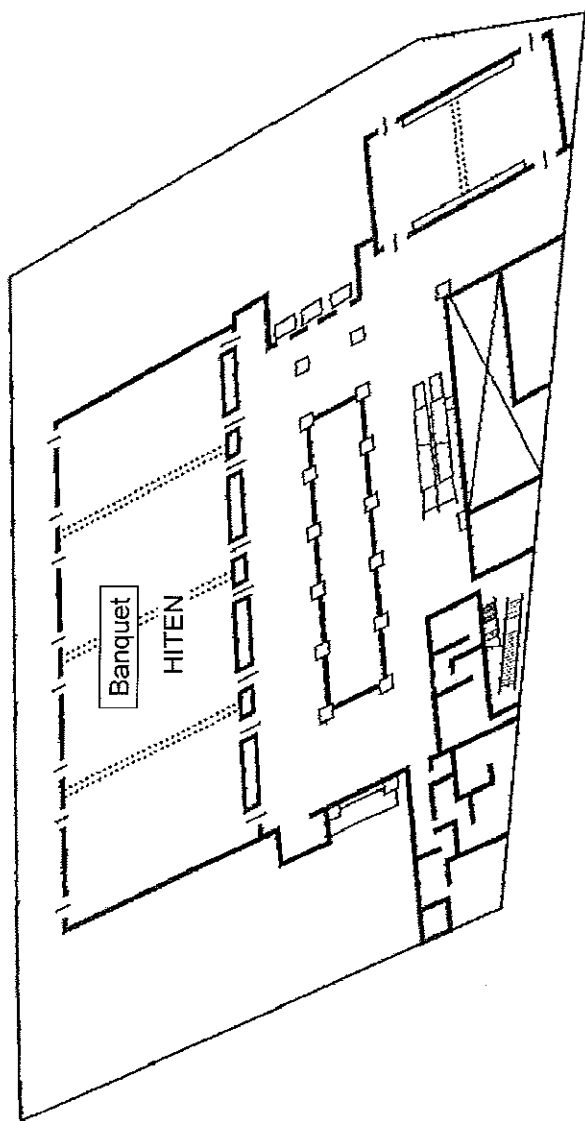
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ACTIVE-MATRIX FLATPANEL DISPLAYS AND DEVICES
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(AM-FPD '09)**

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