ADVANCE PROGRAM

AM-FPD ’09

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

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<th>Tuesday, June 30</th>
<th>Wednesday, July 1</th>
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<tr>
<td><strong>Registration</strong></td>
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<td>8:30-17:00</td>
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<tr>
<td><strong>Workshop</strong></td>
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<tr>
<td>9:00-9:15</td>
<td>Opening Session</td>
<td>9:00-10:30</td>
<td>9:00-10:25</td>
</tr>
<tr>
<td>9:15-10:30</td>
<td>Session 1: Keynote Address</td>
<td>10:30-10:45</td>
<td>10:25-10:40</td>
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<tr>
<td>10:45-11:00</td>
<td>Coffee Break</td>
<td>10:45-12:15</td>
<td>10:40-12:05</td>
</tr>
<tr>
<td>11:00-12:05</td>
<td>Session 2: Circuit Design &amp; Reliability of TFT</td>
<td>12:05-12:40</td>
<td>Session 6: New Process for Poly-Si TFT</td>
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<tr>
<td>12:00-13:30</td>
<td>Lunch</td>
<td>12:15-13:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30-15:00</td>
<td>Session 3: Oxide Semiconductors TFT</td>
<td>14:00-15:00</td>
<td>Lunch</td>
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<tr>
<td>15:00-16:25</td>
<td>Coffee Break</td>
<td>15:00-15:20</td>
<td>Lunch</td>
</tr>
<tr>
<td>16:25-17:10</td>
<td>Session 4: LCD &amp; FPDs</td>
<td>15:20-17:10</td>
<td>Lunch</td>
</tr>
<tr>
<td>17:10-18:00</td>
<td>Late News</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Author Interviews</strong></td>
<td>18:20-18:50</td>
<td>15:10-15:40</td>
<td>16:50-17:20</td>
</tr>
<tr>
<td><strong>Poster Session</strong></td>
<td>18:30-21:00</td>
<td>15:10-17:10</td>
<td>15:00-16:40</td>
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<tr>
<td><strong>Tutorial</strong></td>
<td>18:30-21:00</td>
<td>15:00-16:40</td>
<td></td>
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<tr>
<td><strong>Banquet</strong></td>
<td>19:30-21:00</td>
<td>15:00-16:40</td>
<td></td>
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</tbody>
</table>

**Registration**: "Harmony Hall" Entrance, 2nd Floor  
**Workshop**: "Harmony Hall", 2nd Floor  
**Poster Session**: "Harmony Hall" Foyer, 2nd Floor  
**Author Interviews**: "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 crystalization. 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

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Presentation</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keynote</td>
<td>30 min.</td>
<td>25 min.</td>
<td>5 min.</td>
</tr>
<tr>
<td>Invited</td>
<td>25 min.</td>
<td>20 min.</td>
<td>5 min.</td>
</tr>
<tr>
<td>Symposium</td>
<td>30 min.</td>
<td>25 min.</td>
<td>5 min.</td>
</tr>
<tr>
<td>Oral</td>
<td>20 min.</td>
<td>15 min.</td>
<td>5 min.</td>
</tr>
<tr>
<td>Poster</td>
<td>15:10-17:10, July 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late News</td>
<td>15 min.</td>
<td>12 min.</td>
<td>3 min.</td>
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</table>
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

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<thead>
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<th></th>
<th>By June 17, 2009 (JPT)</th>
<th>On site</th>
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<tbody>
<tr>
<td><strong>Registration Fee</strong></td>
<td></td>
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<tr>
<td>Regular</td>
<td>¥43,000</td>
<td>¥48,000</td>
</tr>
<tr>
<td>Student</td>
<td>¥10,000</td>
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<tr>
<td>Tutorial in Japanese</td>
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<td>¥3,000</td>
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<tr>
<td>Extra Proceedings</td>
<td></td>
<td>¥5,000</td>
</tr>
<tr>
<td>CD-ROM (from 1st to 9th)</td>
<td></td>
<td>¥15,000(set)</td>
</tr>
</tbody>
</table>

**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”, Mami Fujii, Nara Institute of Science and Technology, Japan
ORGANIZING COMMITTEE
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Vice-Chair: Hiroshi Tsutsu (Toshiba Matushita Display Technol.)
Members: Yutaka Ishii (Sharp)
          Makoto Ohkura (Hitachi Displays)
          Setsuo Kaneko (NEC LCD Technol.)
          Kazuhiro Kobayashi (Mitsubishi Electric.)
          Nobuo Sasaki (Okayama Prefectural Univ.)
          Masahiro Hayama (ULVAC)
          Sadayoshi Hotta (Matsushita Electr. Ind.)
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          Hiroshi Tanabe (NEC LCD Technol.)
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          Yuka Utusmi (Hitachi)
          Saishi Fujikawa (Semicond. Energy Lab.)
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          Richard H. Friend (Univ. Cambridge)
          Masanobu Ikeda (Sony)
          Hajime Yamaguchi (Toshiba)
          Reiji Hattori (Kyushu Univ.)
          Akira Heya (Univ. Hyogo)
          Seiichiro Higashi (Hirosima Univ.)
          Arichika Ishida (Toshiba Matsushita Display Technol.)
          Ryoichi Ishihara (Delft Univ. Technol.)
          Shinichi Ishizuka (Pioneer)
          Akira Izumi (Kyushu Inst. Technol.)
          Toshio Kamiya (Tokyo Tech.)
          Mamoru Furuta (Kochi Univ. Technol.)
          Taizoh Sadoh (Kyushu Univ.)
          Jin Jang (Kyung Hee Univ.)
          Jerzy Kanicki (Univ. Michigan)
          Horng-Show Koo (Ming-Hsin Univ. Sci. Technol.)
          Takahiro Korenari (NEC LCD Technol.)
          Yue Kuo (Texas A&M Univ.)
          Piero Migliorato (Univ. Cambridge)
          Hiroyoshi Naito (Osaka Prefecture Univ.)
          Hiroaki Nakamura (Idemitsu Kosan)
          Takao Someya (Univ. Tokyo)
          Yutaka Taka Fuji (Sharp)
          Taiju Takahashi (Kogakuin Univ.)
          Yasuo Toko (Stanley Electric)
          Yukiharu Uraoka (NAIST)
          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)

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. Bae\textsuperscript{1}, H. J. Moon\textsuperscript{1}, S. M. Lim\textsuperscript{1}, Y. T. Chun\textsuperscript{2}, D. S. Chung\textsuperscript{2}, J. W. Kim\textsuperscript{2}, \textsuperscript{1}Hoseo Univ., Korea, \textsuperscript{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=1.5μm) 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. Kim3, 1Seoul Nat'l Univ., Korea, 2Samsung 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. Lee2, G. S. Herman3,  
C. –H. Chang1, 1Oregon State Univ., USA, 2Yeungnam Univ., Korea, 3Sharp 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,  
1Hanyang Univ., Korea, 2Electronics 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

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. Park3, Y. –G. Mo2, 1Seoul Nat’l Univ., Korea, 2Samsung 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

— 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, Toppan 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. Nathan1,2, A. Ahnood1, K. Ghaffarzadeh1, R. Chaji2,3, M. Bauza1, J. Stott1, A. Sazonov3,
            1Univ. College London, UK, 2IGNIS Innovation, Canada, 3Univ. 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, 1Hitachi, Japan, 2Hitachi Displays, Japan

11:45 (S-6) Stability of Zinc Oxide Thin-Film Transistors (ZnO TFTs) (Invited)
— Lunch —

(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. Kikuchi\(^1\), Y. Heseba\(^2\), S. Yamamoto\(^2\), T. Iwata\(^3\), H. Higuchi\(^1\)\(^{-1}\) 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  

**TFTp**

(P-3) Photoresponse of Low-voltage Pentacene Thin-film Transistors with Organic/high-k Inorganic Hybrid Dielectric  
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*

Lateral Growth of Polycrystalline Silicon-Germanium Thin Films Enhanced by Continuous Wave Laser Crystallization
K. Hirose¹, M. Kobata¹, T. Sato², K. Kitahara¹, A. Hara², *Shimane Univ., Japan*, ²*Tohoku-Gakuin Univ., Japan*

Infrared Semiconductor Laser Irradiation used for Fabricating Polycrystalline Silicon Thin Film Transistors
T. Haba, T. Sameshima, *Tokyo Univ. Agriculture Technol., Japan*

Pulsed and cw laser based a-Si crystallization using green LASER OPTICS systems for LCD and OLED TFT-panels manufacturing

Activation of Silicon with Phosphorus and Boron Atoms by Infrared Semiconductor Laser Annealing
K. Ukawa¹, T. Sameshima¹, N. Sano², M. Naito³, N. Hamamoto¹, ¹*Tokyo Univ. Agriculture Technol., Japan*, ²*Hightec Systems Corp., Japan*, ³*Nissin Ion Equipment, Japan*

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*

Color Sensitivity of Thin-Film Phototransistor using Poly-Si film with p/i/n Structure
T. Hachida¹², T. Ogura¹, Y. Miura¹, Y. Nishizaki¹², T. Yamashita¹², T. Shima¹, M. Kimura¹³, 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

(P-13) On-Panel Analog Output Buffer with Level Shifting Function in LTPS Technology
T. -M. Wang1, S. -C. Chen1, M. -D. Ker1,2, 1Nat’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. Kim1,2, T. J. Kim1, G. H. Kim1, H. S. Shin2, Y. W.Jung3, Y. D. Kim3, H. J. Kim3, 1Kinki Univ., Japan, 2Yonsei Univ., Korea, 3Kyung Hee Univ., Korea

LCD&FPDp
(P-16) Study on the field-emission characterization of H2 plasma-treated CNTs for FPD

(P-17) Electropolishing of Indium Tin Oxide in Oxalic and Tartaric Acid
Y. -F. Wu1, T. -H. Tsai2, 1MingChi Univ. Technol., Taiwan, 2Tamkang 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, 1Kochi Nat’l College Technol., Japan, 2NAIST, Japan, 3Shimazu 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. Hirose3, 1Okayama Prefectural Univ., Japan, 2Shimane 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, 1Univ. Ryukyus, Japan, 2Hitachi 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

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. Ichimura³, ¹Tokyo Univ. Agriculture Technol., Japan, ²Dai 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

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)

14:00  (7-3)  A Pixel Structure for OLED-on-Silicon Microdisplays

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, 1NAIST, Japan, 2Ryukoku 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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Osaka International Airport (ITAMI)
Kansai International Airport (KIX)
Central Japan International Airport (CENTRAIR)
Narita International Airport (NRT)

Tokyo International Airport (HANEDA)

ACCESS to NARA
JR Narita Express 60 min.
Nagoya Rail Road (Meitetsu) 28~40 min.
Airport Bus (Meitetsu Bus) 60 min.

JR Shinkansen Nozomi 35 min.
JR Express Train Haruka 45 min.
Kansai Airport Limousine Bus 45 min.

JR Shinkansen Nozomi 140 min.
JR Nara Line Rapid Train 30 min.

JR Nara Line Rapid Train 60 min.

West exit 1 min.

Nara Centennial Hall
Hotel Nikko Nara 4F
THE SIXTEENTH INTERNATIONAL WORKSHOP ON
ACTIVE-MATRIX FLATPANEL DISPLAYS AND DEVICES
—TFT TECHNOLOGIES AND FPD MATERIALS —
(AM-FPD '09)

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