



Final Call for Papers



SOCIETY FOR INFORMATION DISPLAY

IDW '07 -The 14th International Display Workshops

December 5-7, 2007

Sapporo Convention Center, Sapporo, Japan

Sponsored by

The Institute of Image Information and Television Engineers

The Society for Information Display

The latest information is available on <http://www.idw.ne.jp/>

IDW '07 FEATURES

IDW '07 will integrate fourteen workshops and one topical session in specialized fields playing important roles in information display activities. Each workshop will be composed of invited and contributed papers for oral and poster presentations. Suggestive and detailed discussions on each specialized R&D update will be provided. The workshops and the topical session should be of interest not only to researchers and engineers, but also to those who manage companies and institutions in the display community.

CONFERENCE SITE

The **Sapporo Convention Center** is conveniently situated close to Higashi-Sapporo subway station in **Sapporo**, the capital of Hokkaido, Japan's northernmost island. Sapporo, the fifth largest city in Japan, offers the advantages of big-city living together with beautiful natural environment and many local delicacies. Hot spas, mountain climbing, camping, and after-work skiing are just as common as afternoon tea in a downtown cafe. Sapporo's numerous charms make it an ideal convention site for you and your traveling companions.

There are many flights (domestic and international) to **Sapporo's New Chitose Airport**, which is connected with Sapporo's downtown area by rapid-service trains (35 minutes) or airport shuttle buses (70 minutes). An extensive public transport system is well developed in Sapporo making traveling the city and the surrounding areas fun and easy.

For more information please refer to the following web sites.
Sapporo Convention Center: <http://www.sora-scc.jp/english/index.html>
Sapporo City: <http://www.welcome.city.sapporo.jp/english/index.html>

Keynote Address

- **Creation of Innovative Concept for New Business**
Kenichi Mori (Tokyo Univ. of Sci.)

The title is tentative.

An additional talk is being arranged.

Invited Address

- **Active-Matrix Backplane Technologies for Flexible Displays**
Jin Jang (Kyung Hee Univ.)

The title is tentative.

An additional talk is being arranged.

DEADLINES AND KEY DATES

Submission of Technical Summary ----- June 29, 2007

Acceptance Notification/Author's Kit available on the web
----- July 26, 2007

Submission of Camera-ready Manuscript & Abstract
----- September 12, 2007

Submission of Late-News Paper ----- September 28, 2007

Advance Registration ----- November 21, 2007

REGISTRATION FEES

	by Nov. 8	after Nov. 8
Member of SID/ITE/ASO*	¥ 30,000	¥ 40,000
Non-member	¥ 35,000	¥ 45,000
Student	¥ 8,000	¥ 10,000
Life member of SID/ITE	¥ 8,000	¥ 10,000

*Academic supporting organizations

LANGUAGE

The official language is English.

EXHIBITION

The IDW '07 Exhibition will be held from Dec. 5 through Dec. 7, which covers materials, components, manufacturing and measuring equipment, software systems and related products for display devices. Please join and enjoy discussions at exhibitor's booths.

Contact the IDW '07 Secretariat for detailed information.

IDW '07 CHAIRS

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Y. Nagae (Hitachi Displays)
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Executive Chair
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Program Chair
H. Seki (Hachinohe Inst. of Tech.)
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The Advance Program will be available in September 2007, including REGISTRATION and HOTEL INFORMATION.

WORKSHOP OUTLINES

LCT

Workshop on LC Science and Technologies

Workshop Chair: H. Fujikake (NHK)

This workshop will cover all aspects of liquid crystal (LC) science and technologies, ranging from fundamental material research to display and other applications. An in-depth discussion on the advanced LC displays will be emphasized.

Topic Areas

- 1) LC materials (physicochemical, nano-structural and thermal studies)
- 2) Surface alignment and characterization techniques
- 3) Electro-optic effect, display mode, optical design and simulations
- 4) Processing, manufacturing, measuring and evaluation techniques
- 5) High performance display featuring excellent image quality
- 6) Flexible display and electronic paper applications
- 7) Functional devices for other various applications
- 8) LC semiconductor and organic electronics

AMD

Workshop on Active Matrix Displays

Workshop Chair: M. Kimura (Ryukoku Univ.)

This workshop will cover all aspects of active matrix displays.

Topic Areas

- 1) Fundamental principles, new materials, device structures, fabrication processes, design technologies, evaluation methods, addressing schemes, driving circuits, video electronics, monitor controllers, signal interfaces, display technologies, novel applications, etc.
- 2) Active devices for active matrix displays: amorphous-Si TFTs, poly-Si TFTs, oxide-semiconductor TFTs, compound-semiconductor TFTs, organic TFTs, etc.
- 3) Display devices for active matrix displays: LCDs, OLEDs, electronic papers, FEDs, microdisplays, etc.

FMC

Workshop on FPD Manufacturing, Materials and Components

Workshop Chair: Y. Ukai (Sony)

This workshop will cover technology trends and the subject of flat panel displays (FPDs) in the aspects of manufacturing, materials, components and systems.

Topic Areas

- 1) Trends in FPD materials, components and systems
- 2) Technical trends of panel construction
- 3) Optical materials and systems
- 4) Color filter materials
- 5) Lighting materials, components and systems
- 6) Materials for processes
- 7) Equipment for processes and measurements
- 8) Ecology, 3R (Recycle, Reduce and Reuse)

CRT

Workshop on CRTs

Workshop Chair: H. Y. Chen (Chunghwa Picture Tubes)

This workshop will cover the entire field of CRT technologies.

Topic Areas

- 1) New CRTs (high-Luminance CRTs, Shallow /Thin CRTs, etc.)
- 2) Projection CRTs
- 3) Components (gun, cathode, mask, glass, DY, etc.)
- 4) Surface coating, phosphors, screen structure and ergonomics
- 5) Computer modeling and measuring technology
- 6) Manufacturing and recycling technology
- 7) CRT appliances (CRT monitors, TV sets, etc.)
- 8) History of CRT

PDP

Workshop on Plasma Displays

Workshop Chair: K. Nunomura (Pioneer)

This workshop will cover all aspects of science, technologies and applications of plasma display panels.

Topic Areas

- 1) Fundamental mechanisms
- 2) Panel configurations
- 3) Materials, components and fabrication processes
- 4) Driving techniques, signal processing and image quality

PH

Workshop on EL Displays, LEDs and Phosphors

Workshop Chair: Y. Nakanishi (Shizuoka Univ.)

This workshop will have a discussion on current topics in EL displays (ELDs), LEDs and phosphors. The workshop will also deal with phosphor application, phosphor screens for CRTs, plasma displays (PDPs), field emission displays (FEDs) and other emissive displays.

Topic Areas

- 1) Inorganic ELDs (materials, process, devices, drive circuits, etc.)
- 2) LEDs (materials, devices, panels, lighting, etc.)
- 3) Phosphors (for CRTs, PDPs, FEDs, VFDs, LEDs, etc.)

FED

Workshop on Field Emission Display

Workshop Chair: M. Takai (Osaka Univ.)

The following topics will be covered in this workshop.

Topic Areas

- 1) Fundamental mechanisms and configurations
- 2) Modeling and simulation
- 3) Materials, components and fabrication processes
- 4) Field emission physics and characteristics
- 5) Driving technologies and signal processing
- 6) Picture quality, reliability and lifetime
- 7) Applications
- 8) Miscellaneous topics related with field emitters

VHF

Workshop on Applied Vision and Human Factors

Workshop Chair: Y. Shimodaira (Shizuoka Univ.)

This workshop will cover all aspects of vision, human factors and image quality related with displays, such as the followings.

Topic Areas

- 1) Display image quality: models, metrics and evaluation methods
- 2) Characteristic requirements to displays on image quality: luminance, contrast, gray-scale, color, resolution, sharpness, viewing angle, etc.
- 3) Spatio-temporal image artifacts on displays and their improvements
- 4) Display measurement relevant with human factors
- 5) Display ergonomics and their standards
- 6) Legibility and usability issues for text displays or electronic papers
- 7) Actions and behaviors that are consequences of visually displayed information
- 8) Visual quality and optometric factors in virtual displays

OLED

Workshop on Organic LED Displays

Workshop Chair: Y. Sato (JST)

This workshop will cover all aspects of science and technologies of organic LED displays, ranging from materials research and basic device physics to display and other applications.

Topic Areas

- 1) Material (Dyes and Polymers) for organic LED displays
- 2) Problems related with electrodes and interfaces
- 3) Device physics and efficiency
- 4) Display applications
- 5) Fabrication processes
- 6) Active and passive matrix circuits and systems
- 7) Reliability and lifetime
- 8) Miscellaneous topics related with organic LED displays
- 9) Fundamental mechanisms and configurations of OLEDs and Organic TFTs

LAD

Workshop on Projection and Large-Area Displays, and Their Components

Workshop Chair: Z. Tajima (Hitachi Displays)

This workshop will cover several current topics in projection and large-area displays, and their components.

Topic Areas

- 1) Projector and projection TV using microdisplays
- 2) Microdisplay technology for projection
- 3) Optics and video signal processing for projection
- 4) Optical components (light source, illumination, screen, lenses, etc.) for projection
- 5) Algorithm and image processing for large screen displays
- 6) Digital cinema
- 7) Large-area display systems

3D

Workshop on 3D/Hyper-Realistic Displays and Systems

Workshop Chair: I. Yuyama (Utsunomiya Univ.)

This workshop will cover several current topics encompassing 3D/hyper-realistic displays, systems and other related technologies.

Topic Areas

- 1) Stereoscopic, holographic and other 3D display technologies and systems
- 2) Immersive, interactive and VR display technologies and systems
- 3) New applications using 3D/hyper-realistic displays
- 4) 3D image coding, 2D to 3D conversion, multi-viewpoint representation and other 3D/hyper-realistic image processing
- 5) Human factor and evaluation of 3D/hyper-realistic display techniques and systems

EP

Workshop on Electronic Paper

Workshop Chair: M. Omodani (Tokai Univ.)

This workshop will focus on current topics on Electronic Paper, Paper-like Displays, and Rewritable Paper. Hardware, software, materials, human-interfaces, systems, applications, and overviews of this field are expected to be discussed. Joint sessions with other workshops will be prepared for crossover themes.

Topic Areas

- 1) Display methods for Electronic Paper
- 2) Materials, components, and fabrication processes
- 3) Driving techniques
- 4) Human-interface on Electronic Paper
- 5) Discussion on concepts of Electronic Paper
- 6) Electronic book and Electronic newspaper
- 7) Other applications of Electronic paper

MEMS**Workshop on
MEMS for Future Displays
and Related Electron Devices***Workshop Chair: M. Nakamoto (Shizuoka Univ.)*

This workshop will cover all aspects of science and technologies of MEMS for future displays, imaging devices, and related electron devices, ranging from materials research and basic device physics to display and other applications.

Topic Areas

- 1) Displays, imaging devices and other optical and electron devices using MEMS (NEMS)
- 2) Optical MEMS such as optical scanners, optical switches, optical mirrors, optical space modulators, optical filters, etc.
- 3) Sensors and actuators for electromagnetic wave, infrared rays, ultraviolet rays, X-rays, visible rays, supersonic wave, hearing, touching, smell, taste, etc.
- 4) Materials, components and fabrication processes
- 5) Fundamental mechanisms and configurations
- 6) Miscellaneous topics related to MEMS displays

DES**Workshop on
Display Electronic Systems***Workshop Chair: H. Okumura (Toshiba)*

This workshop will cover all aspects of electronic systems including hardware as well as software aspects related to all kinds of displays.

Topic Areas

- 1) Video processing including elimination of the known artifacts, de-interlace and scaling
- 2) Integrated electronics including input device and functional device integration
- 3) Video interface technologies
- 4) High fidelity display systems including high dynamic range and large color gamut
- 5) Novel electronic systems
- 6) Driving circuit technology including high-speed and low power driving
- 7) Electronic aspects of backlight systems including scanning backlight and the cooperative working with LC-cells

IPD**Topical Session on Imaging
and Photonic Devices***Topical Session Chair: S. Kobayashi (Chitose Inst. of S&T)*

This session will cover all aspects of imaging and photonic devices.

Topic Areas

- 1) Fibers and planar waveguides, their design, fabrication and characteristics
- 2) Photonic devices, techniques and imaging in communication, measurements and sensors including bio & medical photonics
- 3) Application of scanning probe microscopy
- 4) Ultra short laser pulse phenomena
- 5) Photonic nonlinear physical characteristics

Invited Talks

- **Tunable Liquid Crystal Negative-Zero-Positive Index Metamaterials**
Iam Choon Khoo (Pennsylvania State Univ.)
- **LCD Photoalignment: What is Next?**
Vladimir Chigrinov (Hong Kong Univ. of S&T)
- **SELAX Technology for Poly-Si TFTs Integrated with Amorphous-Si TFTs**
Takuo Kaitou (Hitachi Displays)
- **FPD Innovation by Emerging Nanomaterials and Nanoprocesses**
Hiroshi Yokoyama (AIST)
- **Technology for High Quality Image**
Masataka Uchidoi (Pioneer)
- **Recent Progress on Polymer LED Materials**
Yoshiaki Tsubata (Sumation)
- **Human Factor for a Three-Dimensional Display Design**
Wa James Tam (Commun. Res. Ctr. Canada)
- **Light Emitting Devices Based on Semipolar-Oriented InGaN/GaN Quantum Wells**
Yoichi Kawakami (Kyoto Univ.)
- **Recent MEMS Activity in Korea**
Jun-Bo Yoon (KAIST)
- **Advanced Video Processing for Full HD High-Refresh-Rate LCD-TV**
Nikhil Balram (Marvell Semiconductor)

The titles are tentative.
Additional invited talks are being arranged.

IDW '07 OVERSEAS ADVISORS

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PAPER SUBMISSION

INSTRUCTIONS FOR SUBMISSION OF TECHNICAL SUMMARY

Submit a Technical Summary via the conference website;

<http://idw.ee.uec.ac.jp/authinfo.html>

in PDF or Microsoft Word.

Follow the submission instructions given on the website or shown below. If you have any difficulties with the online submission, please send a set of Paper Application Form and Technical Summary by June 29, 2007, to the IDW '07 Secretariat. The Paper Application Form is available on the conference website.

I. Technical Summary Guidelines

The file should be formatted in A4-sized pages. A sample file is available on the website.

One to two page text in **one column**, with additional pages for figures/tables/photographs. It should include the following items:

- (1) **Paper title**
- (2) **Names of all authors with their affiliations:** The presenting author should be underlined.
- (3) **Abstract:** 50-80 words, highlighting your paper.
- (4) **Presentation style:** Indicate if you wish to have your paper considered for oral or poster presentation.
- (5) **Workshop:** Indicate the closest matching workshop or topical session.
- (6) **Body of the Technical Summary contains:**
 - (a) **Background and Objectives:** Introduce the state of the art of the subject and describe the goal of your work.
 - (b) **Results:** Describe specific results. Illustrations to highlight your work are encouraged.
 - (c) **Originality:** Clearly describe what is new and/or emphasized points.
 - (d) **Impact:** Discuss the significance of your work and compare your findings with previously published works.
 - (e) **References:** List references covering projects in related areas.
 - (f) **Prior Publications:** The paper must be an original contribution. If you have published or presented material on similar work, explain how the present material differs.

Follow guidelines on writing:

- (1) Use **standard English font sets** such as **Times New Roman**, **Times**, **Arial**, and **Helvetica** for your entire Technical Summary. In addition to these font sets, **Symbol**, **Wingdings**, and **ZapfDingbats** are strongly recommended for typing any math functions and Greek characters.
- (2) Place figures/tables/photographs **after the text** to prevent layout disorder when reviewing.
- (3) A **less than 1 MB** file size is recommended. Your network gateway may have a limitation on uploading file size.
- (4) Include the presenting author's name and title of the paper in the header line in each subsequent page.
- (5) Put the page number on the right side in the header line. Technical Summaries are for evaluation only and will not be published.

II. Submission File Format

Technical Summaries should be submitted in PDF or Microsoft Word.

III. Online Submission

Access <http://idw.ee.uec.ac.jp/authinfo.html>

The submission procedure takes three steps:

- (1) **Questions to Authors:** Select the number of authors, affiliations, and maximum number of affiliations for one author.
- (2) **Paper Title & Author Information:** Input the paper title, names of all authors, all affiliations, and presenting author information. The title may be edited by the program committee.
Please be aware that an acceptance notification will be sent to the e-mail address which you input on the web.
- (3) **Confirmation & Submission:** Please take time to review the paper title and the author information carefully as mistakes cannot be rectified after upload.
Select a file type and a file name of the Technical Summary to submit to our server. When the file is successfully uploaded, a "FINISH" message will appear on the screen and you will also receive a submission confirmation e-mail.

TRAVEL GRANTS

A limited number of travel grants will be available to full-time student presenters attending from outside Japan. Check the travel grant application box in the step 1 of the online submission, mentioned above.

MAILING

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ACCEPTANCE

An acceptance notification will be sent to the e-mail address which you input on the conference website. An Author's Kit will be available on the website.

LATE-NEWS PAPERS

A limited number of late-news papers reflecting important new findings or developments may be accepted. Submit a 2-page camera-ready manuscript of A4-sized pages and its abstract no later than September 28, 2007. Access to the conference website: <http://idw.ee.uec.ac.jp/authinfo.html>

If you have any difficulties with the online submission, please contact the IDW '07 Secretariat.



IDW '07



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December 5-7, 2007

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