Final Call for Papers

IDW '10 - The 17th International Display Workshops

December 1-3, 2010
Fukuoka International Congress Center, Fukuoka, Japan
Sponsored by
The Institute of Image Information and Television Engineers
The Society for Information Display
http://www.idw.ne.jp/

IDW '10 FEATURES

IDW '10 will integrate fourteen workshops and two topical sessions in specialized fields playing important roles in information display activities. Each workshop will consist of oral presentations by invited/contributed speakers and poster presentations. Detailed and fruitful discussions on each specialized R&D update will be provided. The workshops and the topical sessions 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 city of Fukuoka is located in the northern part of Kyushu Island, and is very conveniently located, with excellent access not only from within Japan but also from abroad. Fukuoka Airport is about an hour's flight from Kansai International Airport and about 2 hours from Narita International Airport. From the Airport, the central station of Fukuoka, the JR Hakata Station, is only 5 minutes by subway. One can also reach Hakata in a matter of just 5 hours from Tokyo by Shinkansen (bullet train).The city is also connected to the Kyushu expressway via the city freeway.
Fukuoka is Western Japan's most active city in business, culture, and industry. It has been one of the country's major gateways for Asian continental cultures since olden times.
The Fukuoka International Congress Center is located only 1.5 km from the center of Fukuoka city, Tenjin, and only about 2.5 km from JR Hakata station. This is an excellent advantage for the itineraries of conference-goers at the end of the day. Ferries and jetfoils at the adjacent international terminal of Hakata port run routes to Pusan, Korea.

Please see the following websites for more information.
Fukuoka International Congress Center:
http://www.marinemesse.or.jp/eng/index.html
Fukuoka Convention & Visitors Bureau:
http://www.welcome-fukuoka.or.jp/english/

DEADLINES AND KEY DATES

Submission of Technical Summary ---------- June 25, 2010
Acceptance Notification/Author's Kit available on the website ---------- July 23, 2010
Submission of Camera-Ready Manuscript & Abstract ----------September 9, 2010
Submission of Late-News Paper ---------- September 24, 2010
Early Bird Registration Discount ---------- October 29, 2010

LANGUAGE

The official language is English.

Highlight of IDW '10

Keynote Address:
• The Artistic & Scientific World in 8K Super Hi-Vision
Yoichiro Kawaguchi (The Univ. of Tokyo)

Invited Address:
• TAOS-TFTs : History and Perspective
Hideo Hosono (Tokyo Inst. of Tech.)
[The titles are tentative.]

Topical Sessions:
"Touch Panels and Input Technologies"
"Lighting Optics, Devices and Systems"
Paper submissions from various fields are expected.

IDW Best Paper Award and IDW Outstanding Poster Paper Award

The award committee of IDW will select the most outstanding papers from those presented at IDW '10. The winners will be announced on the IDW website and given a plaque after the conference.

EXHIBITION

The IDW '10 Exhibition covers materials, components, manufacturing and measuring equipment, software systems and other related products for display devices.
To make an exhibition, please contact the IDW '10 Secretariat.

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

IDW '10 CHAIRS

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Program Chair
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The Advance Program will be available in September 2010, including REGISTRATION and HOTEL INFORMATION.

WORKSHOP OUTLINES

LCT Workshop on LC Science and Technologies

Workshop Chair: M. Kimura (JSR)

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 advanced LC displays and novel LC functionality will be especially emphasized.

Topic Areas

1) Physicochemical and thermal studies of LC materials
2) Nano-structural LC alignment and devices including blue phase
3) Surface alignment processes and characterization techniques
4) Electro-optic effects, display modes, optical design, and simulations
5) Fabricating, manufacturing, measuring, and evaluation techniques
6) High performance displays featuring excellent image quality
7) LC technologies for flexible displays and electronic paper
8) Optical functional devices for non-display applications
9) LC semiconductors and organic electronics
10) LC photonic crystals and lasers

PDP Workshop on Plasma Displays

Workshop Chair: H. Kajiyama (Hiroshima Univ.)

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

AMD Workshop on Active Matrix Displays

Workshop Chair: K. Takatori (NEC LCD Technologies)

This workshop will cover all aspects of active matrix displays.

Topic Areas

1) Fundamentals, structures, processes, new materials
2) Array & circuit design technologies, addressing schemes, systems
3) Evaluation methods, reliability, mechanical testing
4) Active devices:
   a-Si TFTs, poly-Si TFTs, μ-c-Si TFTs, oxide TFTs, organic TFTs, active devices based on nanotechnology
5) Active-matrix displays:
   LCDs, OLEDs, e-papers, FEDs, micro-displays, flexible active-matrix displays
6) Touch & other sensors built into cells
7) Digital signage and other novel applications

PH Workshop on EL Displays and Phosphors

Workshop Chair: Y. Nakanishi (Shizuoka Univ.)

This workshop will include a discussion on current topics in EL displays (ELDs), LEDs and phosphors, and 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.)

FMC Workshop on FPD Manufacturing, Materials and Components

Workshop Chair: R. Yamaguchi (Akita Univ.)

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

Topic Areas

1) Trends in FPD materials, components and systems
2) Technical trends in 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)

FED Workshop on Field Emission Display and CRT

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
9) Entire field of CRT

OLED — Workshop on Organic LED Displays

Workshop Chair: Y. Kijima (Sony)

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 organic LEDs and organic TFTs
10) Organic TFTs for organic LED displays
11) Light-emitting transistors
12) Organic LED for lightings
13) Flexible OLED

3D — Workshop on 3D/Hyper-Realistic Displays and Systems

Workshop Chair: S. Yano (NICT)

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

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. VHF-WS will introduce a special issue on requirements and applications of future display systems with regard to color gamut, dynamic range, image resolution, and frame rate.

Topic Areas

1) Display image quality: models, metrics and evaluation methods
2) Image quality requirements for display characteristics: luminance, contrast, gray-scale, color, resolution, sharpness, viewing angle, etc.
3) Spatio-temporal image artifacts on displays and their improvements
4) Display measurements relevant to 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

PRJ — Workshop on Projection and Large-Area Displays and Their Components

Workshop Chair: K. Takeda (SEIKO EPSON)

This workshop will cover current topics concerning projection and large-area displays and their components.

Topic Areas

1) Projectors, pico-projectors, embedded projectors, near-eye displays, head-up displays, and projection TVs
2) Micro display and MEMS technologies for projection
3) Optics and video signal processing for projection
4) Optical components (light sources, screens, lenses, mirrors, films, etc.) for projection
5) Algorithm and image processing for large screen displays
6) Digital cinema, 3-D projection, and signage systems
7) Large-area display systems and tiled-display systems

EP — Workshop on Electronic Paper

Workshop Chair: A. Suzuki (Ricoh)

This workshop will cover all aspects of electronic paper, rewritable paper, and paper-like display.

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

MEET — Workshop on MEMS and Emerging Technologies for Future Displays and Devices

Workshop Chair: M. Nakamoto (Shizuoka Univ.)

This workshop will cover all aspects of science and technologies of MEMS, nanotechnologies and emerging technologies 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, nanotechnologies and emerging technologies
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, touch, smell, taste, etc.
4) Materials, components and fabrication processes
5) Fundamental mechanisms and configurations
6) Miscellaneous topics related to future 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 on all kinds of displays.

Topic Areas

1) Video processing including deinterlace, scaling, and elimination of artifacts and blur
2) High quality color reproduction including high dynamic range and wide color gamut
3) High-fidelity systems such as professional use and master monitors
4) Exploration of future standards such as post-HDTV
5) Video interface technologies including data transmission and storage
6) Novel display systems including mobile/auto applications
7) Cooperative operations of functional components
8) Circuit technologies including high speed and low power driving

INP Topical Session on Touch Panels and Input Technologies

Topical Session Chair: H. Okumura (Toshiba)

This topical session covers all aspects of input technologies on materials, films, devices and systems, in which we include not only recently attention-catching touch panels but also imaging sensor technologies. INP is expected to open new technology fields by focusing the combination of input technologies and display technologies. INP sessions are held by the related workshops of DES, AMD, FMC and EP.

Topic Areas

1) Touch panel materials, films, devices and systems
2) Image sensor
3) Imaging devices and systems
4) In- and on-cell touch panels
5) Input image signal processing

FLX Workshop on Flexible Displays

Workshop Chair: H. Fujikake (NHK)

This workshop will cover all aspects of flexible displays, including material science, device technology, fabrication processes, and application concepts for next-generation displays.

Topic Areas

1) Flexible/bendable/foldable/stretchable device architecture
2) Fabrication technologies, including printing techniques, soft lithography, and the roll-to-roll process and transfer method
3) Flexible thin substrate (plastic film, metal foil, ultra-thin glass, textile, etc.) and encapsulation
4) TFT technology in flexible inorganic and organic electronics
5) Display principles (OLED, LC, electronic paper, etc.) suitable for different applications
6) Flexibility and bending tolerance, and techniques to evaluate them
7) Innovative applications (paper-like, wearable, wrapping usages, etc.) and human interfaces in ubiquitous/ambient/universal information technologies

LIT Topical Session on Lighting Optics, Devices and Systems

Topical Session Chair: K. Käläntär (Nippon Leiz)

The potential advancements in the light source industries are opening new period in the field of lighting. The lighting is evolving in quest of increase the perception of reality. The lighting is becoming more active and attractive field of science and technology. The IDW acquires this opportunity as displaying the real world and solicits scientific and technological papers related to all aspects of the lighting.

Topic Areas

1) Solid-state lighting: LED & OLED
2) Fluorescent light sources: CCFL & HCFL
3) Novel & special lighting: Medical & biological applications
4) Display lighting: Backlight unit
5) Photovoltaic cells & lighting
6) Optical engine design
7) Opto-mechanical fixture design
8) Static & dynamic signage
9) Optical materials for lighting
10) Lighting control: Hardware & software
11) Theories, simulations & measurements for lighting
12) Energy consumption & environmental issues

PAPER SUBMISSION

INSTRUCTIONS FOR SUBMISSION OF TECHNICAL SUMMARY

Submit a Technical Summary in PDF or Microsoft Word format via the conference website:

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

Follow the submission instructions given on the website and shown below. If you have any difficulties with online submission, please contact the IDW '10 Secretariat. The Technical Summary will be used only for evaluation and will not be published. The title of the accepted papers, the authors and their affiliations will be published in the Advance Program.

I. Technical Summary Guidelines

The file should be formatted to A4 page size. Details of the format are described in the sample file available on the website (http://idw.ee.uec.ac.jp/authinfo.html).

Files should contain one or two pages of text in **one column**, with additional pages for figures/tables/photographs. The following items should be included:

(1) **Paper title**
(2) **Names of all authors with their affiliations.** The name of the presenting author should be underlined.
(3) **Abstract:** 50 words or less, highlighting the focus of your paper.
(4) **Presentation style:** Indicate if you wish to have your paper considered for oral or poster presentation.
(5) **Workshop/Topical session preference:** Indicate the closest matching workshop/topical session.
(6) **The body** of the Technical Summary must contain the following.
  (a) Background and objectives: Introduce the state 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 are 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 for similar work, explain how the present material differs.

II. Online Submission

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

The submission procedure consists of 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, the names of all authors, all affiliations, information about the presenting author, the WS/TS name, and presentation preference. Please understand that the title may be edited by the program committee.
  An acceptance/reject notification will be sent to you via the e-mail address that you provided on the web site.
(3) **Confirmation & submission:** Please take time to review the paper title and the author information carefully as mistakes cannot be rectified after the file is uploaded. 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.

FORMAT OF PRESENTATION

(1) **Oral presentations**
  • Oral presentations will conform to the 15-20 minute format including questions and answers. The program committee will determine the duration of presentation.
  • Oral presenters are strongly urged to attend the Author Interviews after the presentation.
  • Authors can request a desk and AC 100 V power for their demonstrations at the Author Interviews.
(2) **Poster presentations**
  • Poster presentation will conform to a 3 hour format in front of an individual bullet board.
  • A desk and AC 100 V power are available upon the author's request.
  • At least one of the authors must stand by their posters during their core time, which will be set during the session.
(3) Accepted papers will be assigned to either oral or poster presentation at the discretion of the program committee.

ACCEPTANCE

You will be notified of the results of your Technical Summary review via e-mail. Upon acceptance of the Technical Summary, authors must prepare a camera-ready manuscript to be published in the conference proceedings. The author should use the manuscript template, which will soon be available on the conference website. It will be four pages in length and in a two column format. Acceptance is subject to following conditions:

(1) Registration is required before the camera-ready submission for all presenters.
(2) All company or government releases must be obtained.
(3) The author must be the copyright holder or have written permission from the copyright holder for any material used in the paper.
(4) Your submitted paper must not be published in any media including personal web-sites on the Internet before it is presented at the conference.
(5) A camera-ready manuscript must be submitted with a copyright transfer form which is available on the conference website (http://idw.ee.uec.ac.jp/copyright.pdf).
(6) You must give a presentation at the conference.

LATE-NEWS PAPERS

A limited number of late-news papers reflecting important new findings or developments may be accepted. Authors are requested to submit a 2-page camera-ready manuscript on A4-sized pages accompanied by an abstract, copyright transfer form and publication authorization. Access the conference website: http://idw.ee.uec.ac.jp/authinfo.html
Follow the submission instructions given on the website.

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 of the online submission mentioned above.

MAILING

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If you have any difficulties with the online submission, please contact the IDW '10 Secretariat.

Invited Talks

- **Vacuum Particle Beam Methods for Alignment of Reactive Mesogens**
  Oleg Yaroshchuk (Inst. of Physics, NASU)
- **PDP Research in China**
  Qun Yan (Sichuan COC Display Devices)
- **Recent Phosphor Research Trend**
  Alok M. Srivastava (GE Global Res.)
- **Efficient Nitride Phosphor**
  Thomas Juestel (Philips)
- **Challenges Towards the Next-Generation OLED Materials and Devices**
  Tetsuo Tsutsui (Kyushu Univ.)
- **3D Display Interaction**
  Min-Chul Park (KIST)
- **Spatial Imaging Based on Extremely High-Definition Computational Holography**
  Kyoji Matsushima (Kansai Univ.)
- **The Evolution and Trends of Laser Projection Displays**
  Shinsuke Shikama (Setsunan Univ.)
- **Color Quality Improvement in Active Matrix Electrophoretic Display**
  Nam-Seok Roh (Samsung Elect.)
- **Fundamental Studies for Seeking Readable Electronic Paper**
  Makoto Omodani (Tokai Univ.)
- **Reflective Electronic Media with Print-Like Color**
  Tim Koch (Hewlett-Packard)
- **Measuring Light and Color: An Introductory Talk to Colorimetry**
  Noboru Ohta (Rochester Inst. of Tech.)
- **Image Sensor Systems for Medical Use and Its Impact on Display Technologies**
  Yuji Ide (Pixera)

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

IDW '10 OVERSEAS ADVISORS

ITE **IDW '10** SID SOCIETY FOR INFORMATION DISPLAY

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