



# Final Call for Papers



## IDW '17 - The 24th International Display Workshops

December 6-8, 2017

Sendai International Center, Sendai, Japan

Sponsored by

The Institute of Image Information and Television Engineers

The Society for Information Display

<http://www.idw.or.jp/>

### FEATURES

*IDW consists of workshops technically categorized into specialized fields playing important roles in information display activities. This year two workshops are set up as topical sessions. Each workshop organizes its own sessions which consist of oral presentations by invited/contributing speakers and poster presentations where detailed and fruitful discussions on each specialized R&D update are provided. The workshops also come together to form the sessions in the common application named "Special Topics of Interest". The workshops 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 Sendai is located in the northern part of Honshu Island, and is the largest city in the Tohoku region, with a population of more than one million. At the beginning of the 17th Century, the feudal lord Date Masamune built Sendai Castle and reigned over this district. There are many trees in the city, which is why it is called the "City of Trees". Sendai City is also famous for delicious food such as sushi, grilled beef tongue, and Sendai Dagashi (traditional sweets in Sendai).

JR Sendai Station is about 1 hour and 30 minutes from Tokyo Station by the Tohoku Shinkansen, and Sendai Airport is 55-75 minutes from Narita International Airport, or 80-100 minutes from Kansai International Airport. From the Airport, JR Sendai Station is 18-25 minutes by the Sendai Airport Access Line. Sendai International Center is located about 2 km from JR Sendai station and only 200m (1 minute on foot) from the International Center Station (5 minutes by subway from JR Sendai Station).

Please see the following websites for more information.

<http://www.aobayama.jp/english/>

<http://sendai-travel.jp/>

#### DEADLINES AND KEY DATES

*Submission of Technical Summary*----- June 22, 2017

*Acceptance Notification/Author's Kit available on the website*

----- July 19, 2017

*Submission of Camera-Ready Manuscript & Abstract*

----- September 7, 2017

*Submission of Late-News Paper* ----- September 29, 2017

*Early Bird Registration Discount* ----- October 27, 2017

#### LANGUAGE

The official language is English.

#### SHORT PRESENTATION

"Short Presentation Session" for poster presenters to be introduced as part of e-Paper, projection and large area displays, user experience and cognitive engineering, and haptics technologies sessions!

#### Topical Session

- *User Experience and Cognitive Engineering*
- *Haptics Technologies*

#### Keynote Addresses

- *China AMOLED Status and Opportunity*  
Vincent Tseng (Tianma Micro-elect.)
- *Augmented Reality in Medicine - Design and Applications*  
Toshiya Nakaguchi (Chiba Univ.)

Additional Keynote Addresses will be announced.  
Please see our website for the detailed information.

The titles are tentative.

#### Special Topics of Interest

- *Oxide-Semiconductor TFT*
- *AR/VR and Hyper Reality*
- *Lighting and Quantum Dot Technologies*
- *Automotive Displays*
- *Wide Color Gamut and Color Reproduction*

Paper submissions are eagerly recommended to these special topics.

#### EXHIBITION

The IDW '17 Exhibition covers display devices and all related matters. To make an exhibition, please contact the IDW '17 Secretariat.

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

The Advance Program will be available in September 2017, including REGISTRATION and HOTEL INFORMATION.

# IDW SCOPE AND OUTLINES

International Display Workshops (IDW) includes a variety of topics and aspects of display technologies, systems, processes and applications. In particular, this year's IDW will feature the following 5 special topics and 2 topical sessions, which are extremely timely, as well as 15 general topics. The special topics are these recent hot topics: Oxide-Semiconductor TFT, AR/VR and Hyper Reality, Lighting and Quantum Dot Technologies, Automotive Displays and Wide Color Gamut and Color Reproduction. The topical sessions are topics for new technologies: User Experience and Cognitive Engineering and Haptics Technologies. The IDW Scope includes a variety of topics of display materials and components, display devices, electronic system, quality evaluation, interactive technologies, manufacturing processes and equipment and applications listed below. We encourage the submission of original papers on all aspects of research, technical development, measurement systems, driving methods, data management and applications of information displays and related technologies. We particularly encourage submissions on topics of emerging interest in the research and development communities.

## SPECIAL TOPICS OF INTEREST

### Oxide-Semiconductor TFT

*Organizing Workshops: AMD, FMC and FLX  
Facilitator: Mutsumi Kimura (Ryukoku Univ.)*

Recently, research and development on metal-oxide semiconductors have been carried out worldwide. Currently, a-IGZO TFTs have already been mass produced for use in AM-LCDs, and AM-OLEDs. This special topic will cover all aspects of science and technologies for oxide-semiconductor TFTs.

#### *Scopes*

- 1) Materials, device physics, illumination instability, degradation, fabrication processes, and production equipment
- 2) Display backplanes for LCD, OLED displays and e-Paper, circuits, and embedded systems
- 3) Flexible devices, transparent electronics, sensors, and other applications

### Lighting and Quantum Dot Technologies

*Organizing Workshops: FMC, PH, OLED, VHF, MEET and FLX  
Facilitator: Toshiaki Ikuta (JNC)*

This topic will cover all aspects of science and technologies of solid-state lighting and quantum dot (QD), ranging from LED lighting, OLED lighting, QD-OLED, flexible lightings, manufacturing, materials, device structures and backlight technologies using QD.

#### *Scopes*

- 1) Solid-state lighting; LED, QD and OLED
- 2) Materials and device structures for lightings and QD technologies

- 3) Color enhancing materials; QD and quantum rod (QR)
- 4) Technologies about the internal and external efficiency enhancement
- 5) Flexible lighting, e.g. OLED lighting, QD backlight unit
- 6) Theories, simulations and measurements for lightings and QD technologies
- 7) QD and other quantum-structured devices, e.g. QD-OLED
- 8) Energy consumption and environmental issues
- 9) Manufacturing of lighting, QD and their applications

### AR/VR and Hyper Reality

*Organizing Workshops: LCT, FMC, 3D, VHF, PRJ, DES, INP and HAP  
Facilitator: Yuji Oyamada (Tottori Univ.)*

This topic will cover all aspects of technologies related to display applications closest to the end user such as virtual reality, augmented reality (mixture of VR and the real world), and hyper reality (hyper-realistic systems). Regarding recent development of VR devices, Authors of all accepted papers are highly encouraged to present their demo in the I-DEMO session.

#### *Scopes*

- 1) Hardware: sensors, circuits, and displays including light field camera, motion capture, holographic technology, and HMD/HUD
- 2) Software technique: image processing, computer vision, computer graphics, audio-visual processing, and human-computer interaction
- 3) Application: systems for industry, medical, and education
- 4) The human factor in AR, VR, and hyper-realistic systems

### Automotive Displays

*Organizing Workshops: LCT, FMC, OLED, 3D, VHF, PRJ, DES, FLX and INP  
Facilitator: Kazumoto Morita (Chuo Univ.)*

The significance of visual interface has been increasing in automobiles. This topic will cover all aspects of display technologies used in- or outside of automobiles, including the following scopes.

#### *Scopes*

- 1) OLED/LCD display and projection-display technologies for car interior use

- 2) Head-up displays, augmented reality, night-vision systems for automobiles
- 3) Image and information processing for automotive displays
- 4) Materials/components/device structures suited to automobiles
- 5) Vision and human factors to automobiles and other transport systems

### Wide Color Gamut and Color Reproduction

*Organizing Workshops: FMC, 3D, VHF, MEET and DES  
Facilitator: Kenichi Takatori (NLT Techs.)*

Wide color gamut (WCG) is a fundamental desire. Recent progress in materials, components, displays and systems help create truly colorful lives. The WCG-related standardizations and evaluations are progressing after BT.2020 color space and CIE2015 color-matching function. In addition, quantum dot (QD) related technologies are covered in "Lighting and Quantum Dot Technologies".

#### *Scopes*

- 1) Materials and components for WCG
- 2) WCG displays/projectors and systems
- 3) Color gamut expansion/conversion technology and its evaluation
- 4) High-fidelity color reproduction/calibration technology and its evaluation
- 5) Relative color reproduction technology and its evaluation
- 6) WCG-related standardization and its trends

## TOPICAL SESSION

### User Experience and Cognitive Engineering

*Session Chair: Hirohito Shibata (Fuji Xerox)*

This topic will cover all aspects of social studies, cognitive science, and human-computer interaction that aim to open new use scenarios of displays.

#### *Topic Areas*

- 1) Ethnography and social studies on how people use displays
- 2) Survey and analysis of user needs

- 3) Cognitive experiments on how displays affect users' behavior
- 4) Novel interaction techniques and interactive applications for displays
- 5) Table-top interface, mobile interaction, and cross-device interaction
- 6) Computer-supported cooperative work (CSCW) using displays
- 7) Digital reading applications and educational software
- 8) Entertainment computing and media art

### Haptics Technologies

*Session Chair: Masashi Konyo (Tohoku Univ.)*

This topic will cover all aspects of technologies related to Haptics technologies, including the following scopes.

#### *Topic Areas*

- 1) Haptic interface design & control
- 2) Tactile displays

- 3) Haptic sensors and actuators
- 4) Human-computer interaction involving haptics
- 5) Multi-modal systems involving haptics
- 6) Tele-operation and virtual environments
- 7) Haptic rendering and modeling

# TOPICS OF IDW SCOPE

## 3D/Hyper-Realistic Displays

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

### Topic Areas

- 1) Stereoscopic, autostereoscopic, holographic, volumetric, head-mounted and other 3D/hyper-realistic display technologies and systems
- 2) Immersive, interactive and VR display technologies and systems
- 3) 3D/hyper-realistic image interaction technologies and systems for Augmented Reality (AR)
- 4) Multiple cameras, light-field camera, depth camera, 3D scanner, and other detection systems for 3D, hyper reality and interaction
- 5) New output devices or systems for 3D, hyper reality and interaction
- 6) Digital archive systems for 3D or hyper reality
- 7) 3D/hyper-realistic image coding, 2D to 3D conversion, multi-viewpoint representation and other 3D/hyper-realistic image processing
- 8) Human factor and evaluation of 3D/hyper-realistic display techniques and systems

## Active-Matrix Displays

This topic will cover all aspects of active matrix displays.

### Topic Areas

- 1) Active-matrix displays based on liquid crystals, organic/inorganic light-emitting diodes, electrophoresis, electrochromism, field emission, micro-electro mechanical systems
- 2) Active devices including oxide TFTs, organic TFTs, silicon-based TFTs, CNT-FETs, Dirac-cone based devices (graphene, silicene, BN, MoS<sub>2</sub>, etc.) and solution-processed devices
- 3) Issues in high-resolution/large-area active matrix display and devices including array and circuit design technologies, addressing schemes, systems, fundamentals, device physics, structures, processes, new materials, evaluation methods, reliability and mechanical testing
- 4) Novel emerging active-matrix displays and devices
- 5) Novel applications of active-matrix devices including touch, imaging, and any other sensors, flexible displays, curved/bendable displays, micro displays, wearable displays and digital signage

## Display Electronic Systems

This topic will cover all aspects of electronic systems including hardware as well as software on all kinds of displays.

### Topic Areas

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

## Emissive Technologies

This topic will cover all aspects of science, technologies, and applications of phosphor, such as phosphor screens for electronic displays, lighting source, and other emissive devices, and will also deal with those for FEDs, CRT, ELDs and PDPs.

### Topic Areas

- 1) Fundamental mechanisms and configurations
- 2) Modeling and simulation
- 3) Materials, components and fabrication processes
- 4) Field emission physics and characteristics
- 5) Inorganic ELDs (materials, process, devices, drive circuits, etc.)
- 6) LEDs (materials, devices, panels, lighting, etc.)
- 7) Quantum dots and other quantum-structured devices
- 8) Phosphors for CRTs, PDPs, FEDs, VFDs and LEDs
- 9) Driving technologies and signal processing
- 10) Picture quality, reliability and lifetime
- 11) Applications of CRTs, PDPs, FEDs and ELDs

## Emerging Technologies and Novel Applications

This topic will cover all aspects of emerging technologies, innovative and state of the art nanotechnologies beyond the conventional technical classification, MEMS, and novel applications for future displays, imaging devices, related electron devices, and systems, 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 quantum dot devices, quantum dot materials, MEMS, graphene, CNT, fullerene, nanocarbon etc.
- 2) Devices, materials, and theory using quantum effects including lasers, solar cells, etc.
- 3) Emerging technologies, emerging materials, and their applications for novel devices
- 4) Cutting edge microdisplays such as micro LED matrix displays, nano-technology displays, imaging devices and other electron devices using emerging technologies and emerging materials
- 5) Sensors and actuators for electromagnetic wave, infrared rays, ultraviolet rays, X-rays, visible rays, supersonic wave, hearing, touch, smell, taste, etc.
- 6) Materials, components and fabrication processes
- 7) Fundamental mechanisms and configurations
- 8) Interdisciplinary science and technologies such as media arts and sciences
- 9) Miscellaneous topics related to future displays

## e-Paper

This topic will cover all aspects of electronic paper ranging from materials science and devices to human factors and various applications for the future.

### Topic Areas

- 1) Advancement of various display technologies for e-Paper to enhance colors, brightness and contrast ratio
- 2) Novel functional materials and components
- 3) Driving method
- 4) Human interfaces suitable for e-Paper from paper-like displays to tablet PCs
- 5) Various applications of e-Paper such as e-Books, e-Document, and IoT
- 6) Discussion of the social impact of e-Paper
- 7) Evaluation method taking account of human factors

## Flexible Electronics

This topic will cover all aspects of flexible electronics, including material science, device physics, fabrication processes, and application systems for next-generation technology.

### Topic Areas

- 1) Novel flexible devices in display and non-display fields
- 2) Flexible/stretchable mechanism and strategy
- 3) Flexible substrate innovation (plastic film, metal foil, ultra-thin glass sheet, textile, paper, etc.) and encapsulation
- 4) Excellent transistors in flexible organic/inorganic electronics
- 5) High-performance display principles (OLED, LCD, electronic paper, etc.)
- 6) Fabrication methods especially for flexible devices (printing techniques, roll-to-roll process, transfer techniques, etc.)
- 7) Tolerance evaluation for bending and stretching deformation
- 8) Revolutionary device applications (bendable, foldable, roll-up screen, hanging, wearable, wrapping usages, etc.)

## I-DEMO (Innovative Demonstration Session) for all oral and poster presenters:

**I-DEMO (Innovative Demonstration Session) offers an opportunity for an interdisciplinary technical demonstration/discussion in a larger space, more preparation and demonstration time than in the Author Interviews.**

**You can present impressive and innovative display experiences to all participants. Further details about I-DEMO will be announced on the following page soon.**

<http://www.idw.or.jp/ideo.html>

## Interactive Technologies

Touch panel technology continues to evolve. Camera systems are often employed in auto-stereoscopic displays. Sensing and displaying 3D positions in space literally open a new dimension for a truly intuitive human interface. This topic covers all aspects of input technologies related to displays, ranging from materials, devices, application systems to discussions on how we interact with various systems.

### Topic Areas

- 1) Out-cell, On-cell and In-cell touch panels
- 2) Touch panel materials, devices, production processes and systems
- 3) Image sensors
- 4) 2D, 3D imaging devices and systems
- 5) Adaptive and personalized interfaces
- 6) Input systems for augmented reality
- 7) Human-computer interaction and other emerging interactive technologies

## Human Factor

This topic will cover all aspects of vision and human factors related to information displays, such as visual ergonomics and requirements, image quality, display measurements, as well as new display applications and ergonomics.

### Topic Areas

- 1) Visual requirements for display performance: luminance, contrast, grayscale, color, resolution, frame rate, viewing angle, etc.
- 2) Display image format for better visual experience, such as UHD TV
- 3) Analysis and improvement of image quality on displays, such as HDR, high-quality color reproduction, wide gamut, or moving image artifacts
- 4) Evaluation of image quality, such as subjective evaluation of new displays, or quality-improvement methods
- 5) Display measurement methods relevant to human factors
- 6) Ergonomics of new display applications, such as AR/VR systems, automotive visual systems, 3D displays, LED backlights, etc.
- 7) Visual ergonomics, such as visual fatigue, eye strain, legibility/usability, or actions/behaviors related to visually displayed information

## Liquid-Crystal Technologies

This topic will cover all aspects of liquid crystal (LC) science and technologies, including LC material science, device technology, fabrication processes, evaluation method, and new technologies for display, photonics, and sensing applications.

### Topic Areas

- 1) Physicochemical 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 including 3D technologies
- 5) Fabricating, manufacturing, measuring and evaluation techniques
- 6) High performance displays featuring excellent image quality
- 7) Color filter and rendering technologies
- 8) LC technologies for flexible displays and electronic papers
- 9) Optical functional devices for non-display applications including LC lens and sensor
- 10) LC semiconductors and organic electronics
- 11) LC photonic crystals and lasers
- 12) LC technologies for 3D / holographic display

## Manufacturing, Process and Equipment

This topic will cover technology trends and aspects of electronic displays from the perspective of manufacturing and printing fabrication processes.

### Topic Areas

- 1) Fabrication methods of displays
- 2) Manufacturing process; photolithography, coating and printing technologies, soft lithography, roll-to-roll process and transfer techniques for high precision, and large area
- 3) Measurement and evaluation equipment

## Materials and Components

Displays are sustained by a wide spectrum of advanced materials and components. In this topic, new materials and components for display systems, modifications and improvements of the existing systems are treated.

### Topic Areas

- 1) Novel materials and components for display systems
- 2) Technology trends in panel structure and display systems
- 3) Manufacturing of optical components, devices or systems, and color filter technologies
- 4) Novel material and component technologies in automotive, avionics, shipboard, transparent, signage and simulator displays
- 5) LED/OLED/emissive source materials; quantum-dot/phosphor, lighting fixtures components, electro-optic devices and materials
- 6) Display lighting materials/components and fabrications, including light directing films
- 7) New developments in backlight unit (BLU) and frontlight unit (FLU) for transmissive, reflective, and transfective displays
- 8) Innovative technologies on material and component for 3D (stereoscopic, volumetric, holographic, light field) displays, AR/VR, flexible electronics, ultra-high resolution, EPD and MEMS/MEOMS

## MEMS

This topic 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
- 2) Optical MEMS such as optical scanners, optical switches, optical mirrors, optical space modulators, optical filters, etc.
- 3) Sensors and actuators
- 4) Materials, components and fabrication processes
- 5) Fundamental mechanisms and configurations

## Organic Light-Emitting Diode Displays and Organic Devices

This topic will cover all aspects of science and technologies of OLED, ranging from materials research and basic device physics to display including backplane technologies and other applications.

### Topic Areas

- 1) Materials for organic devices (OLED, OTFT, OLET, QLED)
- 2) Device physics and related phenomena of organic devices
- 3) Backplane technologies for OLED applications
- 4) Fabrication processes for organic devices
- 5) Miscellaneous topics related with organic devices
- 6) Fundamental mechanisms and configurations of organic devices
- 7) OTFT for OLED displays
- 8) Organic light-emitting transistors (OLET)
- 9) Quantum-dot light-emitting devices (QLED)
- 10) OLED for lightings
- 11) Flexible organic materials and devices for OLED

## Projection and Large Area Displays

This topic will cover all aspects of science, technologies and applications of projection, large area displays and the components.

### Topic Areas

- 1) Projectors (conventional, pico, embedded, laser scanning, projection TV)
- 2) Intelligent display (wearable, near-eye, AR&VR, applications)
- 3) Microdisplay (LCOS, MEMS, HTPS) technologies for projection
- 4) Optics and optical components (light sources, screens, lenses, mirrors, films, etc.) for projection
- 5) Algorithms for image processing and artifact mitigation for projection and large area displays
- 6) Applications such as digital cinema, 3-D projection, 3-D measurement, signage, interior illumination, and vehicle display systems including head up display, intelligent cockpit, and adaptive headlight
- 7) Large-area displays, tiled-displays, and projection mapping systems

# PAPER SUBMISSION

## INSTRUCTIONS FOR SUBMISSION OF TECHNICAL SUMMARY

Submit a Technical Summary in PDF format without any security option via the conference website:

<http://www.idw.or.jp/authinfo.html>

Follow the submission instructions given on the website and shown below. 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 must be formatted to A4 page size. Details of the format are described in the sample file available on the website (<http://www.idw.or.jp/authinfo.html>).

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

- (1) **Paper title**
- (2) **Names of all authors with their affiliations:** The name of the presenting author must 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) **Preference of Topics of Interest:** Indicate the closest matching Topics of Interest.
- (6) **The body** of the Technical Summary: Include the following.
  - (a) Background and objectives: Introduce 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://www.idw.or.jp/authinfo.html>

The submission procedure consists of three steps:

- (1) **Questions to authors:** Select the number of authors/affiliations and the maximum number of affiliations for one author.
- (2) **Paper title & author information:** Enter the paper title, the names of all authors, all affiliations, information about the presenting author, the Scope/Special Topics of Interest 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 website.**
- (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 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

Accepted papers will be assigned to either oral or poster presentation in the most suitable topics of (IDW Scope)/(Special Topics of Interest) at the discretion of the program committee.

### (1) Oral presentations

- Oral presentations will usually conform to the 20-minute format including question and answer period. The program committee will determine the duration of presentation.
- Oral presenters are strongly urged to attend the Author Interviews after the presentation (a table and AC 100 V power will be made available).

### (2) Poster presentations

- Poster presentation will conform to the less than 3-hour format in front of an individual poster in board.
- A table and AC 100 V power will be made available.
- "Short Presentation Session" to introduce poster presenters as part of several topics. All poster presenters in several topics are required to give a brief, 1 minute to 3 minutes oral-presentation with no discussion time. (Presentation time is tentative)

## 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 must use the manuscript template, which will soon be available on the conference website. Acceptance is subject to following conditions:

- (1) Registration is required before the camera-ready submission for all presenters.
- (2) Each presentation requires registration fee. Payment of registration fee must be completed by the camera-ready submission.
- (3) Contact the IDW secretariat if you give more than two presentations.
- (4) All company or government releases must be obtained.
- (5) The author must be the copyright holder or have written permission from the copyright holder for any material used in the paper.
- (6) Your submitted paper must not be published in any media including personal websites on the Internet before it is presented at the conference.
- (7) One of the authors must give a presentation at the conference. For the poster session, at least one of the authors must stand by their posters during their core time, which will be set in the session.
- (8) Notice that the acceptance may be canceled in case of the inferior camera-ready manuscript.
- (9) The camera-ready manuscript must be three or four pages in length and a two column format.

## 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 2-4 page camera-ready manuscript on A4-sized paper accompanied by an abstract. Access the conference website (<http://www.idw.or.jp/authinfo.html>). Follow the submission instructions given on the website.

## COPYRIGHT

The copyrights of your submitted camera-ready manuscript will be transferred to ITE and SID. The copyright terms and conditions are available on the conference website (<http://www.idw.or.jp/copyright.pdf>).

## 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.

## IDW Best Paper Award, IDW Outstanding Poster Paper Award and Demonstration Award

The award committee of IDW will select the most outstanding papers and demonstration from those presented at IDW '17. The winners will be announced on the IDW website.

## Invited Talks

- **Optical Instrument Requirements for Measuring Near-Eye Displays**  
John Penczek (NIST, Univ. of Colorado)
- **Midair Haptic Interaction with 3D Image**  
Hiroyuki Shinoda (Univ. of Tokyo)
- **The Whole-Body Haptic Interface for Virtual Reality**  
Hiroyuki Kajimoto (The Univ. of Electro-Commun.)
- **Organic Thin Film Transistors Fabricated with Liquid Crystal-line Organic-Semiconductors**  
Hiroaki Iino (Tokyo Tech)
- **1 Million:1 High Contrast Ratio IPS-LCD Technology**  
Yoichi Yasui (Panasonic Liquid Crystal Display)
- **Automotive Displays: Visual Ergonomics and Measurements**  
Karlheinz Blankenbach (Pforzheim Univ. of Applied Sci.)
- **Visual Ergonomics and Colorimetry**  
Hirohisa Yaguchi (Chiba Univ.)
- **Oxide TFT Fabrication Techniques for Advanced Flexible FPD Backplanes**  
Hyun Jae Kim (Yonsei Univ.)
- **Highly Transparent Color LCD with Field Sequential Color Driving, and Scattering Image without Employing Polarizer by Directly Introduced-Light from the Edge of the Substrates**  
Kentaro Okuyama (Japan Display)
- **Novel High-Image-Quality Technologies for Premium OLED TVs**  
Hong Jae Shin (LG Display)

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

## OVERSEAS ADVISORS

Brian H. Berkeley	(Highlight Display, USA)	Chung-Chun Lee	(BOE Tech. Group, China)
Janglin Chen	(ITRI, Taiwan)	Joe Miseli	(JVM Research, USA)
Norbert Fruehauf	(Univ. of Stuttgart, Germany)	Kalluri R. Sarma	(Honeywell Int., USA)
Amal Ghosh	(eMagin, USA)	Han-Ping D. Shieh	(Nat. Chiao Tung Univ., Taiwan)
Min-Koo Han	(Seoul Nat. Univ., Korea)	Dietmar Theis	(Tech. Univ. Munich, Germany)
Jin Jang	(Kyung Hee Univ., Korea)	Baoping Wang	(Southeast Univ., China)
Yong-Seog Kim	(Hongik Univ., Korea)	Larry F. Weber	(Consultant, USA)
Hoi-Sing Kwok	(Hong Kong Univ. of S&T, Hong Kong)		

## CHAIRS

General Chair	Executive Chair	Program Chair
Makoto Omodani (Tokai Univ.) general-chair17@idw.or.jp	Yasunori Kijima (Huawei Techs. Japan) executive-chair17@idw.or.jp	Hideo Fujikake (Tohoku Univ.) program-chair17@idw.or.jp

## WORKSHOPS AND CHAIRS

All of the IDW topics will be organized by following workshops.

<b>LCT</b> LC Science and Technologies	: Shoichi Ishihara (Osaka Inst. of Tech.)
<b>AMD</b> Active Matrix Displays	: Masahide Inoue (Huawei Techs. Japan)
<b>FMC</b> FPD Manufacturing, Materials and Components	: Kalil Kälántár (Global Optical Solutions)
<b>PH</b> Inorganic Emissive Display and Phosphors	: Yoichiro Nakanishi (Shizuoka Univ.)
<b>OLED</b> OLED Displays and Related Technologies	: Hitoshi Kuma (Idemitsu Kosan)
<b>3D</b> 3D/Hyper-Realistic Displays and Systems	: Masaru Tsuchida (NTT)
<b>VHF</b> Applied Vision and Human Factors	: Shin-ichi Uehara (Asahi Glass)
<b>PRJ</b> Projection and Large-Area Displays and Their Components	: Satoshi Ouchi (Hitachi)
<b>EP</b> Electronic Paper	: Keisuke Hashimoto (E Ink Japan)
<b>MEET</b> MEMS and Emerging Technologies for Future Displays and Devices	: Masayuki Nakamoto (Shizuoka Univ.)
<b>DES</b> Display Electronic Systems	: Haruhiko Okumura (Toshiba)
<b>FLX</b> Flexible Electronics	: Toshihide Kamata (AIST)
<b>INP</b> Touch Panels and Input Technologies	: Nobuyuki Hashimoto (Citizen Watch)
<b>UXC</b> User Experience and Cognitive Engineering	: Hirohito Shibata (Fuji Xerox)
<b>HAP</b> Haptics Technologies	: Masashi Konyo (Tohoku Univ.)



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