




## MAIN PROGRAM

- ✓ Opening Ceremony
- ✓ Keynote Addresses
- ✓ Tutorials & Workshops
- ✓ Exhibition
- ✓ Regular Sessions  
(Oral & Poster presentation)
- ✓ Young Leaders Conference
- ✓ Focused Session

## KEY DATES

-  **Paper Submission**  
March 31 (Fri.)
-  **Acceptance Notification**  
May 31 (Wed.)
-  **Pre-registration**  
June 12 (Mon.) - August 4 (Fri.)

## ORGANIZING COMMITTEE

|                            |  |
|----------------------------|--|
| <b>General Chair</b>       | <b>President James Hoyoung Jeong</b><br>(LG Display Co., Ltd., Korea)  |
| <b>General Co-Chair</b>    | <b>Prof. Hyun Jae Kim</b><br>(Yonsei Univ., Korea)   |
| <b>Executive Chairs</b>    | <b>Prof. Yong-Young Noh</b><br>(POSTECH, Korea)<br><b>Prof. Byung Doo Chin</b><br>(Dankook Univ., Korea)               |
| <b>Program Chair</b>       | <b>Prof. Jun Yeob Lee</b><br>(Sungkyunkwan Univ., Korea)   |
| <b>Exhibition Chair</b>    | <b>Prof. Dae-Gyu Moon</b><br>(Soonchunhyang Univ., Korea)  |
| <b>Executive Secretary</b> | <b>Prof. Jang-Kun Song</b><br>(Sungkyunkwan Univ., Korea)<br><b>Prof. Yoonseuk Choi</b><br>(Hanbat Nat'l Univ., Korea) |
| <b>Program Secretary</b>   | <b>Prof. Suk-Ju Kang</b><br>(Sogang Univ., Korea)<br><b>Prof. Jeong-Hwan Lee</b><br>(Inha Univ., Korea)                |

## EXHIBITION

Date: August 23 (Wed.) – 25 (Fri), 2023  
Venue: 2A Hall, BEXCO, Busan, Korea

## ABOUT BUSAN



Located at the southern tip of the Korean peninsula, Busan is the second largest metropolis in Korea. It is home to the country's longest river, longest beach, and most significant port. Its geography includes a coastline featuring superb beaches and scenic cliffs, mountains that provide excellent hiking and extraordinary views with hot springs scattered throughout the city. Busan enjoys four distinct seasons and a temperate climate that never gets too hot or cold. For these reasons, Busan is becoming a world-class city for tourism and culture and a hot spot destination for international conventions.

## IMID 2023 VENUE 'BEXCO'

BEXCO, a landmark in the global maritime city of Busan, is a facilitator of a successful business that has a vast wealth of knowledge and expertise. The center implements a differentiated operation strategy based on its many years of successfully attracting and hosting highly acclaimed, large scale international events. BEXCO prides itself on being a world-leading exhibition and convention center that offers incomparable value to its clients. We are looking forward to seeing you in BEXCO, Busan.

1st Call for Paper

imid.or.kr

The 23rd  
International Meeting on  
Information Display

**IMiD**  
**2023**

**August 22-25, 2023**  
**BEXCO, BUSAN, KOREA**

**1-Page Paper Submission Deadline:**  
**March 31 (Fri.)**

### ORGANIZED BY

The Korean Information Display Society (KIDS)

KIDS

The Society for Information Display (SID)

SID

### SPONSORS

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## WELCOME MESSAGE

On behalf of the organizing committee of the 23rd International Meeting on Information Display (IMID 2023), I would like to sincerely appreciate your kind attention to IMID 2023, which will be held at BEXCO in Busan, Korea from August 22 to 25, 2023.

With your devoted support, IMID has been serving as one of the most attractive technical conferences and showcases on the information display, for leading researchers and students from academia and industry to share their cutting-edge technologies.

IMID 2023 will include prestigious keynote addresses, invited talks, regular sessions (oral & poster presentations), tutorials & workshops, a young leaders conference (YLC), women in display (WID), and Merck Science Connect etc. This year, two special sessions; **“AI & Computational Technologies for Display”** and **“Display with Free Form Factor”** will be featured as well as other traditional main topics of display and industrial forum linked with the special exhibition. I sincerely hope that all of the participants take this opportunity to have profound discussions on every field of information display and also make lasting friendships with new future colleagues and all of the outstanding researchers.

The global pandemic of COVID-19 is still out there, but we opted for a physical conference as a way of renewing the bonds that bring scholarly communities together. We are looking forward to seeing you all in IMID 2023.

Sincerely,

**James Hoyoung Jeong**

General Chair of IMID 2023  
President of LG Display Co., Ltd.



## CONFERENCE SCOPE

### 01. Special Session I: AI & Computational Technologies for Display

- All aspects of AI & computational technology for display design/process/manufacturing/measurement; human vision perception; numerical algorithm; OLED device simulation; quantum computing algorithm; Prediction of material/electrical/optical/mechanical properties of display; Enhancement of image quality; quality prediction of XR and computational displays.

### 02. Special Session II: Display with Free Form Factors

- Flexible, foldable, rollable, and stretchable display technologies, including deformable display materials (substrates, transparent conductors, TFTs, barrier layers); novel processes and manufacturing methods (printing, novel deposition techniques, R2R, lift-off); electro-optical effects; driving techniques and designs for deformable electronic devices; and device performance and reliability for all deformable display technologies.

### 03. Active-Matrix Devices

- Micro & nano-crystal silicon, amorphous and crystalline oxide, oxynitride, metal halide, organic, and carbon nanomaterials based TFTs; quantum dot, perovskite, chalcogenides, 2D layered materials, and other emerging semiconducting materials and gate dielectric materials for TFTs; novel low temperature fabrication and annealing technology for TFTs; solution processed & printed TFTs; new structures/processes and novel application of TFTs; active-matrix devices for LCD, OLED, LED, QLED, and micro displays; novel and high performance active-matrix devices and system-on-panel (SOP); backplane technologies for emerging displays; emerging application of TFTs.

### 04. Applied Vision/Human Factors

- Research for display devices based on both human vision and physical properties; general display, autostereoscopic, AR/VR form factors, automotive, transparent etc; effective use of a display capability to create a more immersive and compelling experience; approaches to take advantage of limitations of the visual system to process or transmit display data more efficiently; novel methods of user interaction and HMI with display systems.

### 05. AR/VR/MR and 3D Display Optics

- Display technologies for AR/VR/MR; Near-to-eye displays (NEDs); Head-up displays (HUDs) spatial tracking, localization, mapping, and navigation techniques; end-to-end system integration and latencies; inputs, interfaces, and interactions; human factors and user experience considerations; mapping and rendering of virtual objects onto the physical world; object, human, and scene capture; reconstruction, recognition, and understanding; biometrics and user authentication; AR/VR/MR applications; measurement and performance evaluation for AR/VR/MR.

- 3D and realistic display systems including (auto-) stereoscopic, (super-) multi-view, volumetric, holographic, aerial, hyper-realistic displays; 3D or holographic contents generation including 3D image capture, 2D-3D contents conversion and machine learning; user-interaction with 3D displays; 3D image formats and standards; 3D image compressions; measurement and performance evaluation for 3D displays; techniques for realistic and immersive experience; human factors; optical technologies for various display systems and devices.

### 06. Display Electronics and Systems

- Advanced algorithms for display driving technology such as AI; display system and peripheral designs; touch interface electronics; TFT circuits (driving methods and circuits for display devices and systems); driver ICs; image signal processors; display interface technologies; driving electronics of touch panels; image quality enhancement methodologies and systems; neuromorphic systems; all novel integrations of displays into specialized devices as well as system-level aspects of electronic displays.

### 07. Display Manufacturing and Processes

- Thin and thick film deposition, lithography, etching, cleaning, printing, coating and various plasma technologies; process & equipment technologies for new and emerging displays including flexible & wearable applications; manufacturing issues of breakthroughs in the displays such as performance, cost reduction, high throughput and flexibility; material issues in display process, including synthesis or deposition of emerging materials; process & equipment technology for display circuits and interfaces; process & equipment for printed electronics including display and sensors fabrication.

### 08. Emerging Materials and Devices for Display Technology

- Emerging display materials and device architectures such as 2-dimensional (2D) materials, organic/inorganic perovskite materials, perovskite quantum dot, graphene quantum dot, 2D layered material quantum dot, light-emitting devices, and metamaterials/metasurfaces made thereof. XR display and devices (virtual reality, augmented reality, extended reality, hologram, 3D display, etc). Transparent conducting electrode materials for display (Silver nanowire, metal mesh, graphene, conducting polymers, etc). Display elements or systems tailored to wearable and human-interfacial applications. Biomedical applications such as phototherapies or photo-biomodulation; electronic shelf labels or signages; automotive or aviation display applications; medical-grade high-contrast/high-definition displays, and/or interactive display applications.

### 09. LC Technologies and Electronic/Optical Materials

- High image quality/resolution/dynamic range LCDs; QD-enhanced LCDs; automotive LCD applications; LC for AR/VR and 3D displays; molecular design/synthesis/new LC materials; LC Chemistry; LC alignment and characterization; LC elastomers and stimuli-responsive materials; LC for EL/PL components; LC for conformable displays; smart window applications; LC Physics; optical design and simulations; optical films for displays; foldable/stretchable films; LC photonic crystals and lasers; LC semiconductors; LC-based sensor; LC lens; up/down conversion LC materials; LC materials for GHz/THz wave modulation; nano-patterning LC template; LC materials for biomedical application.

### 10. Light-Emitting Materials and Applications

- New development of lighting materials including hybrid lighting technologies; solid-state lighting and LED/OLED, back-light units (BLUs); phosphors, quantum dots and other color-conversion techniques for lighting applications; light extraction optics; heat dissipation, standardization and certification; photometry, driver IC, novel lighting convergence technologies for ocean/agricultural/medical/IT/bio/smart/automotive applications.

### 11. Medical/Bio-integrated Optoelectronic Materials and Devices

- Skin-attachable or implantable soft materials, devices, and display; bio-integrated or bioinspired optoelectronics; implantable medical devices with display; digital healthcare devices and robotics; human-interactive sensors or actuators; biocompatible or biomimetic materials; transient electronics; 3D optoelectronic scaffolds; integration processing strategies to address the profound mismatch between biology and optoelectronics; biomimetic functionalities such as bio-resorption, self-healing, multifunctional responsiveness, breathability, and recyclability.

### 12. Micro-LEDs

- Advances in LED-based displays; epitaxial and chip processes for micro-LED pixels; the materials and manufacturing process technologies for transfer printing and bonding; phosphor and quantum dot materials for color conversion; frontplane modules; active and passive driving methods for backplanes; flexible and miniaturization technologies; flexible patterns and micro-LEDs in stretchable applications; and active device integration for bio-medical and automotive applications.

### 13. Soft Sensors and Actuators for Interactive Display

- Flexible and/or stretchable active/passive materials for sensors and actuators; soft organic, inorganic, or hybrid materials with capacitive, piezoelectric, piezoresistive, triboelectric, and/or ferroelectric properties; stimuli (e.g., stress, electric field, light, heat, chemical, etc.)-responsive soft materials; emerging materials and devices for human-machine-interfaces; touch gesture & motion sensing technologies; next-generation tactile sensors and actuators; soft haptics for interactive display; soft sensors on display; soft actuators on display; human-interactive technologies.

### 14. OLED Frontplanes

- OLED materials; device physics and characterization for high-performance OLEDs; enhancement of out-coupling efficiency; improvement of optical properties of OLEDs; device stability and degradation analysis; organic and inorganic interfaces in OLEDs; OLED electrodes; OLED manufacturing; OLED patterning process; solution-processed OLEDs; white OLEDs for displays; encapsulation materials and processes; environmental reliability; novel applications.

### 15. Quantum Dots

- Synthesis and characterization of quantum dots; optical and electrical properties of quantum dot materials; quantum dot-based photo-/electro-luminescence devices; quantum dot-based energy conversion devices and systems; various optical and electrical applications using quantum dots.