



# iMiD 2020

The 20th International Meeting on Information Display  
**August 25 - 28, 2020 / COEX, Seoul, Korea**

## Keynote Speakers



**Dong Hoon Lee**  
Samsung Display CEO, Korea

## Important Dates (Changed)

- ✓ Paper Submission May 15 (Fri)
- ✓ Acceptance Notification June 26 (Fri)
- ✓ Author Registration July 31 (Fri)
- ✓ Pre-registration August 14 (Fri)

ORGANIZED BY The Korean Information Display Society (KIDS)   
The Society for Information Display (SID) 



## CONFERENCE INFORMATION

<b>Date</b>	August 25 – 28, 2020	
<b>Location</b>	COEX, Seoul, Korea	
<b>Organized by</b>	- The Korean Information Display Society (KIDS) - The Society for Information Display (SID)	
<b>Program</b>	- Opening Ceremony - Keynote Addresses - Tutorials - Conference	- Banquet - Exhibition - Business Forum

## PROGRAM AT A GLANCE

Time	Aug. 25 (Tue.)	Time	Aug. 26 (Wed.)	Aug. 27 (Thu.)	Aug. 28 (Fri.)
09:00-09:30					
09:30-10:00	Tutorials I	09:00-10:30	Oral Session II	Oral Session VI	Oral Session X
10:00-10:30		10:30-10:50	Coffee Break	Coffee Break	Coffee Break
10:30-11:00		10:50-12:00	Oral Session III	Oral Session VII	Oral Session XI
11:00-11:30	Lunch				
11:30-12:00					
12:00-12:30		12:00-13:30	Lunch Women in Display	Lunch	Lunch
12:30-13:00					
13:00-13:30	Tutorials II	13:30-13:45	Opening Ceremony		
13:30-14:00		13:45-14:15	Keynote Addresses	Poster Session I	Oral Session XII
14:00-14:30		14:15-14:45			
14:30-15:00	Coffee Break	14:45-15:15		Coffee Break	Coffee Break
15:00-15:30	Oral Session I	15:15-15:35	Coffee Break	Oral Session VIII	Poster Session II
15:30-16:00		15:35-16:45	Oral Session IV		
16:00-16:30		16:45-17:00	Coffee Break	Coffee Break	
16:30-17:00		17:00-18:10	Oral Session V	Oral Session IX	
17:00-17:30		18:10-18:30		Break	
17:30-18:00					
18:00-18:30					
18:30-19:00		18:30-20:30		Banquet	
19:00-19:30					

## TUTORIALS

The tutorials are aimed to provide introductory courses for the newcomers to the information display technologies. The tutorials provide audience with four basic topics, including AR/VR, Mechanical analysis and design of stretchable and rollable display, etc.

• **Date and Time:** 09:30~11:30 / 13:00~15:00, August 25, 2020

No.	Title	Speaker
1	Comparative Understanding of Optical Architectures for AR Displays	Prof. Hwi Kim (Korea University, Korea)
2	Strategies for Mechanically Reliable Thin-Film Flexible Electronics	Prof. Taek-Soo Kim (KAIST, Korea)
3	Angular Luminescence Spectroscopy of Emerging QD Emitter Materials and Simulation of Back-Light-Units for Curved Displays	Dr. Beat Ruhstaller (Fluxim AG, Switzerland)
4	Recent Advance in P-Channel Oxide-TFT	Prof. Kenji Nomura (UC San Diego, USA)

## YOUNG LEADERS CONFERENCE

Young Leaders Conference will be arranged for 2 Sessions.

### YLC 1

YLC Session I is open to young scientists who would like to share and discuss their research achievement. Young Scientists are carefully chosen through our technical program committee and recommended for this session. All participants will take this unique opportunity to hear their recent research result.

### YLC 2

YLC Session II is open to students who would like to share and discuss their research results. After oral presentations, outstanding presenters among all YLC applicants will be selected by committees based upon their research originality and technical significance.

## PAPER SUBMISSION: MAY 15, 2020

All authors are required to upload their paper (Only 1 Page) through the online paper submission system (<http://www.cy-mice.org/imid2020/>). Please prepare your paper in both PDF format and MS Word for the submission. The paper template can be downloaded from our website ([http://www.imid.or.kr/2020/guideline\\_paper\\_submission.asp](http://www.imid.or.kr/2020/guideline_paper_submission.asp)).



### Format of Presentation

- Invited Presentation: 20 minutes for presentation and 5 minutes for Q&A
- Oral Presentation: 15 minutes for presentation and 5 minutes for Q&A
- Poster Presentation: The poster will be presented for 90 minutes during the 2 days.

## ACCEPTANCE NOTIFICATION: JUNE 26, 2020

Notification of acceptance of the paper will be sent via an e-mail to the corresponding author by June 26, 2020. The accepted paper might be reassigned to an oral or poster presentations of appropriate topical session at the discretion of program committee.

## REGISTRATION FOR AUTHORS: JULY 31, 2020

At least one author of each accepted papers must complete his/her registration and pay the registration fee by July 31, 2020 otherwise; the papers will be withdrawn from the proceedings publication.

## CONFERENCE TOPICS

### 01. Special Session I : 20th Anniversary Special Session

This Special Session first reviews key moments and technologies that made possible display technologies of today from both industry and academic standpoints, including the role of IMID that began 20 years ago. The state-of-the-art technologies are then presented by major players such as panel makers, equipment manufacturers, and material companies to discuss the core issues to make display technologies even more successful in the next 20 years or more and play a central role in the era of 4th Industrial Revolution. (invited speakers only)

### 02. Special Session II: AI for Display

#### Artificial intelligence and computational science with physical models for display :

All aspects of artificial intelligence and simulation technology for predicting, analyzing and designing characteristics of display: AI for display design / manufacturing / measurement; human vision perception; numerical algorithm; OLED device simulation; prediction of material / electrical / optical / mechanical properties of display.

### 03. Special Session III: Deformable Display Technologies: Flexible / Foldable / Stretchable

#### Enabling technology of deformable display and new product concepts :

All aspects of flexible, foldable 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.

### 04. Special Session IV: AR/VR/MR

#### Emerging display techniques for augmented, virtual, and mixed reality :

Display technologies for AR/VR/MR systems; 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.

### 05. Active-Matrix Devices

#### Advanced TFTs and active-matrix backplane technology :

Micro & nano-crystal silicon, organic, and carbon nanomaterials based TFTs; oxide, oxynitride, quantum dot, perovskite, chalcogenide, 2D and other emerging semiconducting materials for TFTs; solution processed & printed TFTs; new structures/processes and novel application of TFTs; active-matrix devices for LCD, OLED, LED, and micro displays; novel and high performance active-matrix devices and system-on-panel (SOP); backplane technologies for emerging displays.

### 06. Applied Vision / Human Factors

#### Novel technology for color science and new visual experiences :

New display measurement methods based on both human vision and physical properties; mitigating the challenges by presenting comfortable and engaging 3D imagery (including autostereoscopic, AR, and VR form factors); 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.

### 07. Display Electronics and Systems

#### Advanced driving electronics and systems for display and sensor :

AI algorithms for advanced driving technology; peripherals and display system 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; display-related AI technologies; neuromorphic system; all novel integrations of displays into specialized devices as well as system-level aspects of electronic displays.

### 08. Display Manufacturing and Equipment

#### Advances in process and equipment technologies for displays :

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.

### 09. Display Optics - 3D Displays

#### Advances in 3D and Hyperrealistic Display Technologies :

3D and realistic display systems including stereoscopic, autostereoscopic, multi-view, super-multi-view, volumetric, holographic, aerial, hyperrealistic displays; 3D contents generation including 3D image capture and 2D-3D contents conversion; 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 including LCD and OLED; signage, wearable/near eye displays; backlight units; transparent displays; and other novel display concepts.

### 10. Emerging Display Technologies

#### Emerging materials and device technologies for light-emitting systems and novel applications of display and lighting devices :

Emerging display materials and device architectures such as 2-dimensional (2D) materials, organic/inorganic perovskite materials, and light-emitting devices made thereof. Display elements or systems tailored to wearable 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.

### 11. Lighting Materials and Applications

#### Advances in materials and devices for solid-state lighting application :

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

### 12. Micro-LEDs

#### Micro-LEDs displays and convergence applications :

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; active device integration for bio-medical and automotive applications.

### 13. LC Technology and Electro-Optic Materials

#### Liquid Crystal Technology and Electro-Optic Materials for Display :

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 alignment and characterization; LC elastomers and stimuli-responsive materials; LC for EL/PL components; LC for conformable displays; smart window applications; 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;

### 14. OLED Frontplanes

#### Advances in OLED technologies :

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. Touch and UI/UX Displays

#### Next-generation touch and interactive display technologies :

Touch and UI/UX sensor components; integration technology; touch gesture & motion controls; interactive in feedback actuators; next-generation tactile sensors and actuators; flexible and conformable tactile sensors and applications; soft haptics for interactive display; soft actuators and applications; human-interactive sensors.

### 16. Quantum Dots

#### Colloidal quantum dots for display applications :

Light generation; energy conversion; novel application concepts; 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; novel optoelectronic applications based on quantum dots.

## AWARDS

The Award Committee will select award winners from among the presenting authors of oral presentations and posters based on the quality of the presentation at the conference. Please submit your paper for the chance to win an award!

Name of Awards	Grade	Numbers	Prize (per paper)
Merck Award		1 Person	KRW 15,000,000
Merck Young Scientist Award		1 Person	KRW 5,000,000
KIDS Awards (Sponsored by Samsung Display & LG Display)	Gold	2 papers	KRW 4,000,000
	Silver	2 papers	KRW 2,000,000
	Bronze	2 papers	KRW 1,000,000
UDC Innovative Research Award in Organic Electronics & OLED Display		1 paper	KRW 15,000,000
UDC Pioneering Technology Award in Organic Electronics & OLED Display		1 paper	KRW 15,000,000
Best Poster Awards (On-site)		About 20 papers	KRW 100,000

### Important Note

- KIDS Awards and UDC Awards are applicable to the papers submitted during the regular submission period (Deadline: April 30, 2020).
- To be eligible for KIDS & UDC Awards, each author should upload a full-length paper (at least 4 page or more) for internal review, along with the regular paper submission within the submission deadline.
- Only Authors who submitted the paper related to 'Organic Electronics & OLED Display' can apply for UDC Awards.
- Final Best Poster Awardees will be decided after the on-site review.
- If you become the final awardees, it is strongly encouraged to submit your paper to Journal of Information Display (JID).

## STUDENT TRAVEL GRANTS

IMID 2020 Organizing Committee is pleased to provide travel grant supports to students who present outstanding scientific or technical achievement at the conference. A considerable number of student travel grants, up to USD 500 each, will be given to the students to partially offset their travel costs. To be eligible for the grant, the applicant must present a paper at the conference. You can find the detailed information through our web site ([http://www.imid.or.kr/2020/student\\_travel\\_grants.asp](http://www.imid.or.kr/2020/student_travel_grants.asp)).

\* 8.8% of income tax will be withheld

### Eligibility

- Applicant must be enrolled in a Ph.D. or Masters Degree program outside Korea during the conference period.
- The grants are intended to partially offset travel costs for presenting attendants to attend the IMID 2020. To be eligible for travel grant, at least a paper must be presented at the IMID 2020.

## SOCIAL EVENTS



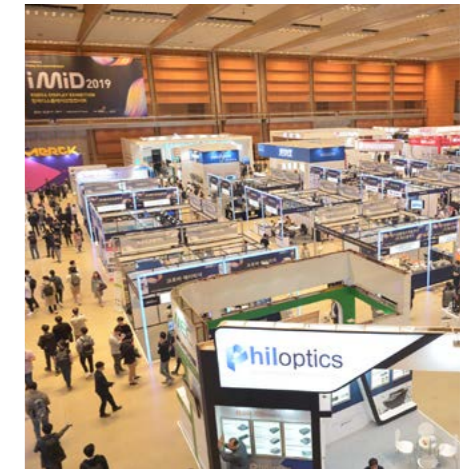
If you would like to experience a special night in Korea, you are cordially invited to conference banquet. Great food will be served along with fantastic performance. This will be great opportunities to relax with Wonderful entertainment(Lucky Draw, Game, etc.) while also giving you a great time to get acquainted with others.

- **Date and Time:** 18:00 ~ 20:00, August 27, 2020
- **Place:** Harmony Ballroom (B1F, Intercontinental Seoul COEX)

## IMID 2020 KOREA DISPLAY EXHIBITION

On the occasion of the 20th anniversary, IMID 2020 will be jointly held with the Exhibition IMID organized by KDIA (Korea Display Industry Association) which has been annually conducted in October. This Special Exhibition will run in conjunction with the conference program and offer the exhibition opportunity to interested companies and organizations. If you want more information about exhibition, please visit <https://www.imidex.org/eng/>.

- **Date:** August 26-28, 2020
- **Place:** Hall B(1F), COEX
- **Scale:** 8,010m<sup>2</sup> / 350 booths from 120 companies
- **Organized by:** Korea Display Industry Association



Type	Booth Type (1 booth : 9sqm)	General Application (by June 30, 2020)	Early-Bird Application		Remarks
			1st / 10% DC (by March 31, 2020)	2nd / 5% DC (by May 31, 2020)	
Overseas company	Raw Space	USD 3,100	USD 2,790	USD 2,945	• Raw Space: Exhibition area only
	Shell Scheme booth	USD 3,800	USD 3,420	USD 3,610	• Shell Scheme booth: Exhibition area & Standard equipment

## SF-ZONE (Show me the Future Zone)

Our organizing committee of IMID 2020 has made SF-Zone to offer opportunity for company and organization related to display field to demonstrate their recent display technology and consult with display specialists. **SF-Zone is open to anyone who wants to demonstrate their display technology.**

We would like to inform you that there is no additional participation fee. Our organizing committee is encouraging participation of the **venture companies, companies, universities, research institutes.**



<b>Date</b>	August 26~28, 2020
<b>Place</b>	Hall B(1F), COEX
<b>Items</b>	Product or Technology Related to Display
<b>Application Deadline</b>	June 30, 2020 (*Applications can be rejected if all spaces have been reserved out.)
<b>How to Apply</b>	1) Fill in the application form 2) Send the application to the IMID 2020 Secretariat (imid@k-ids.or.kr).
<b>Sponsored by</b>	Universal Display Corporation(UDC)

## SPONSORSHIP

Our Organizing Committee of IMiD 2020 welcomes sponsors from interested companies and institutions. We have a range of sponsorship packages designed to suit all your needs. Each allows you to showcase your products and services where the top marketing decision-makers and influencers network. All sponsorship categories are filled on first-come, first-serve basis. The Sponsorship prospectus can be downloaded from our website (<http://www.imid.or.kr/2020/sponsorship.asp>).

### How to Apply

- Please download the Sponsorship Application form, fill out and send it to the IMiD 2020 Secretariat (imid@k-ids.or.kr) by June 29, 2020.
- Pay the contribution deadline within a month from invoice issue date.
- Please send the receipt to the secretariat for confirmation of full payment.
- All payments should be transferred to the bank account. The detailed information will be announced soon

### Sponsorship Benefits

Benefits	1. Banquet	2. Welcome Reception	3. Lanyards	4. Coffee Break	5. Internet Lounge	6. Pen
	KRW 25,000,000	KRW 15,000,000	KRW 10,000,000	KRW 10,000,000	KRW 5,000,000	KRW 5,000,000
Free Registration	12 Persons	8 Persons	5 Persons	4 Persons	2 Persons	2 Persons
Horizontal Banner in Keynote Session	○	○	○	○	○	○
Logo on Program Book	○	○	○	○	○	○
Logo and Link on Official Website	○	○	○	○	○	○
Logo on E-Newsletter	○	○	○	○	○	○
Logo on Screen at Session Room	○	○	○	○	○	○
Congratulatory Talk	○	○	×	×	×	×
Video Advertisement on Wide Screen	○	○	×	×	×	×
Logo Advertisement Above Information Desk	○	○	○	○	×	×
Top-Down Banner	○	×	×	×	×	×

Benefits	7. Photo Wall	8. Fill out Desk	9. Signage	10. Top-Down Banner	11. Ad. on Program Book
	KRW 5,000,000	KRW 3,000,000	KRW 2,000,000	KRW 2,000,000	KRW 1,000,000
Free Registration	2 Persons	1 Person	×	×	×
Horizontal Banner in Keynote Session	○	○	○	×	×
Logo on Program Book	○	○	○	○	○
Logo and Link on Official Website	○	○	○	×	×
Logo on E-Newsletter	○	○	○	×	×
Logo on Screen at Session Room	○	○	○	×	×
Congratulatory Talk	×	×	×	×	×
Video Advertisement on Wide Screen	×	×	×	×	×
Logo Advertisement Above Information Desk	×	×	×	×	×
Top-Down Banner	×	×	×	○	×

## ABOUT SEOUL



Located to the west of the central region of the Korean Peninsula, Seoul, the capital city of the Republic of Korea, has been the center of the country for the long period of its own history from the prehistoric era to the present day. Now in its 600th year of official history, Seoul is a city where Korea's traditional and modern cultures coexist.

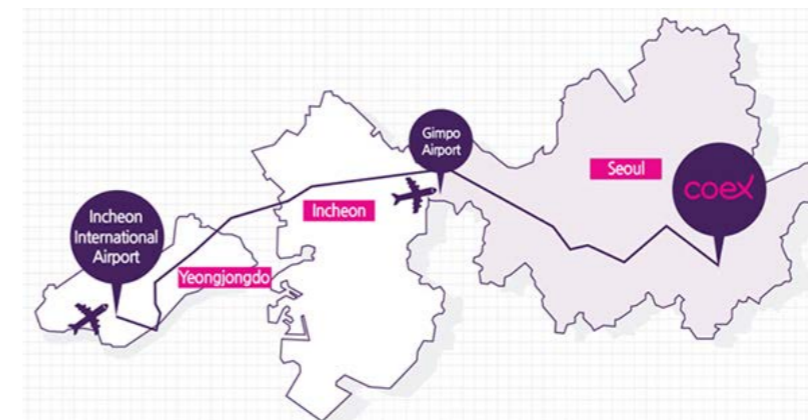
Seoul has full of cultural heritages with unique stories, and you can find traditional architectures in their original forms on one side of the city and ultra-modern buildings on the other, existing in a perfect harmony. The city lies in a natural basin, surrounded by a series of mountains and hills, and its grandeur and magnificent scenic beauty makes the capital, one of the most attractive metropolitan cities of the world. Aside from bustling pace of life and modern architecture, a number of invaluable cultural assets bases their pride on the long history of Seoul.

## VENUE : COEX, SEOUL



COEX, well known for its shopping and cultural space, is the heart of international exchange among nations with various exhibitions and international seminars. COEX is the biggest convention center and exhibition space in Korea. Directly connected to the Samseong Station of subway line 2 and Bongeunsa station of subway line 9, it includes a shopping center, a movie theater, a musical concert hall, exhibition halls and famous restaurants. It is also close to a casino, hotels, department stores, and other various amenities.

## TRANSPORTATION



**[Route 1] Incheon Int'l Airport → COEX**  
 Limousine Bus : no.6703 / no.6006 / no.6103  
 Subway : Line #9 / Line #2  
 Taxi : Approximately 100 minutes

**[Route 2] Gimpo Int'l Airport → COEX**  
 Subway : Line #9 (Direct)  
 Taxi : Approximately 60 minutes

**[Route 3] Seoul Station → COEX**  
 City Bus : no.401  
 Subway : Line #1 – Noryangjin St. – Line #9  
 Taxi : Approximately 40 minutes



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