Department of Information Display

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What is Information Display?

In today's world, we have various information displays such as televisions, PC monitors, notebook monitors, mobile phone screens, and PDA windows. As these displays are at the core of every technological development, they can be considered the "windows of industry". Information Display is a branch of science and technology that studies the development, design, process, simulation and characterization of these various display panels.

Graduate Studies in Information Display

Kyung Hee University has an Advanced Display Research Center(ADRC) in conjunction with the TFT-LCD National Lab, with facilities to make and characterize thin-film transistor-liquid crystal displays(TFT-LCDs), organic light emitting diodes(OLEDs), and field-emission displays(FEDs). Only Kyung Hee has the facilities to make TFT based display panels among all the world's academic institutions. The Information Display Major pursues three core educational goals : 1) training students to become practical research scientists who will do research and development(R&D) work on information displays, 2) training students in display companies through internships programs, and 3) training students to become technical managers who can manage display businesses and pursue international careers in display areas. In order to accomplish these goals, the department of Information Display provides 1) courses for students to obtain fundamental knowledge about information displays and help them improve their creative ability in areas of currently developed information displays such as flat panel display, 2) several practical educational programs, such as experimental and display industry internships, for students to directly apply their knowledge to real world displays, and 3) students the opportunity to receive education from such internationally recognized universities as the Ecole Polytechnique in France.

| Degree Requirements |

· At least 24 course units of graduate level credit in Information Display courses are required for the master's degree and 36 course units for the doctoral degree(excluding units completed in the master's course).
· Students must pass a qualifying examination.
· Students must fulfill presentation, defense, and document requirements for the Information Display thesis committee.
· A thesis advisor can be any faculty member from Kyung Hee University.

| Courses |

Information Display Experiment, Advanced Information Display, Semiconductor Devices, Organic Thin-Film, Organic Electro Luminescence Displays, Field Emission Displays, Advanced Integrated Circuits, Amorphous Semiconductors, Special Topics in Information Display, TFT-LCDs

| Faculty |

___ Jin Jang, Ph,D. KAIST, 1982, Professor, TFT Display, jjang@khu.ac.kr
___ Kyu Chang Park, Ph.D. Kyung Hee University, 1997, Professor, Semiconductor Physics : Display Devices and Materials, kyupark@khu.ac.kr
___ Jaewu Choi, Ph.D. University of Nebraska, 1998, Professor, Condensed Matter Physics : Nano-Materials and Devices, jaewuchoi@khu.ac.kr
___ Jang-Hyuk Kwon, Ph.D. KAIST, 1993, Professor, OLED, jhkwon@khu.ac.kr
___ Seung-Woo Lee, Ph.D. KAIST, 2000, Professor, Display Circuits and Systems, seungwoolee@khu.ac.kr
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___ Hyoungsik Nam, Ph.D. KAIST, 2004, Professor, Display Electronics and Image Processing, hyoungsiknam@khu.ac.kr
___ Jungho Kim, Ph.D. University of Illinois, 2006, Professor, Nano Optoelectronic Devices, junghokim@khu.ac.kr
___ Joonwon Lim, Ph.D. KAIST, 2016, Assistant Professor, Functional Nanomaterials and Energy Devices, joonwon.lim@khu.ac.kr
___ Baye Boucar Diouf, Ph.D. Universite Toulouse 3, 2003, Associate Professor, Condensed Matter Physics, diouf@khu.ac.kr
___ Christophe Avis, Ph.D. Kyung Hee University, 2012, Assistant Professor, Solution processed Oxide TFT, chrisavis@khu.ac.kr
___ Mallory Mativenga, Ph.D. Kyung Hee University, 2014, Assistant Professor, Thin-Film Transistors, mallory@khu.ac.kr
___ Uijong Ju, Ph.D. Korea University, 2019, Assistant Professor, Brain and Cognitive Engineering, juuijong@khu.ac.kr
___ Kanghee Won, Ph.D. University of Cambridge, 2016, Assistant Professor, Speciality optical solution laboratory, khwon@khu.ac.kr
___ Sung Hun jin, Ph.D. Seoul National University, 2006, Professor, OTFTs & device physics, jinsh@khu.ac.kr
___ Yongmin Jeon, Ph.D. KAIST, 2020, Assistant Professor, Wearable Electronics and Biomedical Convergence, yongmin@khu.ac.kr

| Laboratories |

▪ Networking Laboratory

Advanced Display Research Center

Director : Professor Jin Jang(jjang@khu.ac.kr)

Carbon and Nano Materials & Devices Research Group

Director : Professor Kyu-Chang Park(kyupark@khu.ac.kr)

Organic Optoelectronics Device Lab

Director : Professor Jang-Hyuk Kwon(jhkwon@khu.ac.kr)

Convergence Display System Lab

Director : Professor Seung-Woo Lee(seungwoolee@khu.ac.kr)

Quantum Information Display Lab

Director : Professor Jae-Wu Choi(jaewuchoi@khu.ac.kr)

Display Optical Application Lab

Director : Professor Sung-Wook Min(mins@khu.ac.kr)

Optical Integrated Device Research Lab

Director : Professor Jung-Ho Kim(junghokim@khu.ac.kr)

Organic Electronic Materials Lab

Director : Professor Min-Chul Suh(mcsuh@khu.ac.kr)

Integrated Display Electronics & Algorithms Lab

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Functional Nanomaterials & Energy Devices Lab

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Human Centered Extended Reality Lab

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Speciality optical solution laboratory

Director : Professor Kanghee Won(khwon@khu.ac.kr)

Hybrid Integration for Genuine Hyper-functionality Lab(HIGH Lab)

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Wearable Electronics & Biomedical Convergence Lab

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Research Overview

Information Display is a branch of science and technology that studies the development, design, process, simulation and characterization of various display panels. Information display envelops all the various display categories in existence, including thin-film transistor liquid-crystal displays(TFT-LCDs), organic light-emitting diode(OLED) displays, field-emission displays(FEDs), etc. Students in this department study the physics and chemistry of the materials used for displays, including the design and simulation of display devices, TFT arrays, display systems, as well as the liquid-crystal for LCDs, organic semiconductors for OLEDs and carbon nanotubes for FEDs. Students also have the opportunity to study 3D displays, wearable displays, and other novel displays.

Ongoing Projects

· Development of low temperature process technology and device for AMOLED
· Fabrication technology of AMOLED
· Development of process technology for low temperature Oxide TFT
· Development of AMOLED back plane on plastic substrate
· Development of fabrication technology for stability analysis of Oxide TFT
· 3D displays
· OLED & organic materials
· CNT display & CNT devices
· Simulation & Fabrication of display driver circuits
· 3D display circuits