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Distinguished Professor Oh-Kyung Kwon, an author... received the Korea's Best Scientist and Technolo...

👤 Reporter Jeon Ha-yeon | ⌚ Entered 2021.10.01 09:26 | ⌚ Edited 2021.10.01 09:31 | 💬 Comments 0 |
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He became the first Hanyang University professor to be selected as Korea's top scientist and engineer for contributing to the growth of the domestic display and semiconductor businesses.

The Republic of Korea's Best Science and Technology Award is an award given to scientists and engineers who have contributed to national development through world-class research and development achievements. Oh-Kyung Kwon, Distinguished Professor of Convergence Electronic Engineering, received the 2021 Korea Best Science and Technology Award on September 9. Professor Kwon said, "I am sincerely grateful to everyone who helped with the research," and added, "I feel honored and proud to be able to contribute to raising the status of Korea's display and system semiconductor businesses."



▲ Oh-Kyung Kwon,
Distinguished Professor of
Convergence Electronic
Engineering

Professor Kwon jumped into the domestic display industry, which was still in its early stages, thanks to the encouragement of those around him. Starting with his flat panel display research, he focused on the display and system semiconductor fields. Professor Kwon's research team succeeded in developing the circuit and driving method of the AMOLED display and achieved commercialization. Currently, we are attempting to transfer technology to various fields by developing displays, medical sensors, IoT devices, and battery chips.



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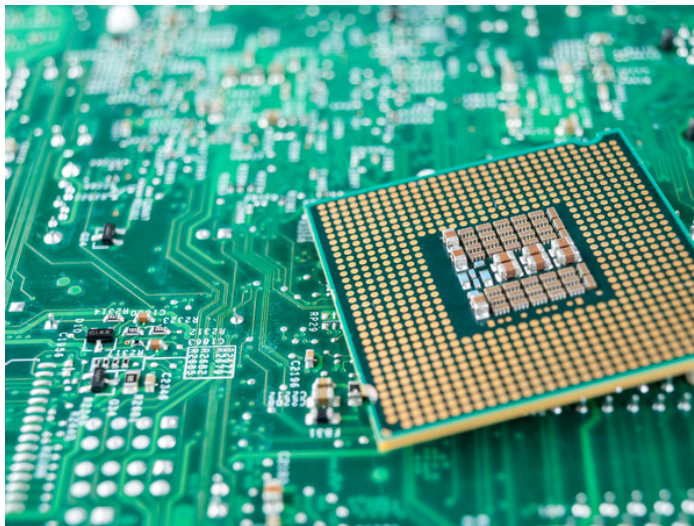
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Professor Kwon developed the world's first active organic light emitting diode (AMOLED) display technology for mobile and TV. He explained the reason for his research, saying, "Existing displays had difficulty controlling the current of the subpixels, making it difficult to express the intended color and luminance." To solve the problem, Professor Kwon developed internal compensation methods and external compensation methods. He said, "This method enabled accurate current level control and long-term use, and made mass production of AMOLED displays a reality."

Pixel circuit research is also one of Professor Kwon's major achievements. The existing pixel circuit structure had uneven luminance and low yield. Professor Kwon talked about the development process, saying, "We solved the problem by inserting a circuit inside the pixel circuit that can compensate for the deviation in the characteristics of the TFT for current control." He then replied, "Through research on pixel circuit structure, we have been able to increase the resolution of displays even with low current levels. I also remember that this technology was mass-produced at Samsung Mobile Display."



▲ Professor Kwon has greatly contributed to the local production of display technology through display and semiconductor research. He mainly focuses on commercialization research and is working to mass produce displays equipped with various functions. © Getty Images

Professor Kwon has recently been conducting research with the goal of perfecting a micro display for VR. He is developing AMOLED display technology that can guarantee the high resolution and uniform image quality necessary to break down the boundary between the virtual world and reality.

The development of healthcare sensors and skin-attachable displays for the aging society is also being promoted. Professor Kwon explained, "It is a difficult task because the display must be manufactured on a breathable substrate that contains various sensors and wireless communication functions."

Professor Kwon published a total of 545 papers and left behind an active career, including over 700 domestic and international patent applications. He chose "cultivating talents who can contribute to social development" as his ultimate goal. Professor Kwon responded, "I plan to do my best to establish venture companies and carry out projects that help them globalize."

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- Engineering of Korea
- Hanyang University Electronic System Integration Lab, System Integration Circuit Lab, developed flexible TFT and OLED prototypes
- Display and semiconductor pioneer Professor Oh-Kyung Kwon becomes president of the National Academy of Engineering of Korea
- [1 Minute Hanyang] Hanyang News for the 2nd week of October in 1 minute
- [Chosun Ilbo] Professor Oh-kyung Kwon appointed as senior outside director of Samsung SDI and Samsung SDS
- Professor Kwon Oh-kyung of the Department of Convergence Electronic Engineering attends 'CES 2024'

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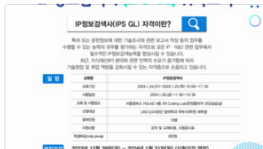
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