

College Features

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Taiwan's First Industry-Innovation PhD Graduates! NYCU and Industry Collaborate to Cultivate Top Talent



Jack Sun (right), Dean of the Industry-Academia Innovation School, stated that the graduation of the first Industry-Innovation PhD, Chen-Wei Hsu (center), represents a significant breakthrough in Taiwan's cultivation of high-level talent. On the left is Cheng-Wei Hsu's advisor, Professor Ming-Dou Ker.

Translated by Chance Lai

Cooperation and Skilled Personnel Training, National Yang Ming Chiao Tung University (NYCU) established Taiwan's first-ever **Industry Academia Innovation School (IAIS)** in 2021. The IAIS aims to cultivate high-level industry-academia talent and has now achieved a significant milestone: the graduation of Taiwan's first Industry-Innovation PhD, Dr. Chen-Wei Hsu. His groundbreaking doctoral research focused on critical technologies to enhance IC product reliability, seamlessly bridging academic research with industrial needs and injecting fresh energy into Taiwan's high-tech sector.

Dr. Chen-Wei Hsu: Bridging Academia and Industry to Bring Research to Life

Dr. Chen-Wei Hsu, a graduate of the **Institute**

Hsu's advisor, Professor Ming-Dou Ker, highlighted that while NYCU has long maintained close ties with the industry, these collaborations were often limited to individual lab or professor-company projects. The establishment of the IAIS created a broader platform, encouraging enterprises to invest more resources, send industry experts to teach on campus, and engage in technical exchanges with faculty and students. This transformative model has elevated partnerships from simple "collaboration" to genuine "co-creation," generating more excellent value for both academia and industry.

Professor Jack Sun, Dean of the IAIS, noted that Hsu's graduation represents a significant breakthrough in Taiwan's

on his doctoral journey with gratitude. Initially, pursuing a PhD was not part of his plan, but encouragement from his advisor, Professor Ming-Dou Ker, during his master's studies, led him to join the IAIS. Hsu shared, *"This was an opportunity to delve into the industry and solve real-world problems. The scholarship also allowed me to focus fully on my research without financial concerns."*

During his doctoral studies, Hsu actively participated in numerous industry-academia collaboration projects, focusing on protective technologies against electrostatic discharge (ESD) and latch-up effects to improve the reliability of application-specific integrated circuits (ASIC).

His research went beyond theoretical exploration; he

has attracted ten corporate partners, and it aims to deepen domestic and international industry-academia collaborations, fostering more top-tier researchers to drive value creation in the technology sector.

Rooted in Taiwan, Creating Global Competitiveness

NYCU envisions that the emergence of Taiwan's first Industry-Innovation PhD will inspire students nationwide, encouraging more young talents to pursue research combining academic rigor and practical application. By fueling innovation in Taiwan's tech industry, the IAIS is shaping a future of industry-academia co-creation and talent excellence—a story jointly authored by NYCU, industry partners, and aspiring students.

and developing innovative solutions grounded in academic methodologies. These efforts resulted in tangible industrial benefits, earning international recognition. His achievements include three journal publications in the prestigious IEEE Transactions on Electron Devices and three conference papers showcasing Taiwan's top talent's exceptional research and development capabilities.

After graduation, Hsu will join an IC design company, focusing on reliability engineering to safeguard semiconductor product quality. He aspires to continue promoting industry-academia co-creation from an industrial perspective, perpetuating the academy's pioneering spirit.



Chen-Wei Hsu's doctoral dissertation focuses on reliability optimization design for Application-Specific Integrated Circuits, with particular emphasis on protective technologies against Electrostatic Discharge and Latch-Up effects, enhancing the reliability of IC products.



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