

| FEATURES

Decoding Cells, Defining Possibilities

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| Intro-video of Associate Professor Annie Chi-An Cheng.

"Scientists have to be specific" is a familiar reminder that Associate Professor Annie Chi-An Cheng gently offers to her students at National Taiwan University's School of Pharmacy. Her eyes, usually warm and smiling, sharpen once the conversation turns to scientific research.

Precision is not only Cheng's approach to research—it is her approach to life.

Her academic journey commenced from chemistry, engaged biomedical engineering, and culminated in pharmacy. With curiosity as her compass, each turning point has been more than a departure--but rather a continuation and deepening of pursuing the questions she has wanted to answer. Although her path appears broad, every step has advanced naturally from the last.

"Whenever I choose to leave something behind, it's because something even more exciting lies in wait ahead," Cheng declares. And before making each leap, she carefully plans and prepares for what comes next.

During her two-year postdoctoral fellowship at Harvard University, the COVID-19 pandemic forced her to confront two very different futures. Should she remain



Associate Professor Annie Chi-An Cheng, recipient of the 2026 Outstanding Women in Science Award (Rising Star Award).

in the United States and pursue opportunities in industry, or return to Taiwan to continue her academic career?

Ultimately, family and a passion for education and research drew her home. Carrying with her the research questions she still yearned to answer, Cheng returned to Taiwan to establish her own laboratory.

Today, her research focuses on decoding the disease signals carried by tumor-derived extracellular vesicles (tEVs). Extracellular vesicles (EVs) are nanoscale particles released by cells that transport molecular messages between them.

"They're like messages in a bottle," Cheng says with a sparkle in her eye. "Each one carries information sent by a cell."

Her laboratory has developed three complementary technologies: one to isolate EV subpopulations, another to analyse the proteins on their surfaces and within their interiors, and a third to reprogram their biological cargo, transforming EVs into potential tools for cancer therapy. Looking ahead, Cheng hopes to deepen her research on pancreatic cancer and translate these technologies into clinical applications that can address some of the disease's most vexing therapeutic challenges.

"Honestly, I enjoy where I am now more than ever," she says.

Although she continually challenges her students to ask more precise questions and focus on the opportunities within their control, she has also learned to accept the uncertainties that cannot be controlled in scientific explorations. Over time, her laboratory has grown into a team of researchers who share the same determination to tackle difficult problems together.

"Our goal is to take our research to the next level—to challenge questions that are even harder and more complex."

As she talks about the future, her excitement is unmistakable.

In 2026, Cheng received the Outstanding Women in Science Award (Rising Star Award) in Taiwan. To her, the recognition is at once an honor and a reminder that gender disparities in scientific research still exist. Alongside advancing her own research, she has begun visiting high schools to share her experiences, encouraging young students—especially girls—not to place limits on themselves and inspiring the next generation to pursue scientific discovery.

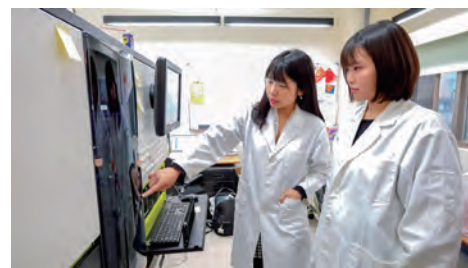
After one high school talk, a student wrote to her:

"After listening to your talk, I want to understand more and experience more different things."

Whenever Cheng encounters moments of discouragement, she thinks of those words—and of the sparks she has helped ignite. They are enough to renew her sense of purpose.

She smiles gently.

"That's why we're still here."



Professor Cheng discussing instrument operation with a Ph.D. student in her laboratory.



Professor Cheng leading a regular lab meeting, discussing the team's latest research progress with her students.



Besides teaching, Professor Cheng is presently focused on developing new technologies. Her next goal is to investigate more complex biological systems while continuing to advance extracellular vesicle (EV) research in pancreatic cancer, aiming to overcome drug resistance through innovating EV-based therapeutic strategies.