Huey-Jen Jenny Su – President, National Cheng Kung University (NCKU), Taiwan



In every program and research project NCKU engages in, be it basic biotechnology sequencing or a major robotics engineering project, the value of delivery has always been prioritized

16.09.2019

Tags: Taiwan, University, NCKU, Research

Dr Huey-Jen Jenny Su, president of National Cheng Kung University, elaborates on her ambitions to reclaim the institution's unique historical positioning as Taiwan's most impactful university. She goes on to highlight NCKU's capacity to nurture interdisciplinary projects, which through the university's strong academia-industry collaboration, have achieved concrete societal benefits. She also describes the institut

ion's role in fostering international relations among stakeholders of Southeast Asia and the West.

Dr Su, you are an accomplished scientist, professor, and writer in addition to being the first female president of National Cheng Kung University. Can you please introduce yourself, your journey to the position, and your current mission as president?

As a native citizen of Tainan, I grew up two blocks away from NCKU. When I was ready to go to college, however, the university did not offer biologic sciences programs. I had to thus travel north to study at National Taiwan University (NTU) in Taipei. After my undergraduate studies, I went to the US and completed my post-graduate education at Harvard University School of Public Health.

While working as a research associate at Harvard, I had a chance to talk to some senior colleagues, which resulted in the first NCKU-Harvard joint seminar in the 1990s. This was a major conference at the time which covered a wide spectrum of topics with a successful turnout. It was also one of the

first times NCKU or really any university for that matter collaborated with the industry in planning an academic conference.

Later on, when I was invited to the university as a faculty member, I was given plenty of opportunities to travel and continue my international networking. I even was involved on the government side through my work with the Ministry of Education. When I eventually became the president of NCKU in 2015, this was quite unexpected in more ways than just being the first woman in the history of the university to take the position. I was not a graduate of the university; I was not an engineer – a historical strong suite of NCKU; and even though I was a medical graduate, I was in public health, not one of the school's more mainstream disciplines.

This was a challenge at first, but I was very fortunate to gain support from both local and overseas alumni, the younger faculty groups, and eventually the senior faculty of NCKU as well. Thanks to their support I have never hesitated to try new approaches in the role, especially regarding cross-disciplinary integration. My primary mission since taking office has been to rethink how NCKU could cultivate its students, allocate university resources, and evolve its culture. Through this, I hope to reclaim the pride of the university as the only top tier engineering university for the entire country when it started 90 years ago.

My original intent was for the university to become an innovation hub and produce key leadership talent for not only the industry but also the governance of Taiwan. By sharing this history with all university stakeholders, we are aiming to return to the former glory of our university through a unified and reenergized movement of NCKU's students, faculty, and alumni.

Today, NCKU students are more ambitious in viewing their future than ever before. This mindset is not about creating a rank but rather about having a unique identity which is valued the highest at NCKU. My vision for NCKU is to position the university among the most impactful institutions in Taiwan's academic infrastructure.

How is NCKU differentiated from the other institutes within Taiwan's national university network?

NCKU distinguishes itself by the quality of its talents. Our graduates have been trained to be acutely aware of their own social responsibilities through the emphasis on shared responsibility in our education. In every program and research project NCKU engages in, be it basic biotechnology sequencing or a major robotics engineering project, the value of delivery has always been

prioritized. We do not believe that just generating a report or publishing a paper is sufficient. Our researchers are required to be also able to convey their discovery and studies to the society. According to the industry's feedback, one top attribute of NCKU students is team spirit, and indeed our students have strived to contribute to a shared responsibility as a global citizen. I also often see to it that our university's research projects is not limited to the interest of NCKU only. It is our goal that the projects conducted here will benefit everyone in the world.

Although the university has a strong engineering background, NCKU also has its own university hospital and college of medicine. Can you tell us more about the positioning of the university's medical network?

I believe biomedicine is Taiwan's future. The great majority of, if not all, IT players at NCKU are now expanding their reach and exploring how they can merge ICT with medicine to achieve their ambition of smart healthcare. NCKU's medical network is of unique significance not only to the IT industry but also to the country. In fact, NCKU has the only national medical center in central and southern Taiwan. Unlike NTU, whose engineering and medical colleges are distinctly separated, however, these disciplines at NCKU have maintained constant dialogues with one another for many years. More than two decades ago, NCKU was the first to put its medical engineering institute directly into the medical campus. This has allowed us to establish the first medical device center in Taiwan whose excellent performance was already recognized ten years ago.

In Taiwan, certain diseases are predominant mainly in urbanized populations, such as in Taipei, while the greater Taiwan patient population suffer from a wider spectrum of diseases. Being outside of major urban areas, NCKU Hospital has a patient pool that is far more representative of Taiwan's general population than urban medical institutions such as NTU Hospital. Therefore, NCKU is better positioned to understand and identify the key disease trends that are impacting Taiwan overall.

I would also like to point out that by 2022, NCKU's medical center will have built its first geriatrics hospital, which will introduce smart technology to create a hospital without walls. NCKU and Quanta Computer have agreed to collaborate and use artificial intelligence (AI) with the Internet of Things (IoT) to co-develop patient-centered medical and healthcare services. The hospital will include 440 beds, research and education facilities, and space for collaborative research with pharmaceutical and biotechnology companies. NCKU is gathering the resources necessary to develop new smart geriatric healthcare for Taiwan and the world.

What are other examples of NCKU's recent contributions to the fields of medicine and biotechnology?

The first example of NCKU's research contribution I would like to share is in response to the challenges being faced by Taiwan's aging society. Our Medical Device Innovation Center has been systematically connecting innovative medtech companies with domestic and overseas venture capital providers to the NCKU Hospital with the goal of developing innovative medical devices of high potential commercial value. For instance, our Department of Biomedical Engineering developed the i-Transport which combines electric wheelchairs with standing frame functions to enable patients to safely stand up. Meanwhile, NCKU's Southern Taiwan Biomedical and Optical Imaging Core Platform has also been happy to share its cutting-edge instruments that are unique to Taiwan, providing technological support, advice, and production services to research institutions and biotechnology and pharmaceutical industries throughout the county.

I would like to highlight the work of Professor Jung-Hsien Chiang of the NCKU AI Biomedical Research Center and his team on improving the quality of human life. In collaboration with ASUS, this interdisciplinary team is focused on developing an AI companion robot for family doctor care teams, patients with diabetes, the elderly, etc. The robot was originally designed for accompanying children, but by using deep learning and adding seasonal information to the inference procedure, the researchers have successfully broadened the scope of applications to achieve a more user-friendly monitoring technology for patients and their caregivers.

NCKU is one of the universities participating in the Ministry of Science and Technology's GLORIA (Global Research & Industry Alliance) program which was launched in 2017. Can you elaborate more on the specifications of this initiative?

The primary mission of GLORIA is to build industry-university platforms for linking Taiwan with the global market. About six years ago, the single largest license fee to be earned by a Taiwanese academic institution from an international company was 40 million US dollars, paid to our faculty. Dr Chang, the professor overseeing the winning project, was a pharmacist in the US literate in translational research. This, however, is not the average case in Taiwan. The GLORIA has taken as its aim the discovery of the hidden potential of Taiwan's university research and helped faculty members rephrase their work to be better understood in industrial language and be geared towards a higher potential for commercialization.

To what extent is the proximity of the Southern Taiwan Science Park an asset to NCKU's translational research capacity?

The Hsinchu Science Park in the northern part of Taiwan has been shown to benefit tremendously the northern universities by its proximity. Unfortunately, the distance between the Southern Taiwan Science Park and NCKU, a major talent hub in southern Taiwan, is inconveniently greater. Over the past years, to overcome the limitation, we have therefore endowed the university's incubation center inside the science park, effectively positioning NCKU as the official think tank of Southern Taiwan Science Park. We hold meetings with its management every two weeks to brainstorm more effective ways of communication among stakeholders. Our role is to actively engage with CEOs of the Park's companies to best understand their needs and concerns, foster potential cooperation, and maintain the momentum of Taiwan's industry in their upgrading from mere manufacturing service providers to creators of their own value-added offering.

What is your strategy in enhancing cultivating an international academic and research collaboration network around NCKU?

I would say the key to the collaborative network is to be very clear about NCKU's position in relation to our partners who are less scientifically developed and those who are more advanced. We have very globally competitive partners from very sophisticated markets such as Belgian and the UK but meanwhile, we are earnestly collaborating also with our regional colleagues like Thailand, Vietnam, and Malaysia. Although Taiwan has relatively less resources and critical mass compared to our partners in North America and Europe, we have nonetheless the capacity and maturity to communicate with them on the same level, a competitive edge few Southeast Asian countries enjoy.

I believe Taiwan and NCKU can and will play a critical role as a friendly and honest partner to bridge these two sides. In the past few years, we have learned that our regional colleagues are much more comfortable dealing with us than with European and North American stakeholders directly. NCKU has been working on creating a trilateral partnership program as a mediator to promote these global conversations which may not happen otherwise.

What are your priorities in fulfilling NCKU’s vision of achieving excellence in education, research, and social responsibility?

At NCKU we understand and are comfortable with our local impact though we still will strive to do more and become even better. However, for the university to take a proud stride into its centennial, we should be asking ourselves how to further realize NCKU’s original vision of delivering a global and humanitarian impact in each and every action our students, faculty, and alumni take.

We have to be serious in research and have a clear strategy for partnering both internally and externally, but then we must be also very honest and critical with ourselves about whether we truly have achieved the goals we set.

What advice can you offer to a younger generation of women looking to find success in their careers and as a leader?

Be simple with your values yet determined in your ambitions. When you encounter frustration or challenges you might find yourselves questioning your direction. When I first started as president, I had quite a bumpy road where I questioned my ability. However, whenever I came to the university, the only thing that concerned me was the benefit of its stakeholders – the students, faculty, and alumni. I realized that what I could do best for them is to make them proud by leading the university with my best intentions. Since that day when I came to this decision, I have become much stronger, vocal, and determined in my vision. So, my message is to stick to your values and trust in your own abilities and intentions!

What final message would you like to deliver on behalf of NCKU?

The local NCKU community significantly contributes to the welfare of the global community. The faculty, staff, and students here avail themselves of the acquired knowledge and technological innovation for both betterment of the society and better support of the disadvantaged. This synergism connects cities to nations and promotes the ideal of prosperity for all. The future of NCKU is intimately linked with humanity for perpetuity. As NCKU prospers so do our people and humanity.

See more interviews