Steve HS Kuo â?? President, National Yang-Ming University (NYMU), Taiwan

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NYMU President Dr Steve Kuo describes the history of the university and transformative period it is currently undergoing. Dr Kuo shares the universityâ??s key strengths and unique strategy to merge ICT with medical science and build collaborations with the industry as a mission-oriented school.

Can you please introduce National Yang Ming University and yourself as president to our readers?

The National Yang Ming University (NYMU) is celebrating its 44th year and I am actually one of the first medical students to graduate from the university 37 years ago and later received my PhD from Yale University in epidemiology. As the president of the university not only do, I manage administrative tasks but I also currently act as a professor.

Before coming back to NYMU, I spent 20 years in the Taiwanese government as director general of health planning and later on became the first health advisor at the Taiwan embassy in the US. In 2003, I became the CCO of the Taiwan Severe Acute Respiratory Syndrome (SARS) task force which was important in building the awareness for the disease issue. Finally, I served as director general for the Centers for Disease Control (CDC) before returning to NYMU to take on the role of president in 2017.

My mission since has been to transition the university into the next stage of its natural progression. In the very beginning, we were the first government-sponsored medical college to support the underserved, remote areas of Taiwan. This goal was achieved twenty years later when the president of Taiwan came to NYMU to deliver a speech on how the university accomplished its mission and now must go on to serve the greater needs of the country â?? at the time was medical research. Since its inception, NYMU has joined forced with the Taipei Veterans General Hospital (VGH) to represent Taiwan in the international Human Genome Project.

What are the strengths of NYMU compared to the many other leading universities in Taiwan?

NYMU is often considered to be a rival its capabilities to the most prestigious university in Taiwan â?? National Taiwan University. However, I believe that NYMU is more mission oriented and focused compared to NTU. Although the hospital is not part of the university, we closely collaborate with VGH and most of our medical staff have done their clinical practice there.

For the last 20 years, we have invested heavily in academic research including genomics, oncology, immunology, neurology, biophotonics, and medical engineering. In fact, NYMU is the first university to have a dedicated department for medical engineering. In addition, we were the first school to establish an institute for medical informatics. In fact, all these efforts belong to a strong framework for the continued development of the university. Later on, we established a unique school of humanities and social sciences. We believe this is an essential aspect of cultivating good physicians.

What are your most important current priorities for the university?

As a key priority of bringing together the medical field with ICT, NYMU is in the process of merging with National Chiao Tung University (NCTU). We have come up with the image for the schools of a flying tiger â?? NCTU is the wings and we are the tiger. In the end, NYMUâ??s mission is to still help the underserved which will be hugely advanced by the incorporation of ICT into our medical capabilities.

In addition to merging together, we are creating new programs such as digital health. Recently we established the Digital Medicine Center (DMC) and launched Digital Medicine Alliance which is a cross-university initiative with NCTU, NYMU, Academia Sinica, National Health Research Institutes (NHRI), and the National Institutes of Health (NIH) in the US. Finally, we are creating a special

program to train engineering physician and later on entrepreneurial physicians. Starting from next year, students in this program will study for their first two years alongside top electrical engineering students in the same classrooms. NYMU is aiming to create an environment where medical students and top engineers can establish a crucial cohort. The program will be taught in English and students will be sent overseas for half a year during their studies.

What strategies have you put in place to generate more industry-academia collaboration within NYMU?

Since their day one our medical students have been working closely with the industryâ??if we consider the hospital is an industry for life. NYMU is very familiar with working with the hospital, but we also have spent the last two decades building a relationship with the pharmaceutical and biotech industry. The NYMU Innovation and Incubation Center is building a new facility; it will be one of the most advanced centres for R&D. We are looking forward to a reunion for all the companies which have passed through the incubator, with several success stories, some of which have already been IPOâ??d. We want to continue this tradition, now incorporating ICT.

How involved is NYMU in the conduction of clinical trials?

In our collaboration with VGH, we are involved with some of the clinical trials done in the hospital. One of my first tasks, after returning from the US and working in the Taiwanese government, was to draft the first good clinical practice guidelines for clinical trials. Our goal was to have our first pivotal data accepted by with the US within our first ten years of global trials.

Gradually, as trials are extending to preventative medicine, some clinical trials are now carried out on NYMUâ??s campus and its affiliated hospitals. We have begun expanding our activities in this area and both patients and healthy elderly populations come to NYMU for different studies, such as a study on the development of dementia in healthy aged populations.

To what extent is NYMU involved in bringing Taiwanâ??s academic and applied technology strengths onto the global stage?

NYMU is continuing to expand its network of sister schools around the world and become official international branches with our partner universities. We are not only focused on the US but aiming to keep a diversified portfolio of collaborators.

Furthermore, we are very keen on building our cross-strait relationship with China despite the political climate. NYMU is the first school in Taiwan to have bilateral exchange with the medical school of Peking University, which started with a student exchange. This has been a long-standing, historical relationship which is important to the cultivation of both of our students and their pursuit of education.

What vision do you have for the university within Taiwanâ??s research and academic ecosystem?

NYMU will continue to grow and increase our cooperation with the industry. We are very proud of being a mission-oriented university. Now, with the countryâ??s goal to transform and boost our industry environment, I believe the NYMU can play a significant role by merging health and medicine with the ICT field. We will also continue to serve the unmet needs of the underserved and we are very involved in government policymaking.

What is your proudest achievement to date?

This university of course. After the establishment of NYMU, we did accomplish our original mission of solving the problem of underserved rural areas. Now, we will continue to solve the issues that society requires us to meet.

In addition, we would like to share a recent important achievement of NYMU with you. After a long process of evaluation, discussion for collaboration, and solving the diplomatic issues, NYMU/Taipei VGH (represented by TECRO) has formally signed the MOU with NCI (represented by AIT) for establishing the joint lab with Prof. Schrump, the director of thoracic oncology of NCI this March. The joint lab will aim to study the differences between the lung cancers in Asians and Caucasians via epigenomic/immunologic/stem cell tools and also develop the platform for personalized medicine. Notably, this lab should be the first joint lab between NCI and the country in Asia. We are proud that the scientific and clinical achievements of NYMU/TVGH have been well recognized. The collaboration between NYMU/TVGH and NCI will be extremely promising and have a significant impact on human health.

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