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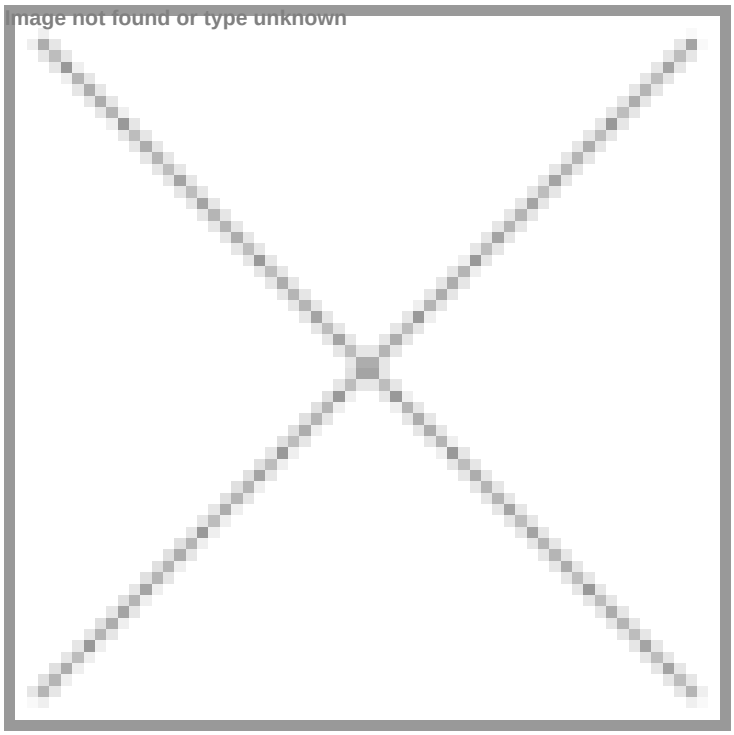

Scientist, entrepreneur, administrator, adviser. Dr Chi-Huey Wong, the ninth president of Academia Sinica, has donned many hats in his career spanning over 30 years. Now, in his second term as the president of Taiwan's independent research institution, he is still juggling the roles of a researcher, an administrator and chief science adviser to the government in Taiwan.

Since taking over the reigns of Academia Sinica in 2006, Dr Wong has been an important influence in the biotechnology industry of the country. "One of my jobs is to push the biotechnology industry's growth," he says, while discussing his role as the head of the institution.

In the recent past, Taiwan has emerged a strong player in the Asia Pacific. One of the reasons has been its proximity to China, a much desired destination for many multinational pharmaceutical and biotechnology companies hoping to exploit the Asian market. The country is also home to many medical devices companies and is now increasing its focus on biotechnology to promote its healthcare and agriculture sectors. A number of initiatives are aiding drug research and development and setting up of start-ups, while also encouraging industry-academia interaction.

Pioneering research

Dr Chi-Huey Wong won the Nikkei Asia Prize in 2012 for his contribution to science and technology and has many other

awards to his credit for research in glycoscience that has the potential of being used in vaccines for cancer and other infectious diseases. "I have been interested in and actively involved in the research of glycoscience in the past 30 years, initially with focus on technology development and then on application to study diseases, especially cancer and infectious disease," he explains. (Read an interview with Dr Chi-huey Wong)

His work has generated a better understanding of how cell surface carbohydrates play a role in disease progression. "From this we also identified important carbohydrate molecules associated with diseases for drug discovery and diagnostic development. Our synthetic methods for carbohydrates, including enzymatic and automated one-pot methods, have been used for the synthesis of cancer vaccines as therapeutics and glycan arrays as analytical tools," he adds. A technology transfer to a local biotechnology company has led to the development of a vaccine candidate for breast cancer that is presently in phase III of a clinical trial being held in different countries. "The vaccine is also for other types of cancer such as lung, colon, ovarian and brain tumor," he says.

Administrator and chief adviser

"I was not very keen on it in the beginning. I am a chemist. I know am a pretty good scientist, but I did not know how good an administrator I would be," says Dr Wong, talking about the time when he was offered the role of the president of Academia Sinica. But six years later and serving his second term as the president of the prestigious body, he says he is comfortable in his role.

Dr Wong took over the reigns of Academia Sinica after Dr Yuan Tseh Lee, a chemist and a Nobel Laureate, retired from the position. "I was almost an immediate choice," says Dr Wong, who was then the director of Genomics Research Center at Academia Sinica in Taipei. "I had worked at RIKEN in Japan for eight years, which gave me some experience of Asia, apart from Taiwan."

Today, he also functions as the chief science adviser to the government in Taiwan and one of his focus areas is the growth of the biotechnology industry in the country. Taiwan introduced two bylaws in 2007 that, he says, will go a long way in strengthening the biotech sector. Likening them to the Bayh-Dole Act of the US, Dr Wong says these laws will encourage investors to invest in this high-risk sector, allow academicians and researchers to get involved in the industry and provide tax benefits and incentives from the government to the industry. "In the last five years (since the bylaws came into effect in 2007), a lot of biotech innovation has taken place and start-ups have floated IPOs. Today, 20 candidates in Taiwan are in clinical trial phase III stage," he elaborates.

Taiwan is also boosting the agri-biotech sector to meet the market demands. "We already have a strong agricultural sector. Our orchids and tropical fruits are very popular, but there is much that can be achieved with the use of biotechnology. For example, biotechnology can be used to control diseases that affect crops."

Dr Wong, who spent many years in the US and Japan while pursuing his research, says industry-friendly policies and increased interest of multinationals in Asia Pacific, has opened the field for Taiwan. The country, he says, is also making efforts to overcome regulatory hurdles to smoothen the process of approvals from the US Food and Drug Administration and other such bodies. "One of the problems that Taiwan and China face right now is that their regulatory guidelines are not internationally accepted. We are working towards that," he says, adding that Taiwan and China are working towards having harmonized guidelines such as ICH for conducting clinical trials.

To the US and back

After completing his post graduation from National Taiwan University, Dr Chi-Huey Wong received his PhD degree from Massachusetts Institute of Technology in 1982. He then moved to Harvard University with his guide, Professor George M Whitesides, for his postdoctoral research. Between 1983 and 1987, he worked with Texas A&M University and was the Professor and Ernest W Hahn Chair in Chemistry at the Scripps Research Institute from 1989 to 2006. Dr Wong also co-founded a company, Optimer Pharmaceuticals, in the US during this time. In 2003, he became the director of the Genomics Research Center at Academia Sinica, Taipei. "I travelled back and forth and spent eight years at RIKEN before moving back to Taiwan," he says.

He headed the Frontier Research Program on Glycotechnology at RIKEN (Institute of Physical and Chemical Research, Japan) between 1991 and 1999, and has also been a board member of the US National Research Council on Chemical Sciences and Technology.

Now, at the Academia Sinica, he spends a lot of time doing research. And he credits the country for providing him enough space to pursue his research, while being the head of an institution as big as Academia Sinica. "I don't think this is possible in

the US or Japan. While I am the head of the institution, I get a lot of help in carrying out administrative responsibilities and I can spend more time on research."

He is over 550 publications and 60 patents to his credit. He has also written four books: Enzymes in Synthetic Organic Chemistry, Combinatorial Chemistry in Biology, Catalysis from A to Z, and Carbohydrate-Based Drug Discovery.

Apart from receiving the Nikkei Asia Prize in 2012, Dr Wong has received The Searle Scholar Award in Biomedical Sciences, the Presidential Young Investigator Award in Chemistry, the American Chemical Society A C Cope Scholar Award, the Roy Whistler Award of the International Carbohydrate Organization, the American Chemical Society Harrison Howe Award in Chemistry, the American Chemical Society Claude S Hudson Award in Carbohydrate Chemistry (1999), the International Enzyme Engineering Award, the Presidential Green Chemistry Challenge Award, the American Chemical Society Award for Creative Work in Synthetic Organic Chemistry, and the F A Cotton Medal for Excellence in Chemical Research.

Among other roles, he is also a scientific adviser of the Max-Planck Institute, and scientific advisory board chairman of Optimer Pharmaceuticals, a company he co-founded in the US. But for now, the entrepreneur in him has taken a backseat. "As the head of Academia Sinica, my job is now to promote the biotechnology industry. I function as an adviser to companies that need help," he signs off.