

FEATURE

From Cornell University to the Institute of Theoretical Physics of Chinese Academy of Science

An Amazing Educational Transition of
a Young Macau Scientist, Ian Hou

By Victor Da Hsuan Feng

In the 20th century, if you told me that an Asian student could complete his undergraduate and Master degree education at a US Ivy League University and then pursued his doctorate education in a Chinese institute, my instant reaction would be dream on!

But this is not the 20th century, it is the 21st century and what was unthinkable in the 20th century can and will happen in the 21st century.

That actually happened to an assistant professor in the University of Macau's Institute of Applied Physics and Materials Engineering, Dr. Ian Hou.

Last week I had a most enjoyable and information-rich conversation with Dr. Hou.

Professor Ian's pedigree of secondary and university education up to Master degree level were absolutely perfect. Born in the Mainland, he came to Macau at a very young age and completed his secondary education in Macau's Pui Ching Middle School.

People in Macau and Hong Kong are all familiar with the name Pui Ching where both places have a high school with the same name.

In fact, the two Pui Chings maintain very close ties. They are so close that one could for all



*Assistant Professor in the University of
Macau's Institute of Applied Physics and
Materials Engineering, Dr. Ian Hou.*

practical purposes think of them as a system. The quality of a Pui Ching education is best manifested by the fact that it is the only one in the region that has produced a mathematician (S.T. Yau) who won the Fields medal and a physicist (Chee Tsui) who won the Nobel Prize.

Armed with a Pui Ching secondary education and graduating as a top student, Professor Hou was able to be admitted to Cornell University to study electrical engineering. There he received a bachelor and master degree. As one of the 8 Ivy League universities, Cornell University, with 29 faculty members past and present who won the Nobel Prize, is unquestionably one of the top universities in the United States. For example, in the fields I am familiar with, it is the university which claims to have as faculty members one of the greatest physicists of the 20th century, Nobel laureate Hans Bethe. It also claimed a great Chinese philosopher, essayist and diplomat Hu Shih as its alumnus.

It is with this as background, what happened to Dr. Ian when he received his Cornell Master degree was nothing short of spectacular. It also is a profound omen of what may happen in the 21st century. Indeed, if this was the 20th century, and Dr. Hou was interested to pursue a doctorate degree at that point in of his career, he would unquestionably pursue it either at Cornell or one of the top universities in the United States!

But something remarkable happened to Dr. Ian at that time. *“I remember that I was a bit bewildered with the standard electrical engineering career as I got closer to receiving my Master degree from Cornell,”* said Dr. Ian. *“I remembered I had the great fortune of taking a course from one of the great solid state physicists in the world, Professor David Mermin. In his course, he actually talked about how quantum mechanics could be the driving force for a new generation of technologies, such as quantum computing and quantum information. I was mesmerized by his lectures and even asked him whether he could take me on as a Ph.D. student!”*

I actually had invited Dr. Mermin to a seminar at Philadelphia’s Drexel University once and remembered he was a superb lecturer!

Dr. Ian went on to say that *“I am not sure whether it was my blessing or my curse, but Professor Mermin actually turned my request down because he said that he would soon retire and therefore would not be right to take on a Ph.D. student without seeing him or her to completion!”*

“But by then, I already have developed an inherent interest in the areas of research which Professor Mermin mentioned and there was no way his refusal would stop me in pursuing this interest. So I started to look around where else in the world I could find a place to pursue my interest,” exclaimed Dr. Ian, *“and remarkably, I discovered that Academician Changpu Sun of the Institute of Theoretical Physics of the Chinese Academy of Science was a leading expert in the*

field! So I communicated with him and he accepted me as a Ph.D. student.”

On two counts I was stunned by this comment, one generic and the other personal.

Generically speaking, I had difficult to rap my thoughts around a Master degree holder from Cornell University would actually apply to go to China to pursue his doctorate studies. During my days, or a generation behind me, I am absolutely convinced would never happen! But like I said, this is the 21st century where the “equalization” of East and West is rapidly happening. What Dr. Ian had done is the best manifestation of this equalization!

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Personally speaking because I still vividly remember in 1991, when I was organizing a nuclear astrophysics summer school in Tianjin’s Nankai University, one of the graduate students of my host Academician Molin Ge came to my hotel room late at night and wanted to learn everything I knew about “coherent states,” a branch of physics which has connection to optics and nuclear physics. That student was Changpu Sun! I knew that since those fledgling days, Changpu Sun became a very successful theoretical physicist and was elected as an Academician at a very young age! It is amazing that after nearly quarter of a century, Changpu Sun’s name again arose in my presence!

After receiving a D.Sc. from Changpu Sun in 2009, Dr. Ian went to Japan’s top research institute RIKEN as a postdoctoral fellow before coming to the University of Macau as an Assistant Professor.

So what did I learn from this awfully interesting interview with a young Macau colleague?

First, his career tells me that Asia is on the rise. One hears often a great deal about the rise of Asia in the 21st century. Generally it is cast in the language of GDPs. But the intellectual rise of Asia is, according to me, far more profound, because it is a manifestation of the rise of “inherent self-confidence!” It was the confidence of Dr. Ian where he felt he could learn in Asians much as anywhere else in the world and Academician Sun could achieve an outstanding international career primarily in Asia.

Second, I must reiterate the fact that despite the fact that Macau at least up to now lacks a deep sense of intellectual and research ambience, its high schools could continue to produce youngsters like Dr. Ian who possesses a deep sense of interest in knowledge! I think it is this fact that it should make the University of Macau to be a truly exciting place to be at this point in time!

I thank Dr. Ian for opening a door for me to look into the future!

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