Gina Jiang – Managing Director, Hong Kong Institute of Biotechnology

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Serial entrepreneur Dr. Gina Jiang built a number of successful medtech startups in Silicon Valley before joining the Hong Kong Institute of Biotechnology (HKIB) as its managing director. She discusses the institute's work with vaccines and biologics as well as Traditional Chinese Medicine (TCM), and explains the Advanced Therapy Products (ATP) GMP Centre it recently completed along with a partnership with the Scottish National Blood Transfusion Service.

Having built several medtech start-ups in Silicon Valley, how was your transition to the relatively newer Hong Kong and Greater Bay Area ecosystem?

The US definitely boasts a more mature ecosystem. Working in innovation here can feel more like the Wild West at times, because you need to go out, explore and discover for yourself.

In terms of what excited me, the shift towards personalised medicine over the last five to ten years, as discussed in multiple medical conferences, has been really important. It is an interesting time in terms of seeing how we can make this technology more readily available in a range of fields for clinical applications in Hong Kong

You have been leading the Hong Kong Institute of Biotechnology a few years now. What led you to take up such a unique position?

I studied medicine and also undertook research in my career, so I have always been extremely curious about bringing innovation from the lab to the bedside. This probably is due to the fact that there are several physicians and researchers in my family, which inspired me a lot.

Prior to coming to Hong Kong, I trained at Stanford University in Silicon Valley and looked at biodesign and how to bring research into application and commercialisation. I established a few companies, one of which was focused solely on the integration strategy and mechanism of translating research into the marketplace. It was thanks to this experience that I was recruited for the position I hold today.

At that time, the Chinese University of Hong Kong (CUHK) was committed and focused on regenerative medicine and translational medicine development. They had a large financial backing and big markets in Korea and Hong Kong, with strong connections in China.

What is the mission and vision of the Hong Kong Institute of Biotechnology?

It is a non-profit organisation founded solely by CUHK. It was established in 1988 by the former Vice Chancellor of the university as he envisioned at that time that Hong Kong required an institute with a Good Manufacturing Practice (GMP) facility to manufacture human healthcare products of sufficient efficacy and safety to be recognised by international regulatory bodies such as the US FDA. This was a proactive approach and we have been committed to this mission since.

Over this time, we have worked in vaccines and biologics as well as with Traditional Chinese Medicine (TCM). In 2018, the CUHK announced that it would build an Advanced Therapy Products (ATP) GMP Centre, which was recently completed. Regenerative medicine is booming and there are around 60 thousand patients worldwide participating in cell & gene therapy clinical trials. The backlog of many of these trials is actually occurring at the GMP facility, so HKIB chose to build this ATP GMP site to help fix this bottleneck situation and also develop new therapies.

This is bringing our commitment to the next level, and we have partnered with the Scottish National Blood Transfusion Service to construct the infrastructure from scratch. We worked through the design phase of the facility and are now putting in place the quality management system.

How is the development of the facility progressing and which therapies will be coming out first?

Our very first product will be a CAR-T therapy for CD19 in diffuse large b cell lymphoma in children. CUHK has many hospitals under its umbrella and many leading experts, with the project being funded by Hong Kong's Innovation and Technology Fund (ITF) for 20 patients. This product is already licensed so we will be just doing the manufacturing for clinical application and not commercialising the medicine, so it is a good first step to get operations moving in the right direction. The first CAR-T therapy was approved by Hong Kong last year, which is good news as this could offer opportunities in the future.

In relation to preparing the ATP GMP facility, the pandemic had some influence on our opening timeline, but we are on the correct pathway to get our manufacturing licence and afterwards we will begin the trial. Site approval will be done by the department of health and when we choose to go international, we will seek the relevant international approval.

How well prepared is Hong Kong's Department of Health for innovative sites like the ATP GMP facility?

They know it is coming to Hong Kong and even set up a committee in 2018 that has a specific ATP GMP manufacturing division. Nevertheless, it is a learning process from both sides, them and us, on how to regulate the process and set up the operations.

Do you feel that Hong Kong has the capability and capacity able to act as something of a medical tourism hub for these therapies in its region?

Discussions around allowing patients to come to Hong Kong to receive advanced treatments have been taking place at all levels, from investors to regulators and legislators. We are geographically well located and connected, and sit under the CUHK umbrella, so there are definitely opportunities, but more in the medium- and long-term.

Given Hong Kong's relatively short track record in the area of advanced therapies, do you feel that there are enough experts in the city to help you on this journey?

The talent we do have here is of an excellent quality and they service the population that lives here, though this leaves us a bit short in terms of volume. We are always discussing how to attract, retain and develop talent in Hong Kong and even the government has this topic high on their agenda.

How has the development of the ATP GMP site been received by the international community?

We have always looked to be players on the international circuit, as shown by our aforementioned partnership with NHS Scotland, and this will help us to build on their expertise and knowledge. Every month we talk to researchers who want to bring their research through the clinical phase and we are a key step for them to achieving this. Wait times on ATP GMP sites are normally 18 months, so we have the ability to shatter this bottle neck once the Department of Health approves the site later thisyear.

A final message for our international audience?

It is a very exciting time for Hong Kong and this new ATP GMP site is part of that. We want to bring innovative therapy production here and this is not just great for Hong Kong but for patients that require these therapies. At first, we know it will be slow going, but with time we will learn and grow to be important players in the Hong Kong biotechnology and pharmaceutical ecosystem.

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