

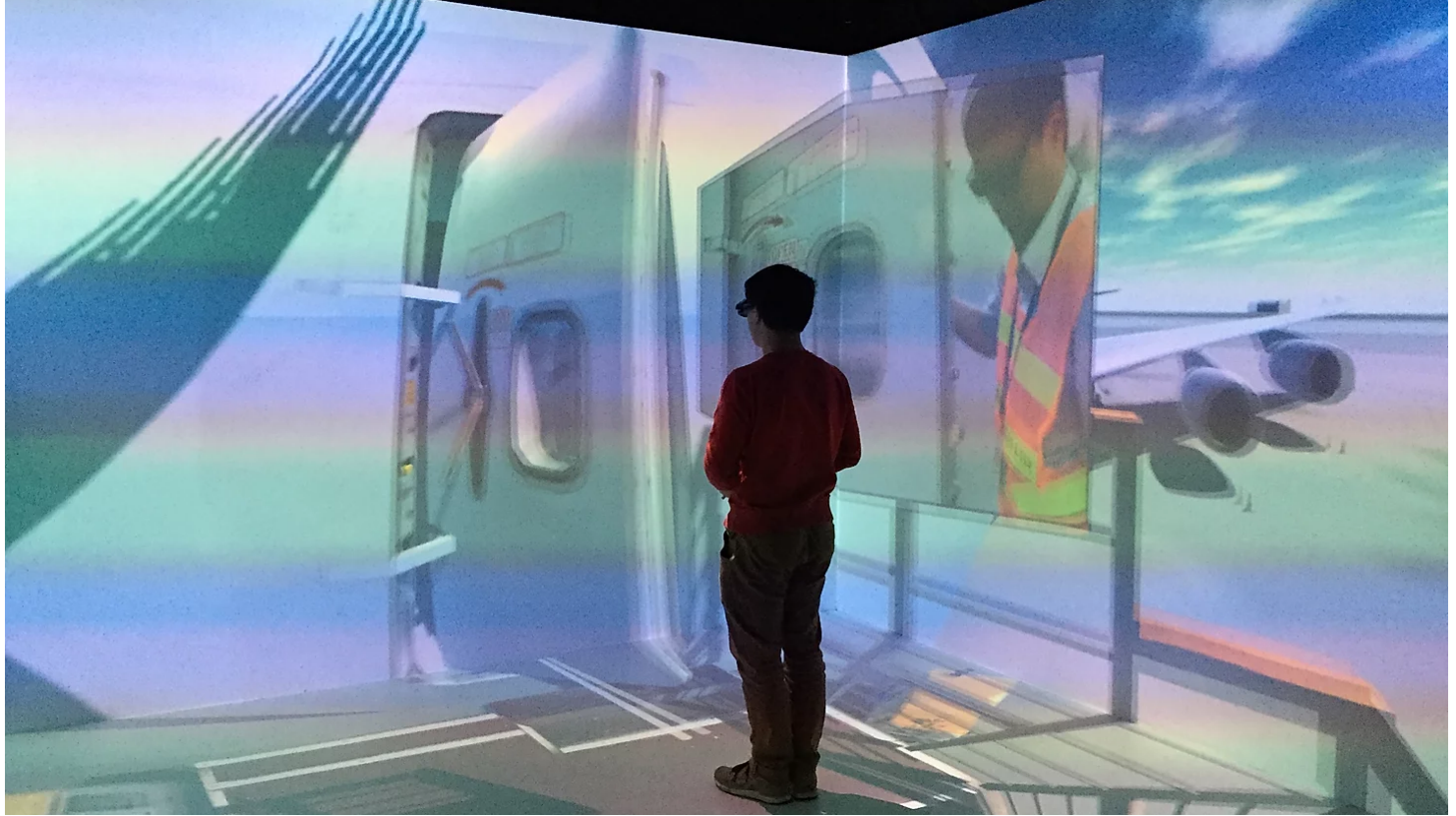


The University of Hong Kong
Technology Transfer Office

E-NEWSLETTER
TechXfer ISSUE 2
JUNE 2020

TECHNOLOGY TRANSFER IN THE MIDST OF CORONACRISIS





Successful Story

Translating Ivory Tower Science into Commercial Innovations

Hactis Limited has come up with an innovative way of looking at bespoke virtual reality (VR) solutions that help develop a community of VR users to utilise VR in different facets of their businesses and professions.

About five years ago, Dr. Henry Lau and Dr. Leith Chan, Dr. Lau's PhD graduate of the Department of Industrial and Manufacturing Systems Engineering, The University of Hong Kong, set out on a quest: To transfer the knowledge of artificial immune systems and 3D computer graphics which could be used to transform the value of human resources training and development, the video game industry as well as the education sector. The two researchers innovated their flagship products, called imseCAVE and imseDOME.

Going back to the entrepreneurial journey of Dr. Lau and Dr. Chan, there is quite rightly much discussion about what, but less about how. The two inventors started Hactis Limited and converted their research achievements into commercially viable products and services with the support of the TSSSU@HKU in 2015.

Companies awarded under the scheme will be funded for no more than three years with a maximum amount of HKD1.5 million per year. In the process of technology transfer, Dr. Lau and Dr. Chan worked closely with the Technology Transfer Office (TTO) to seek professional advice on matters such as investment arrangements and IP protection. With the successful launch of its flagship products, Hactis Limited now reaps the fruits of the commercialisation of the inventions and issues periodic dividends to its shareholders.

There is much more to discover about the research community at HKU. Read on to explore more intriguing stories of how TTO provides researchers with professional input and lend direction to the work for commercialisation.

What's New?

We are pleased to inform you that we have launched our official Facebook and LinkedIn pages of TTO early this month. There you will find valuable nuggets of information, both about the emerging technology innovations at HKU and about the upcoming events as well as news from TTO. There will also be periodic highlights of how our teachers and researchers extend the impact of research significantly beyond the institution through technology transfer with us.



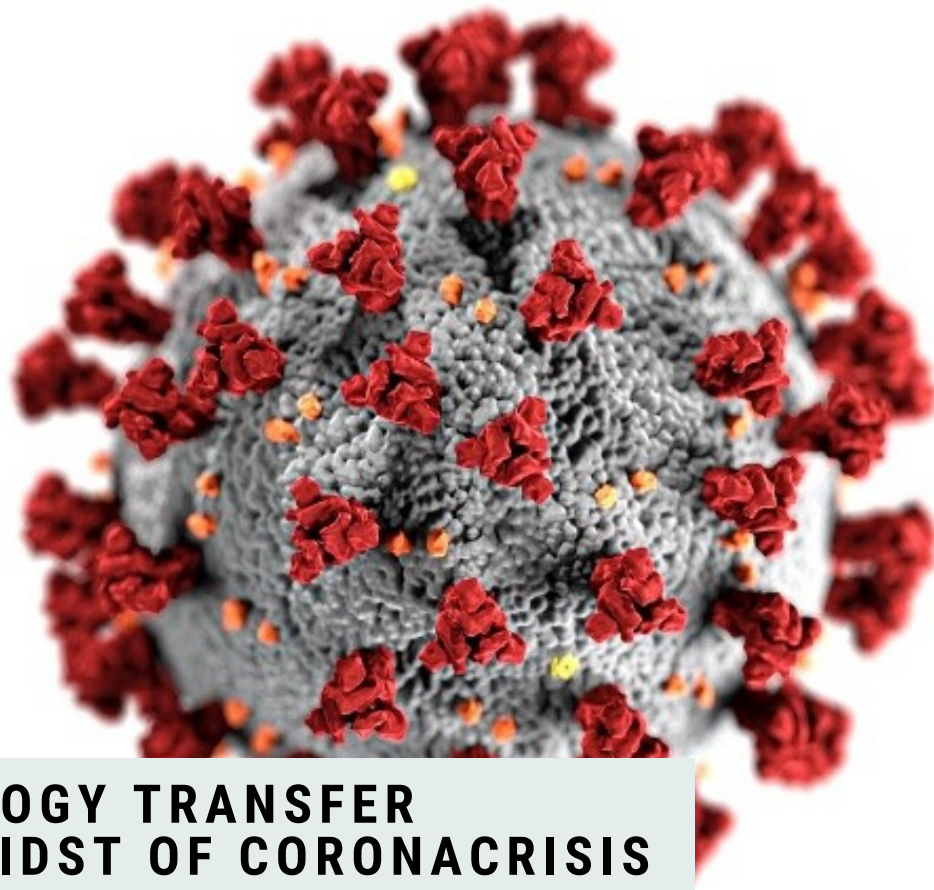
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HKU Technology Transfer Office



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TECHNOLOGY TRANSFER IN THE MIDST OF CORONACRISIS

The Coronavirus Disease 2019 (COVID-19) pandemic, caused by the coronavirus SARS-CoV-2, has had a massive impact on the world. As of today, over 6 million confirmed cases have been reported in more than 215 countries and territories, with a staggering number of death tolls on the rise. In these testing times, scientists and researchers at the University of Hong Kong (HKU) have pulled together to develop vaccines, antivirals and diagnostic methods for the treatment of COVID-19. Working alongside these experts, the Technology Transfer Office (TTO) plays a pivotal role in providing them with valuable advice and immediate support through industry engagement, legal consultation, and patent filings in the process of technology transfer.

The Leap in Exploring a Flu-based Coronavirus Vaccine

The HKU team led by Professor Honglin Chen, along with team members Professor Zhiwei Chen and Professor Kwok-Yung Yuen, made a vaccine candidate based on a previously established flu-based DelNS1 live attenuated influenza virus (LAIV) platform. This vaccine candidate expresses a specific antigen to

induce immunity targeting the critical element of the receptor binding domain (RBD) of SARS-CoVs. Such a strategy may avoid potential antibody dependent enhancement (ADE) as observed in the experimental vaccine for SARS-CoV. Furthermore, the LAIV platform has been proved to be safe and allows the vaccine production in both egg and mammalian cell systems.

HKU is Bravely Ploughing Its Creative Furrow

Members from the Faculty of Business and Economics (FBE) and the Faculty of Engineering are contributing their creative ideas and expertise to the hard-fought battle against the COVID-19 pandemic. In light of the growing demand for protective gears and surgical face masks, TTO is exploring exciting opportunities with the industry to develop the core components based on some of the novel nano-fabrication materials researched and developed at the Department of Civil Engineering. Weavertools Limited, a HKU startup company founded by graduates and professors from the Department of Computer Science and FBE, has made its flagship product, Weava - a digital research tool, available to universities and colleges worldwide free of charge to support e-learning activities of students at all levels.

Professional Legal Advice from TTO

As COVID-19 pandemic runs rampant, scientists and researchers from HKU are contributing to various aspects in combating the pandemic. Apart from the extensive research and study of the virus, its transmissibility and infection control, rapid nucleic acid amplification tests have been developed by HKU Li Ka Shing Faculty of Medicine to detect the Coronavirus Disease. These tests have been used by healthcare laboratories in more than 40 countries, including Egypt, Cambodia and Nepal. The reference materials and reagents have been freely provided to overseas laboratories so that they can prepare for this pandemic and identify COVID-19 patients early. HKU's Vaccine Team has developed the COVID-19 vaccine which they hope will be tested on humans starting from July 2020. In addition to the research efforts, HKU also serves an advisory role to the Hong Kong Special Administrative Region (HKSAR) government in policy making and providing invaluable guidance to the general public in combating the coronavirus outbreak. It is evident that the contribution of the HKU scientists and researchers does not only benefit HKSAR, but also extends to fighting COVID-19 in other countries of the world as a whole.



TTO is honoured to be taking part in facilitating the research and drug/vaccine developments of HKU's researchers. We have been receiving an influx of cases related to the COVID-19 pandemic. From January to the end of May 2020, the Legal Team of TTO has reviewed 53 cases related to COVID-19, where agreements shall be entered into with various governments, education institutions, NGOs and commercial entities in Hong Kong SAR, mainland China, the US, the Netherlands, Belgium, Korea, Canada, Switzerland, Malaysia and others. These documents include Service Agreements, Grant Transfer Agreements, Data Sharing Agreements, Collaboration Agreements, Tender Documents, Material Transfer Agreements and Non-disclosure Agreements. As HKU receives various funding and donations from organisations to conduct the COVID-19 research, the Legal Team also assisted in reviewing the relevant donation/funding agreements. Due to the urgency of the cases, the Legal Team is required to review the documents and to provide legal advice on these cases within a very short period of time, such as within one day. Further, as some of these COVID-19 related cases involve new funding from the People's Republic of China (PRC) government, the Legal Team is required to consider special conditions imposed by the PRC government such as intellectual property rights ownership in the potential inventions and results of the research.

We remain committed in supporting HKU's mission in the research and study of the COVID-19 and we strive for high efficiency in providing timely assistance to the members of HKU.

The Upsurge in Patent Filings

There has been a surge in COVID-19 related patent applications by pharmaceutical companies around the world. Successful applications abound. AIM Immuno Tech received three US provisional applications for its lead drug Ampligen. Gilead Sciences holds several patents and patent applications in using remdesivir. Research and development (R & D) is heavily reliant on trial and error and experimenting. It begs the question of how patents could guarantee high prices to recoup such R & D costs and how efforts of the teams could be paid off.


At TTO, we offer professional advice on your patent applications, ranging from the processes or preparations, to fundamental issues pertinent to invention disclosure, to patent filing strategies. Since February, our researchers at HKU have had six patent application filings for COVID-19 related inventions, with at least five new applications being underway. The majority of these patent applications covers areas such as vaccines, diagnosis kits and assays.


Would you be smitten by the fact that you can "halve the hassle, and double the impact"? If so, patent your inventions with us today.


Back to January 2020, few around the globe would have imagined that a coronavirus outbreak was about to upend millions of lives. Despite the fact that the coronacrisis is the sign of the times, with rigorous research, we envision that this pandemic can be treated effectively and that we can begin the road back to normalcy in the near future.


About TTO

The Technology Transfer Office (TTO) is committed to maximising the impact of research through technology transfer at both the institutional and industrial levels. TTO works closely with researchers at HKU to commercialise their inventions through professional consultation on business development, legal advice and assistance, as well as patent application filings. Your inventions would not benefit the society until they are mass produced. Contact us for such a transformation.

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Policy Stipulation

The latest policy stipulates that the net receipts arising from the exploitation of an Invention are shared among the University, the relevant faculty/department and the inventor(s) in the ratio of 1/3 : 1/3 : 1/3. It aims to encourage the researchers at HKU not only to excel in academic performance but also to apply their technology for the benefits of mankind with an impressive reward.



How to Apply: 4 Phrases for Research Projects

Phase 1: Initial project negotiation

1. PI will negotiate with their collaborator(s) and confirm a project proposal which includes the scope, budget and duration of the project.
2. PI will negotiate with their collaborator(s) and prepare a draft agreement (Agreement templates are available at the website of the Research Services (RS): <http://www.rss.hku.hk/contracts/contractresearch/templates.>)

Phase 2: Endorsement from department/faculty

3. PI will submit the project proposal, the draft agreement, and the information form/grant application form to their department/faculty to seek an approval (The information form for research/consultancy agreements is available at: <http://intraweb.hku.hk/local/rss/tto/researchor-consultancy-agreements-form.doc>).
4. After obtaining the approval, PI will submit the project proposal, the draft agreement, and the information form/grant application form to the Research Service (RS).

Phase 3: Financial legal/IP review

5. The RS will distribute the project proposal and the draft agreement to the Finance and Enterprises Office (FEO) for financial review and to the Technology Transfer Office (TTO) for legal review.
6. If there is any financial/legal issue, the FEO/TTO will inform PI through the RS. PI will negotiate with their collaborator(s) on the financial/legal issue until it is settled.

Phase 4: Signature and document archiving

7. After consolidating the settled project proposal and the agreement, the RS will proceed to the signature process.
8. After duly performing the signature process, the RS will assign the RCGAS number(s) for opening the project account(s) and archiving all the documents.