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THE UNIVERSITY OF HONG KONG

Press Release

Seven HKU young scientists awarded China's Excellent Young Scientists Fund 2019

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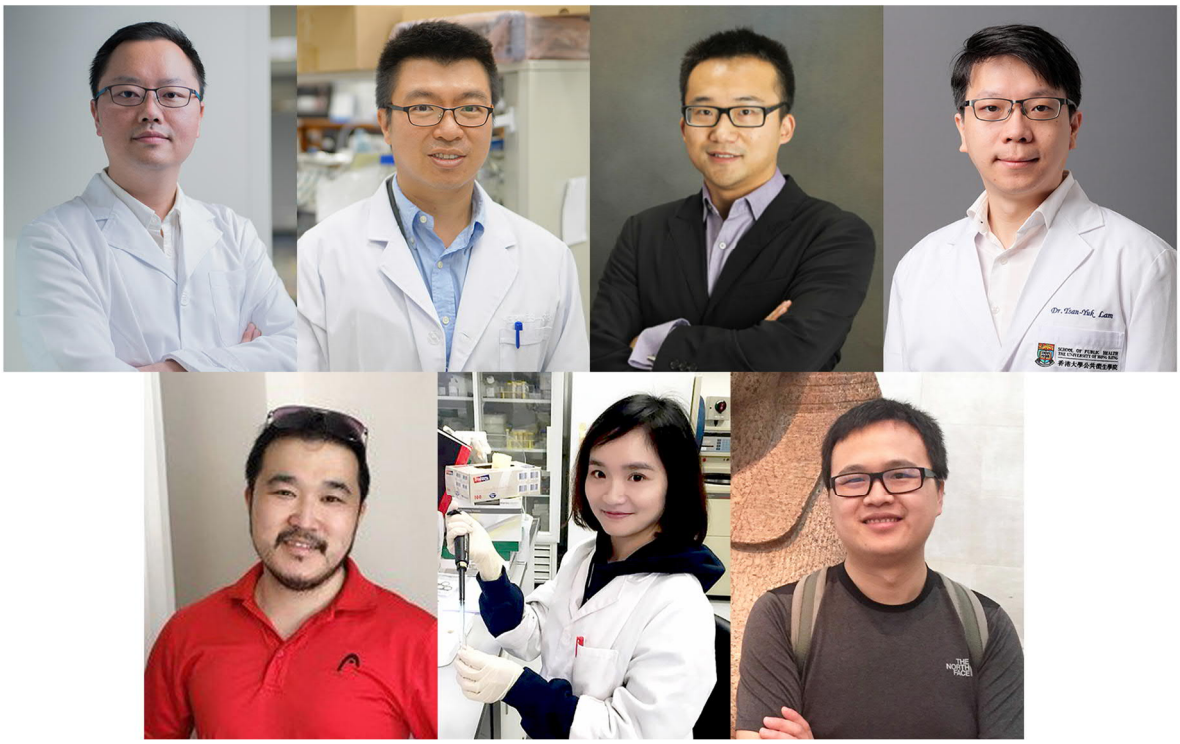

Seven HKU young scientists awarded China's Excellent Young Scientists Fund (Hong Kong and Macau)
Top row from left: Dr Li Xiang David, Dr Anderson Shum, Dr Hu Xiaoqing, Dr Lam Tsan Yuk.
Bottom row from left: Dr Zhang Binzheng, Dr Hui Hannah Xiaoyan, Dr Wu Jin

Young researchers at the University of Hong Kong have achieved excellent results in the inaugural round of the 2019 Excellent Young Scientists Fund (Hong Kong and Macau).

Seven young scientists have been awarded the prominent fund under the National Natural Science Foundation of China, an organisation directly affiliated to the State Council for the management of the National Natural Science Fund.

The Excellent Young Scientists Fund is granted annually to support young scientists (male below 38 and female below 40 years old) with achievements in basic research to conduct research in areas of their own choice.

The fund was offered exclusively for the first time this year to Hong Kong and Macau for applications by eight designated universities. It is highly competitive, only 25 projects are funded for Hong Kong and Macau. HKU is funded the highest number of projects. Each project will receive a funding of RMB1.3

million (HKD1.5 million) for a maximum period of three years, in the form of cross-border remittance to directly support researchers' work in Hong Kong.

HKU award winning young scientists and their projects:

Dr Hu Xiaoqing
Assistant Professor in Psychology, Faculty of Social Sciences
Project Title: Modulating emotional memory during sleep

The project aims to investigate how to modulate emotional memories during sleep. It will examine memory reactivation, inhibitory control and information integration processes during sleep as well as the underlying neural mechanisms. The project may advance our understanding of the relationships between sleep, emotion and memory. It also bears potential translational implications in developing novel interventions to treat psychiatric disorders. Eventually, this research will help individuals maintain emotional well-being and bring positive impacts to social harmony.

Dr Hui Hannah Xiaoyan
Research Assistant Professor and Honorary Assistant Professor in Medicine, LKS Faculty of Medicine
Project Title: Mechanism Underlying White Adipose Browning

Adipose tissue is a highly heterogeneous and plastic organ, and plays a key role in pathogenesis of obesity-associated metabolic disorders. Enhancing thermogenesis in adipose tissue, a process called adipose browning, is regarded as a new alternative to antagonize obesity and cardio-metabolic diseases. The research seeks to explore the mechanisms underlying white adipose browning, with a specific focus on the non-canonical branch of this reprogramming process. Novel pathways and cell types involved will be identified. Completion of the study will facilitate a better understanding on how adipose is remodelled and thus provide insight for developing feasible therapeutics to combat related diseases.

Dr Lam Tsan Yuk
Assistant Professor in Public Health, LKS Faculty of Medicine
Project Title: Virus Ecology and Evolution

Emerging viral pathogens continuously threaten the global health. The project aims to develop a database of major emerging zoonotic RNA viruses including H7N9 influenza virus and Middle East Respiratory Syndrome coronavirus, which will comprehensively assemble their genomic, phenotypic and epidemiological data. Based on these data, we will conduct in-depth comparative analyses of the virus evolution and transmission dynamics. Analysis tools will also be developed to enable real-time monitoring of the virus evolution. The research will strengthen the response and control to the emerging viruses.

Dr Li Xiang David
Associate Professor in Chemistry, Faculty of Science
Project Title: Chemical Biology

The goal of the research is "deciphering of the histone code", with a focus on the development of novel chemical tools to elucidate the biological significances and regulatory mechanisms of histone posttranslational modifications (PTMs). Further research work will be on the bridging of errors in the regulation of histone PTMs and the pathogenesis of human diseases to facilitate the development of novel therapeutic strategies.

Dr Anderson Shum
Associate Professor in Mechanical Engineering, Faculty of Engineering
Project Title: All-aqueous Interfacial Engineering

The engineering of interfaces has enabled new technologies in electronic, petrochemical and chemical applications. The project aims to integrate the all-aqueous formulation and droplet microfluidic techniques for processing of biological cells and biomacromolecules. While all-aqueous processing offers biomimetic control and compatibility, droplet microfluidics provides the precision in selecting and manipulating the cells and molecules. The first-of-its-kind precision assembly of cellular structures through all-aqueous interfacial engineering will create a platform for artificially constructing new class of materials that consist of individually selected cells. The all-aqueous interfacial engineering approach can thus target precision medicine and therapies, such as organ transplantation.

Dr Wu Jin
Assistant Professor in Biological Sciences, Faculty of Science
Project Title: Terrestrial Ecosystem Ecology and Multi-scale Hyperspectral Remote Sensing

Understanding the structure, composition and function of terrestrial ecosystems as well as how terrestrial ecosystem function interacts with global change is an essential research frontier in ecology. The study aims to integrate multi-scale observations, climate gradient studies, and ecological and evolutionary theories with process-based models, to achieve three goals: 1) developing a set of theory-grounded, process-based principles that enable the use of multi-scale remote sensing for accurate monitoring of plant traits; 2) advancing the process understanding of fundamental mechanisms that mediate plant traits variations from local to regional scales; 3) quantitatively assessing and examining the mechanisms of how plant traits and diversity help determine several key ecosystem processes (e.g. phenology, photosynthetic seasonality, ecosystem vulnerability and resilience to climate variability and extremes).

Dr Zhang Binzheng
Assistant Professor in Earth Sciences, Faculty of Science
Project Title: Space Physics

The project is a continuous effort of the earlier study on modeling the coupled solar wind-magnetosphere-ionosphere system using three-dimensional, self-consistent numerical simulations based on magnetohydrodynamics, and based on the coupled magnetosphere-ionosphere-thermosphere model (CMIT), a series of basic research related to geospace environment modeling. Further research will be done on the modeling of geospace and planetary magnetosphere systems.

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