FACULTY OF SCIENCE
THE UNIVERSITY OF HONG KONG
香港大學理學院

DEAN
Professor Matthew R Evans

Press release **For immediate release**

September 20, 2020

Seven HKU young scientists awarded China's Excellent Young Scientists Fund 2020

Young researchers at the University of Hong Kong have achieved outstanding results in the Excellent Young Scientists Fund (Hong Kong and Macau) for 2020.

Seven HKU young scientists have been awarded the prestigious fund under the National Natural Science Foundation of China, an organisation managed by the Ministry of Science and Technology (MOST), in which, two of them are from HKU Science.

This has been the second consecutive year for HKU to be awarded the highest number of projects among its peer institutions, after the fund was extended to Hong Kong and Macau for applications by eight designated universities since 2019.

The Excellent Young Scientists Fund is granted annually to support young male scientists under age 38 and young female scientists under age 40 who have attained outstanding achievements in research, to further expand in areas of their own choice. It is highly competitive, with only 25 projects in total funded across Hong Kong and Macau this year. Each project will receive funding of RMB1.2 million over a maximum period of three years, in the form of cross-border remittance to directly support the researchers' work in Hong Kong or Macau.

Seven HKU young scientists:

Faculty of Science

Dr Timothy Bonebrake

Associate Professor, School of Biological Sciences

Dr Wang Yufeng

Assistant Professor, Department of Chemistry

LKS Faculty of Medicine

Dr Esther Chan Wai Yin

Associate Professor, Department of Pharmacology and Pharmacy

Dr Lydia Cheung Wai Ting

Assistant Professor, School of Biomedical Sciences

Dr Carmen Wong Chak Lui

Assistant Professor, Department of Pathology

Dr Alan Wong Siu Lun

Assistant Professor, School of Biomedical Sciences (joint appointment with Department of Electrical and Electronic Engineering, Faculty of Engineering)

Faculty of Social Sciences

Dr Zhang Hongsheng

Assistant Professor, Department of Geography

The award winning projects:

Dr Timothy Bonebrake

Associate Professor, School of Biological Sciences, Faculty of Science

Project Title: Global change and tropical conservation

The study would employ both correlative species distribution models and physiologically informed mechanistic models to butterfly species and develop combination of both approaches for broad estimation and projection for how warming will impact tropical butterfly biodiversity. The research will also incorporate physiological and process-based models with field-based ecological data to advance our understanding of tropical biodiversity. The results will have specific application for managing species in region and will additionally serve as a broad framework for integrating correlative species distribution model approaches with mechanistic and macrophysiological insights.

Dr Wang Yufeng

Assistant Professor, Department of Chemistry, Faculty of Science

Project Title: Colloidal Synthesis and Assembly

The project is a synergistic merger of the field of colloidal assembly and the field of MOF, via hierarchical assembly from molecules to colloids. This route shall significantly improve the optical, mechanical, catalytic and separation properties of MOF and related materials.

Dr Esther Chan Wai Yin

Associate Professor, Department of Pharmacology and Pharmacy, LKS Faculty of Medicine

Project Title: Optimising antipsychotic drug management in patients with mental disorders to improve patient outcomes and reduce healthcare resource utilisation

This project will use Hong Kong wide, real-world, big data to analyse medication usage trends of patients with mental disorders and compare clinical outcomes and resource utilisation (hospitalisations and length of stay, Emergency Department attendances, suicide attempts and mortality) of long-acting injectable antipsychotics (LAIAs) versus oral antipsychotics (OAs) in patients with mental disorders. The clinical outcomes associated with antipsychotic medications will be further explored among specific patient populations including youth, elderly, pregnant women and substance users. The results of this study could identify strategies to improve adherence to antipsychotic medications that may lead to better patient outcomes and reduce healthcare resource utilisation.

Dr Lydia Cheung Wai Ting

Assistant Professor, School of Biomedical Sciences, LKS Faculty of Medicine

Project Title: Precision medicine strategies for ovarian cancer

Dr Cheung is committed to in-depth studies of identifying and characterising novel driver gene mutations in ovarian cancer, especially the associated alterations in signaling pathways and drug responses. The project will address two key scientific challenges that impede the development and effectiveness of precision cancer medicine: one is to reveal novel genome-informed therapeutic approaches and predictive markers; and the other is to derive strategies to overcome cancer drug resistance.

Dr Carmen Wong Chak Lui
Assistant Professor, Department of Pathology, LKS Faculty of Medicine
Project Title: Liver cancer metabolism and tumor microenvironment
Dr Wong has been dedicated to study the metabolic reprogramming and hypoxic microenvironment of liver cancer, unravelling the relationship between metabolism and tumor immunity. She aims to investigate the roles of immunometabolites in the immune microenvironment and decipher the underlying molecular mechanisms that could be potentially exploited for the development of novel diagnostic and therapeutic strategies.

Dr Alan Wong Siu Lun
Assistant Professor, School of Biomedical Sciences, LKS Faculty of Medicine (joint appointment with Department of Electrical and Electronic Engineering, Faculty of Engineering)
Project Title: Synthetic biology and combinatorial genetics technologies
Innovative tools that accelerate direct measurement of the combined effect of genetic perturbations should revolutionise our way to study and engineer the intricate biological systems in a systematic way, and facilitate the development of next-generation therapeutics. The research aims to develop and apply multiplexed genetic technologies to decode complex diseases and devise effective combination-based therapeutic strategies against cancers and neurodegenerative diseases, as well as to engineer new gene editing tools.

Dr Zhang Hongsheng
Assistant Professor, Department of Geography, Faculty of Social Sciences
Project Title: Remote Sensing of Urban Impervious Surface in Tropical and Subtropical Areas
Urban impervious surface is the most direct changes to land surface by humans in the process of urbanisation. Accurate monitoring and analysis of its temporal and spatial dynamics is of great significance for understanding the relationship between human activities and global changes. This project aims to develop new technologies based on cloud computing to generate and fuse full-coverage optical-radar satellite datasets to monitor the urban impervious surface over the global tropical and subtropical areas.

For media enquiries, please contact Ms Casey To, External Relations Officer of HKU Faculty of Science (tel: 3917 4948; email: caseyto@hku.hk / Ms Cindy Chan, Assistant Director of Communications of HKU Faculty of Science (tel: 3917 5286; email: cindycst@hku.hk)

Images download and captions:

https://www.scifac.hku.hk/press

Photo 1. Associate Professor Dr Timothy Bonebrake from the School of Biological Sciences, Faculty of Science.

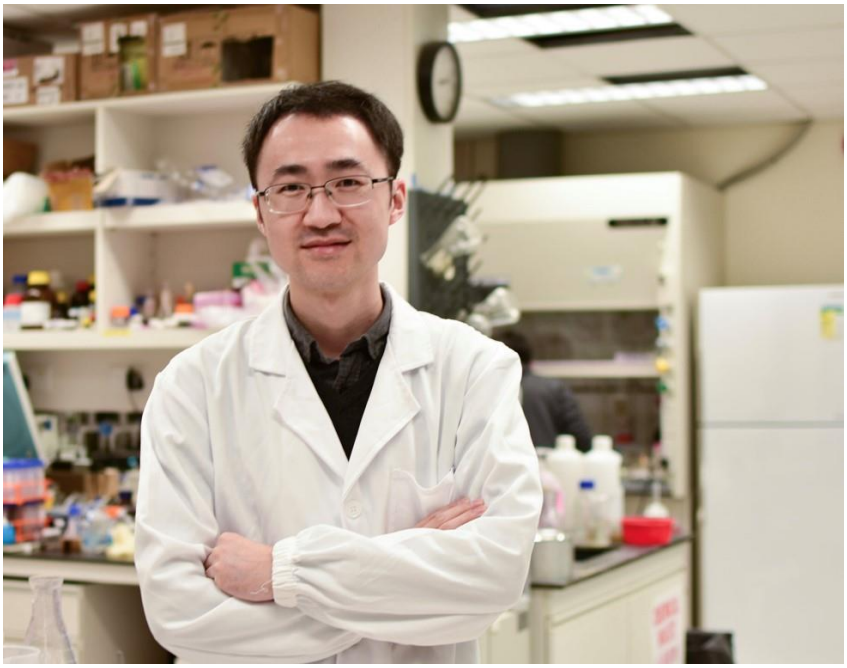

Photo 2. Assistant Professor Dr Wang Yufeng from the Department of Chemistry, Faculty of Science.