Appendix

Five awarded CUHK scholars and their research projects

1. **Professor Huang Junfei, Associate Professor, Department of Decision Sciences and Managerial Economics**

Project title: Service management

This project intends to focus on analysing the impact of customers' patience-time distribution on system structure.

2. **Professor Lee Man-chun, Assistant Professor, Department of Mathematics**

Project title: Geometric analysis

Professor Lee focuses on the study of complex geometry and geometric flow. His original achievements and outstanding theoretical and applied contributions include investigating the existence and regularisation theory of Ricci flows on complete manifolds with unbounded geometry, proving the regularity of Gromov–Hausdorff limit of non-collapsed Kahler manifolds with bisectional curvature lower bound, a uniformisation of complete Kahler manifolds with Euclidean volume growth and positive bisectional curvature, an almost rigidity of Riemannian manifolds with almost non-negative scalar curvature and entropy, and a rigidity of singular metrics with scalar curvature lower bound. He also studied the deformed Hermitian–Yang–Mills equation and confirmed the Collins–Jacob–Yau conjecture in the projective case, and proposed several new notions.

3. **Professor Wang Ying, Assistant Professor, Department of Chemistry**

Project title: Constructing highly efficient electrochemical CO_2 reduction reaction

Professor Wang's research centres on the development of electrochemical carbon dioxide reduction reactions, focusing on the rational design of highly active and selective electrocatalysts, constructing energy-efficient electrochemical systems, and understanding electrode kinetics at the nanoscale. Based on the catalyst design strategy with multi-dimensional descriptors, she synthesised electrocatalysts with high activity and selectivity to multi-carbon products from carbon dioxide. Her research work revealed the electrode kinetics at the nanoscale providing critical mechanistic insights to electrocatalytic process. Through system design, she constructed efficient electrocatalytic carbon dioxide reduction reaction reactors with high energy efficiency under industrial relevant conditions.

4. Professor Zhang Xiang, Research Assistant Professor, Department of Medicine and Therapeutics

Project title: Basic and translational research in non-alcoholic fatty liver diseases

Professor Zhang is mainly engaged in basic and translational research on the pathogenesis, non-invasive diagnosis and therapeutic strategies of non-alcoholic fatty liver diseases (NAFLD). In recent years, she has made a series of important discoveries based on these mechanistic studies and obtained several awards including the State Natural Science Award (second class award). This study will explore the synergistic effect of the intestinal and liver factors in the pathogenesis of NAFLD and the clinical implication of targeting intestinal genes as NAFLD therapeutics.

5. Professor Zhuang Xiaohong, School of Life Sciences

Project title: Molecular mechanism of membrane trafficking in plant autophagy

The study of plant autophagy is critical to scientific advances that improve the value of plants as biomass and enhance productivity in stress environments. With her impressive track record in plant autophagy research, Professor Zhuang aims to use state-of-art techniques to conduct this line of scientific inquiry with a focus on ATG9, the sole transmembrane ATG (autophagy-related) protein. This project will investigate novel ATG9-associated proteins for crosstalk among ATG9 vesicles, autophagosome and vacuole at both the molecular and temporal-spatial levels. It will fill the knowledge gap in the interplay between autophagy and endomembrane system in plants for future applications in crop engineering, and promote the diversity of basic research in Hong Kong.