

# HKU Presidential Scholars Symposium cum Award Presentation Ceremony

7 March 2023 ➡



THE UNIVERSITY OF HONG KONG  
111<sup>TH</sup> ANNIVERSARY  
香港大學111周年





## A Message from the Vice-President and Pro-Vice-Chancellor (Research) and Dean of Graduate School



The University places high value on research talent cultivation, with different schemes in place to attract top students globally to pursue research postgraduate studies at HKU. The HKU Presidential PhD Scholar Programme — established in 2020-21 and offering the most prestigious scholarship package — has drawn students of high calibre from around the world to HKU in recent years. The first HKU Presidential Scholars Symposium is held with the aim of widening educational experiences and promoting the exchange of knowledge and ideas. The diversity of research topics covered in the poster presentations this year is encouraging. The posters and interactions with our HKU Presidential Scholars will offer new perspectives and insights into their fascinating research ideas and novel discoveries.

To further recognise the academic excellence of our students, alongside the long-established Li Ka Shing Prizes and HKU Foundation Award for Outstanding Research Postgraduate Students, we have introduced new awards in 2022-23 including the Research Postgraduate Student Innovation Award and the Dissertation Year Fellowship. I am impressed by the vision and devotion shown by our research students. Their curiosity, innovation and passion are valuable qualities for young researchers. Capitalising on the professional guidance and development opportunities provided by the University, our graduates have not only achieved high academically but also further proceeded to become leaders across different fields.

My sincere gratitude to the University of Hong Kong Foundation for Educational Development and Research and the Mrs Li Ka Shing Fund for their generous support in research education throughout the years. Warmest congratulations to the awardees on your outstanding achievements, and my heartfelt thanks to all supervisors for your guidance in nourishing the next generation of researchers. With our collective efforts, HKU will continue to strive for new heights in research excellence.

A handwritten signature in black ink, appearing to read 'Max Z. Shen', written in a fluid, cursive style.

**Professor Max Z. Shen**  
Vice-President and Pro-Vice-Chancellor (Research) and  
Dean, Graduate School



## Programme Rundown

Tuesday, March 7, 2023

2:00 p.m. to 6:00 p.m.

Lecture Hall II, Centennial Campus, The University of Hong Kong

2:00 - 2:30 p.m.	<b>Registration</b>
2:30 - 2:35 p.m.	<b>Opening Remarks</b> Professor Max Z. Shen Vice-President and Pro-Vice-Chancellor (Research) and Dean, Graduate School
2:35 - 4:30 p.m.	<b>Poster Presentation</b> HKU Presidential PhD Scholarship holders (2 <sup>nd</sup> year)
4:30 - 5:00 p.m.	<b>Keynote Speech</b> <b>On Parsimony and Self-Consistency: From Artificial Intelligence to Autonomous Intelligence</b> Professor Yi Ma Director and Chair Professor, HKU Musketeers Foundation Institute of Data Science Chair Professor, Department of Computer Science
5:00 - 6:00 p.m.	<b>Award Presentation</b> <b>Research Postgraduate Student Innovation Award 2022-23</b> Award presented by Professor Xiang Zhang, President and Vice-Chancellor <b>Dissertation Year Fellowship</b> Award presented by Professor Dong-Yan Jin, Senior Associate Dean, Graduate School <b>HKU Presidential PhD Scholar Programme 2022-23</b> Award presented by Professor Max Z. Shen, Vice-President and Pro-Vice-Chancellor (Research) and Dean, Graduate School <b>HKU Foundation Award for Outstanding Research Postgraduate Students 2020-21</b> Award presented by Professor Rosie Young, Chairperson, HKU Foundation <b>Li Ka Shing Prizes 2020-21</b> Award presented by Professor Rosie Young, Chairperson, HKU Foundation <b>Best Poster Presenter Awards</b> Award presented by Professor Billy K.C. Chow, Associate Dean, Graduate School





# POSTER PRESENTATION



## Poster Presentation

To showcase the learning progress of students and promote the exchange of knowledge and ideas, HKU Presidential PhD Scholars of the 2021-22 cohort from diverse disciplines will share their research plan and interim findings in the form of a poster presentation. There are more than 100 poster presentations from PhD students across our ten faculties:

<b>Groups 1-3</b>	Faculty of Engineering
<b>Groups 4-6</b>	Faculty of Dentistry / Li Ka Shing Faculty of Medicine
<b>Group 7</b>	Faculty of Business and Economics
<b>Groups 8-9</b>	Faculty of Architecture / Faculty of Arts / Faculty of Education
<b>Groups 10-11</b>	Faculty of Law / Faculty of Social Sciences
<b>Groups 12-14</b>	Faculty of Science



*Please scan for the student lists*



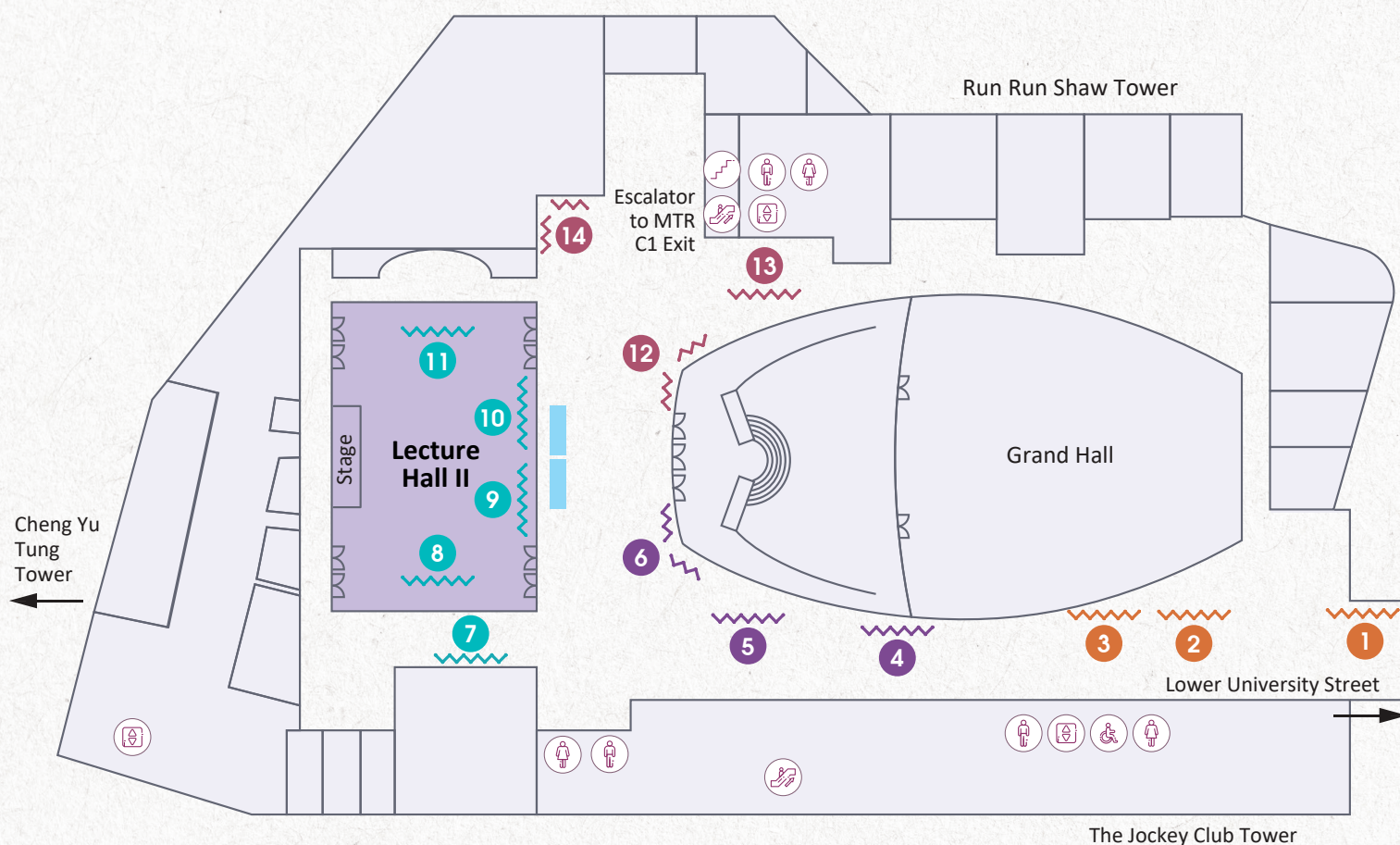
## Best Poster Presenter Awards


Up to 14 presenters, on average one from each group, will be selected for the Best Poster Presenter Awards by the Judging Panel. Each award includes a certificate and a cash prize of HK\$500. The Best Poster Presenter Awards will be announced during the award presentation session.



# Poster Presentation Floor Plan

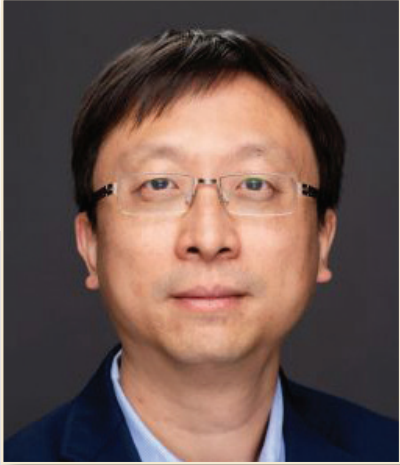
LG Level, Centennial Campus, HKU



- |   |  |   |  |
|---|--|---|--|
|  | Registration Counter   |  | Group 7<br>Faculty of Business and Economics                                   |
|  | Group 1<br>Faculty of Engineering                                    |  | Group 8<br>Faculty of Architecture / Faculty of Arts /<br>Faculty of Education |
|  | Group 2<br>Faculty of Engineering                                    |  | Group 9<br>Faculty of Architecture / Faculty of Arts /<br>Faculty of Education |
|  | Group 3<br>Faculty of Engineering                                    |  | Group 10<br>Faculty of Law / Faculty of Social Sciences                        |
|  | Group 4<br>Li Ka Shing Faculty of Medicine                           |  | Group 11<br>Faculty of Social Sciences   |
|  | Group 5<br>Faculty of Dentistry /<br>Li Ka Shing Faculty of Medicine |  | Group 12<br>Faculty of Science   |
|  | Group 6<br>Li Ka Shing Faculty of Medicine                           |  | Group 13<br>Faculty of Science   |
|   |  |  | Group 14<br>Faculty of Science   |



## Keynote Speech



### On Parsimony and Self-Consistency: From Artificial Intelligence to Autonomous Intelligence

#### Professor Yi MA

Director and Chair Professor, HKU Musketeers Foundation  
Institute of Data Science

Chair Professor, Department of Computer Science

Professor Yi Ma is the Director of the Musketeers Foundation Institute of Data Science at the University of Hong Kong. His research interests include computer vision, high-dimensional data analysis, and integrated intelligent systems.

Professor Ma received his two bachelor's degrees in Automation and Applied Mathematics from Tsinghua University in 1995, two master's degrees in Electrical Engineering and Computer Sciences (EECS) and Mathematics in 1997, and a PhD degree in EECS from UC Berkeley in 2000. He has been on the faculty of University of Illinois at Urbana-Champaign (Electrical & Computer Engineering) from 2000 to 2011, the principal researcher and manager of the Visual Computing group of Microsoft Research Asia from 2009 to 2014, and the Executive Dean of the School of Information Science and Technology of ShanghaiTech University from 2014 to 2017. He then joined the faculty of UC Berkeley EECS in 2018. He has published over 60 journal papers, 120 conference papers, and three textbooks in computer vision, generalized principal component analysis, and high-dimensional data analysis. He received the NSF Career award in 2004 and the ONR Young Investigator award in 2005. He also received the David Marr prize in computer vision from ICCV 1999 and best paper awards from ECCV 2004 and ACCV 2009. He has served as the Program Chair for ICCV 2013 and the General Chair for ICCV 2015. He is a Fellow of IEEE, ACM, and SIAM.





# AWARD RECIPIENTS



# Research Postgraduate Student Innovation Award 2022-23



The Research Postgraduate Student Innovation Award was jointly established by the Graduate School and Technology Transfer Office in 2022 to promote innovation and interdisciplinary research. Up to ten awards may be made each year to research postgraduate students, of any disciplines, with the most exciting and innovative research ideas. The awards are funded by the Leung Kau Kui and Run Run Shaw Research and Teaching Endowment Funds.

Nominations for the Research Postgraduate Student Innovation Award 2022-23 were considered by a Selection Committee jointly set up by the Graduate School and the Technology Transfer Office.

## ***Selection Committee***

### **Professor D. Jin**

Senior Associate Dean, Graduate School (Chairperson)

### **Professor R.T.H. Ho**

Department of Social Work and Social Administration, Faculty of Social Sciences

### **Professor X.D. Li**

Department of Chemistry, Faculty of Science

### **Professor N. Rao**

Faculty of Education

### **Professor Y. Su**

Faculty of Dentistry

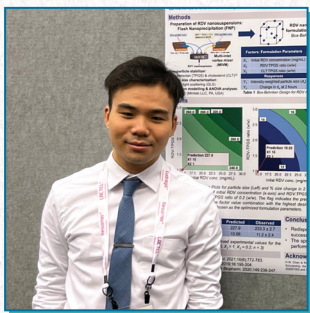
### **Professor T. Zhang**

Department of Civil Engineering, Faculty of Engineering

### **Dr S.X. Zhao**

Technology Transfer Office





## Mr Ho Wan CHAN

PhD, Department of Pharmacology and Pharmacy,  
Li Ka Shing Faculty of Medicine

### *Project Title* \_\_\_\_\_

An Integrated Continuous Manufacturing Platform for Fabricating Inhalable Nanoagglomerate Dry Powder as Next-Generation Respiratory Therapeutics for Emerging Viral Infections

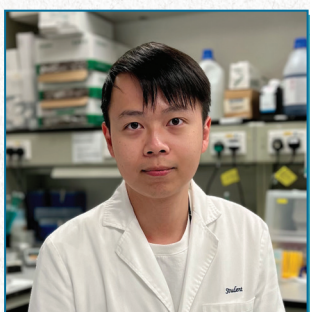


## Mr Man Hei Jeffrey CHANG

PhD, Department of Geography, Faculty of Social Sciences

### *Project Title* \_\_\_\_\_

Assessing “Hotspots” at Local School Communities with Low-Cost IoT Devices and FLIR Unmanned Aerial Vehicle (UAVs) Observations



## Mr Hoi Chun FONG

PhD, School of Biomedical Sciences, Li Ka Shing Faculty of Medicine

### *Project Title* \_\_\_\_\_

Machine Learning-Coupled Combinatorial Mutagenesis of Cytosine Base Editor



## Mr Kai GUO

PhD, Faculty of Education

### *Project Title* \_\_\_\_\_

Chatbot-Assisted Gamified Learning Environment for Developing Argumentation Competence: Integrating Artificial and Human Intelligence



## Mr Maosu LI

PhD, Department of Urban Planning and Design,  
Faculty of Architecture

### *Project Title* \_\_\_\_\_

Assessing Human-Perceived Window View Openness in High-Rise High Density Cities: an Automatic Machine Learning-Based City Information Modeling Approach





**Miss Peichao LIANG**

PhD, Department of Social Work and Social Administration,  
Faculty of Social Sciences

*Project Title* \_\_\_\_\_

Leveraging mHealth Technology to Empower People Living with  
Cognitive Impairment and Family Caregivers: A Dyadic Ecological  
Momentary Assessment Study



**Mr Peize SUN**

PhD, Department of Computer Science, Faculty of Engineering

*Project Title* \_\_\_\_\_

Building 3D Digital Twin of a Human with Body Surfaces, Skeletons and  
Organs

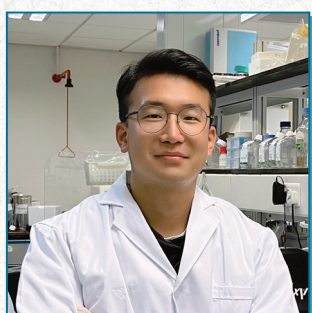


**Mr Man Lai WONG**

PhD, Department of Electrical and Electronic Engineering,  
Faculty of Engineering

*Project Title* \_\_\_\_\_

Spinning Arrayed Optofluidic Imaging for Large-Scale Single-Cell  
Morphological Analysis



**Mr Penghe ZHAO**

PhD, Department of Chemistry, Faculty of Science

*Project Title* \_\_\_\_\_

Engineering Nanomedicine for Effective Targeted Drug Delivery and  
Chemotherapy



**Miss Yaping ZHAO**

PhD, Department of Electrical and Electronic Engineering,  
Faculty of Engineering

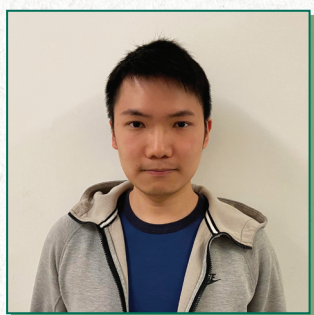
*Project Title* \_\_\_\_\_

Snapshot Compressive Imaging for Edge Visual Intelligence



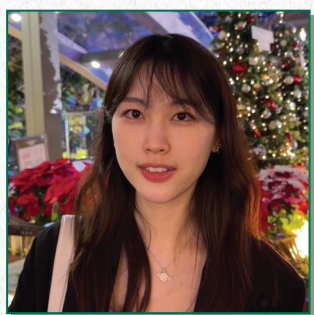
# Dissertation Year Fellowship

The Dissertation Year Fellowship is a prestigious programme to enable selected outstanding final year PhD students to pursue an additional year of training at the University to bring his/her doctoral research to a higher level before graduation. Only outstanding full-time PhD students who have the thesis rated as "outstanding (top 5%)" or "excellent (top 10%)" by the Thesis Examining Committee can compete for the Fellowship.



**Mr Chun Ming AU**

Department of Pharmacology and Pharmacy  
Li Ka Shing Faculty of Medicine



**Miss Xing CUI**

Department of Earth Sciences  
Faculty of Science



**Miss Jiawei JIANG**

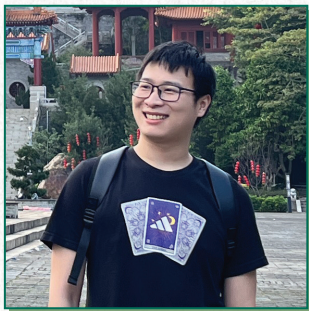
Department of Earth Sciences  
Faculty of Science





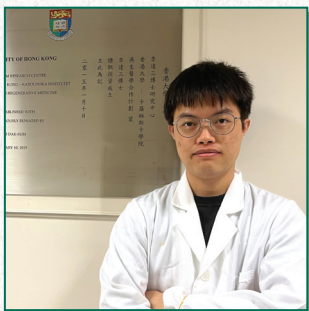
**Miss Junshi LI**

School of Biomedical Sciences  
Li Ka Shing Faculty of Medicine



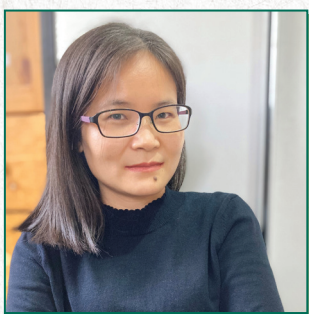
**Mr Yuchu LIU**

School of Biological Sciences  
Faculty of Science



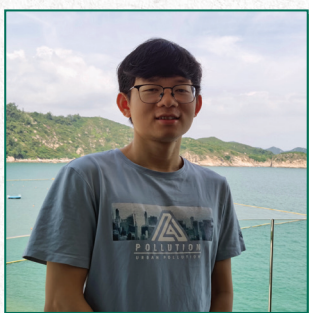
**Mr Kaiqi LONG**

Department of Pharmacology and Pharmacy  
Li Ka Shing Faculty of Medicine



**Ms Li TANG**

Faculty of Education



**Mr Xiangsong WANG**

Department of Earth Sciences  
Faculty of Science



# HKU Presidential PhD Scholar Programme 2022-23

The HKU Presidential PhD Scholar Programme was established by the University in 2019 to attract top candidates from around the world to pursue full-time PhD studies at HKU. The programme offers the most prestigious scholarship package to selected students.

## Faculty of Architecture

### *Department of Architecture:*

Mr Jingliang DU\*

### *Department of Real Estate and Construction:*

Mr Bokai YANG

Miss Yue ZHANG\*

### *Department of Urban Planning and Design:*

Mr Quang Cuong DOAN\*

Mr James Njiraini GACHANJA\*

Miss Nga Chin Scarlet TONG\*

Ms Yuling YANG

Miss Luyun ZHAO

## Faculty of Arts

### *Centre for Applied English Studies:*

Miss Siqi SONG\*

### *Department of English:*

Mr Tingcong LIN

### *School of Humanities:*

Miss Emily Anne FRIIS-HANSEN\*

Mr Ryan HO\*

Mr Zhihao WANG\*

Mr Mingjun WILSON

### *School of Modern Languages and Cultures:*

Miss Cecilia CHEN\*

## Faculty of Business and Economics

Mr Jiacheng CHANG

Mr Peidi CHEN

Mr Tao HAN\*

Ms Jiajia LIU

Mr Yican LIU\*

Mr Yuchou PENG\*

Miss Yuqi SUN\*

Mr Haoran WANG

Mr Yuxiao WU

Ms Qinrui XIAHOU\*

## Faculty of Dentistry

Miss Wener CHEN

Mr Yefeng WU

## Faculty of Education

Miss Wenjie HU\*

Ms Lishi LIANG\*

Mr Chi Wui NG\*

Ms Hechunzi WANG\*

## Faculty of Engineering

### *Department of Civil Engineering:*

Mr Wang CHEN\*

Mr Zhikun DONG\*

Mr Chenyi JI\*

Mr Feihu KE

Miss Ruiying LI\*

Mr Lap Yin WAN\*

Mr Kaihang ZHANG\*

### *Department of Computer Science:*

Mr Li CHEN

Mr Yichao FU\*

Mr Yixing LAO

Mr Zhixuan LIANG\*

Mr Zhangyang QI\*

Mr Tianbao XIE\*

Mr Wenjun YU

Mr Xuanqiang ZHAO

Mr Litao ZHOU\*

### *Department of Electrical and Electronic Engineering:*

Ms Kayi HUANG

Mr Haosen LIU

Mr Mingxi LYU

Mr Xiaoyang LYU\*

Mr Chuofan MA

Mr Wei Yi OON\*

Miss Najia SHARMIN\*

Mr Jichang YANG\*

Mr Ruiyang YAO

Mr Rui ZHOU



## *Department of Industrial and Manufacturing Systems Engineering:*

Miss Lingfei ZHONG\*

## *Department of Mechanical Engineering:*

Miss Nan HE

Mr Kwan Kiu LAU\*

Mr Senji LI

Mr Zeren LUO

Mr Longji YIN

Miss Guannan ZHANG

Mr Changsheng ZHOU\*

## **Faculty of Law**

### *Department of Law:*

Mr Zhitao HUANG

Mr Hon Ming Edmond SY

## **Li Ka Shing Faculty of Medicine**

### *School of Biomedical Sciences:*

Miss Fangxin CAI\*

Mr Kai Chit CHEUNG\*

Miss Yinja HUANG

Miss Bernice King-wing LEUNG\*

Mr Hoi Man Kevin NG

Mr Xiangyu OUYANG\*

Mr Ho Yin PANG

Miss Zihan WANG\*

Ms Liyin XIAO\*

Miss Mengying ZHAO

### *School of Clinical Medicine:*

Miss Kazi Anisha ISLAM\*

Dr Zheng JIAN

Mr Yunhao LI

Mr Huayue LIN\*

Miss Qin LIU

Miss Xinqi LIU\*

Miss Luhan WANG

Miss Ching Yun YU

Mr Zeyuan ZUO\*

### *School of Nursing:*

Ms Shinyi CHAN

### *Department of Pharmacology and Pharmacy:*

Miss Xiaowen ZHANG\*

### *School of Public Health:*

Ms Wing Yin AU

Mr Ajibola Toluwani OGUNSOLA\*

## **Faculty of Science**

### *School of Biological Sciences:*

Miss Debora DESANTIS\*

Miss Yu Yan FUNG\*

Ms Hui Yuan LIM\*

Mr Jia Jie LIU

Miss Wanlu ZHONG

Miss Siyu ZHOU\*

### *Department of Chemistry:*

Mr Ka Fai CHAN

Mr Alex Kwok Hei CHU\*

Mr Ki IP\*

Mr Kwan Yuen WONG\*

Mr Liang ZHONG\*

### *Department of Mathematics:*

Mr Man Hei Jon CHEAH\*

Mr Hong Kei Christopher FOK

Mr Ching Hei Hamish LAI\*

Mr Alvin Cheuk Hin TSE\*

### *Department of Physics:*

Mr Menghan SONG\*

Miss Wenqi YANG\*

Mr Zhu YUAN\*

Mr Shumeng ZHANG\*

### *Department of Statistics and Actuarial Science:*

Mr Yufan FENG\*

Miss Lan LI\*

Mr Zhenghao LI

Miss Zhuo LIANG

Mr Yan MIAO\*

## **Faculty of Social Sciences**

### *Department of Psychology:*

Mr Man Chung HUI\*

Miss Yunqian TIAN

Miss Jia-qi Jade TIN\*

Mr Sixuan ZHANG\*

Miss Zhiwei ZHENG\*

### *Hong Kong Institute for the Humanities and Social Sciences:*

Ms Ye HUA

\*Also awardee of the Hong Kong PhD Fellowship Scheme funded by the Research Grants Council



# HKU Foundation Award for Outstanding Research Postgraduate Students 2020-21

The award was established by the Graduate School in 2002 to give due recognition to research postgraduate students who have submitted a thesis of exceptional quality and demonstrated outstanding performance in other academic aspects. Each year, not more than 10 students will receive this award among hundreds of students who have submitted their thesis during the specific academic year. The 2020-21 awards are funded by the University of Hong Kong Foundation for Educational Development and Research.

## ***Selection Committees***

Faculties of Architecture, Arts, Business and Economics, Education, Law, and Social Sciences

### **Professor C. Cheng**

Associate Dean, Graduate School (Chairperson)

### **Professor C.M.K. Chan**

Faculty of Business and Economics

### **Professor H.Y. Chan**

School of Humanities (Music), Faculty of Arts

### **Professor L.F. Zhang**

Faculty of Education

Faculties of Dentistry, Engineering, Medicine, and Science

### **Professor B.P. Chan**

Associate Dean, Graduate School (Chairperson)

### **Professor M.G. Botelho**

Faculty of Dentistry

### **Professor A.N.Y. Cheung**

School of Clinical Medicine, Li Ka Shing Faculty of Medicine

### **Professor Z.D. Wang**

Department of Physics, Faculty of Science





**Dr Linlu DAI**

PhD, Faculty of Dentistry



*Thesis Title* —————

**Study on a New Strontium-Doped Bioactive Glass-Ceramic for Caries Management**

*Supervisors* —————

**Professor E.C.M. Lo**, Faculty of Dentistry

**Professor C.H. Chu**, Faculty of Dentistry

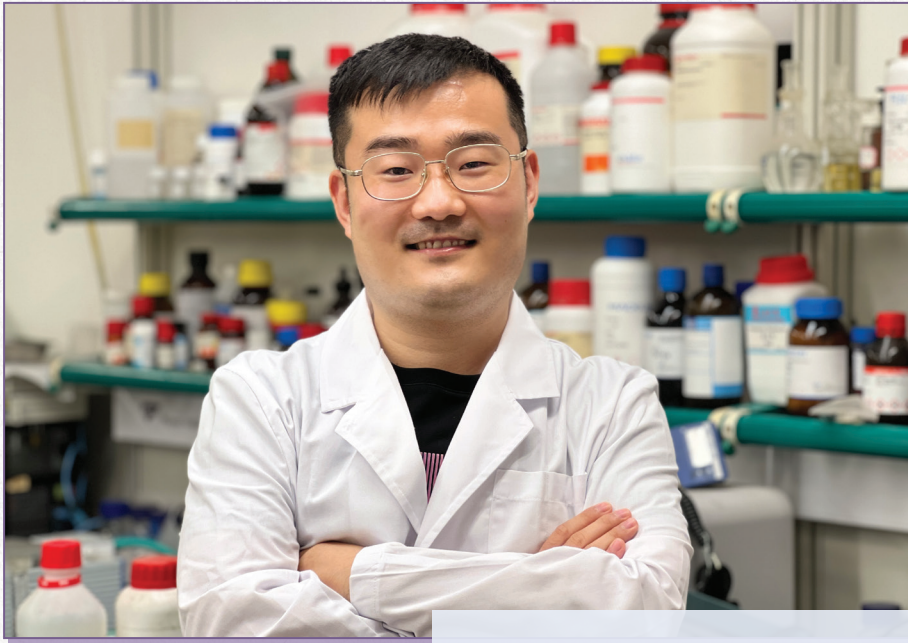
**Dr L. Mei**, Faculty of Dentistry

The research project focused on a new strontium-doped bioactive glass-ceramic for caries management. Dental caries (tooth decay) is a world-wide problem among all-age populations. Traditional methods of treating caries are invasive treatment involving drilling and filling with restoration, but the current concept in treating dental caries is to investigate new non-invasive methods, aiming to prolong the lifespan of the natural tooth. Dr DAI's research involves in a new biomaterial named HX-BGC. Bioactive glasses have been introduced for dental use for a long period. This project investigated the inhibitory effect of HX-BGC on the growth of cariogenic bacteria and the effect of this HX-BGC on hydroxyapatite formation, and evaluated the effect of the HX-BGC in remineralizing demineralized lesions on enamel and dentine surfaces and the preventive effect of the HX-BGC on dental caries. In addition, HX-BGC can be added into toothpaste, and daily use of HX-BGC containing toothpaste can be beneficial to dental health.

Six high quality publications have been generated from Dr Dai's PhD project. Also, she was the solo recipient of the L.P. Samaranayake Award for Research Excellence from the Faculty of Dentistry upon graduation. This award will be a booster to encourage her to continue doing her research on this type of new biomaterial and translate the research from bench to chairside.

Dr Dai works as a resident in Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine. "I hope I can be a great clinician-scientist in the future", Dr Dai said.





**Dr Wei Li**

PhD, Department of Mechanical Engineering



*Thesis Title* —

**Photopyroelectric Microfluidics and Virus Repellency on Retention-Proof Interfaces**

*Supervisor* —

**Professor L. Wang**, Department of Mechanical Engineering

Dr Li's doctoral research focused on interfacial phenomena and technology (superwettability, nature-inspired engineering), soft matter (droplet, colloid), and nanotechnology (nanomaterials, nanostructures). His main academic contributions include (1) a light-controlled contamination-free fluidic processor for loss-free, contactless, and precise droplet manipulation (*Science Advances* 2020); (2) the furcated droplet motility on crystalline surfaces (*Nature Nanotechnology* 2021); (3) the enhanced droplet deposition on nonwetting surfaces (*Nature Communications* 2021); and (4) an antipathogen coating to prevent the spreading of COVID-19, functioning as a nonwetting skin for the light-controlled fluidic processor (*Materials Today Bio* 2021). He has also filed three US patents and received the Gold Medal of the International Exhibition of Inventions of Geneva 2021.

Inspired by the scenario in fantasy films where wizards levitate and move objects around by raising their wands, he levitates infectious fluids – containing viruses, bacteria, or fungi – atop the antipathogen coating in a contamination-free manner and uses light as his wand to move or split fluids without physical touch. Such contamination-free, remote, and contactless fluid processing is highly valuable for curbing our addiction for disposable plastics and upgrading personal safety in facing the testing of infectious viruses and bacteria. His research potentially impacts a wide range of fields such as medical diagnosis, biological testing, and biomedical engineering.

Dr Li is currently a Post-doctoral Fellow in the group of Professor L.Q. Wang in the Department of Mechanical Engineering, HKU. He will seek to work out a fully automatic system for liquid processing. In future, gene editing can be done with the click of a button, instead of repeated pipetting.





**Dr Yadi Li**

PhD, Department of Real Estate and Construction



#### *Thesis Title* —————

**An Investigation of Organizational Control in Design Consulting Projects: Behavioural Consequences and Motivational Mechanisms**

#### *Supervisors* —————

**Dr R. Leiringer**, Department of Real Estate and Construction

**Professor S.M. Rowlinson**, Department of Real Estate and Construction

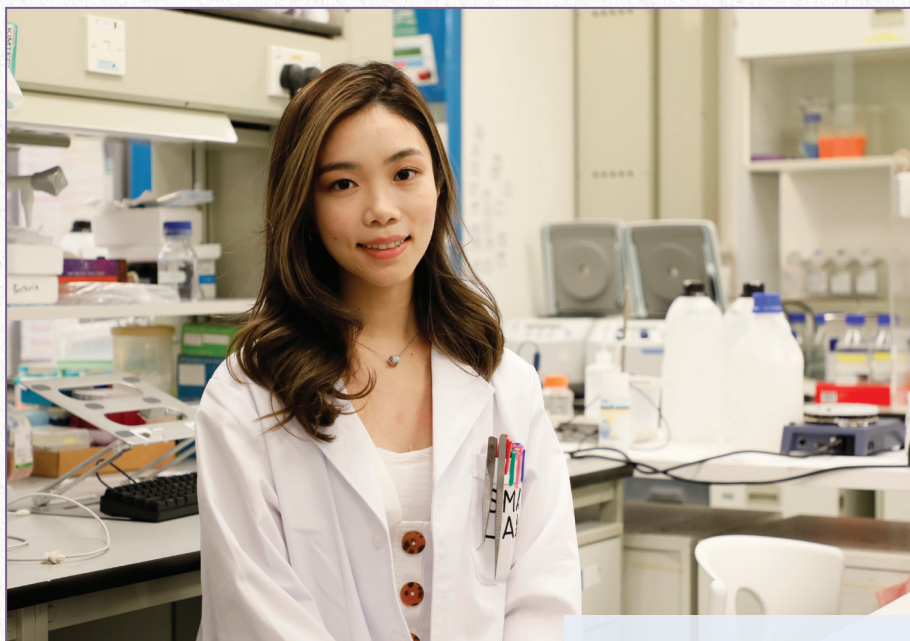
Dr Li's research interests cover consulting project governance and construction project management. Her PhD thesis investigates architectural and engineering design consulting project governance in Hong Kong.

Dr Li's doctoral research extends the theoretical underpinning of organizational control research by introducing a social psychological perspective and enriches the body of knowledge on project governance by supplementing knowledge about professional service project governance. The research topic is valuable and continuable, thereby laying foundations for extended research in areas of organizational control, professional service project governance, and human resources management. Also, it enhances practitioners' understanding of the management of professionals and provides valuable managerial implications on professional service project governance.

Dr Li's work has produced several high-quality publications appearing in, for example, *Journal of Management in Engineering* and *Journal of Construction Engineering and Management*. These made major contributions to academic research and practices in the architecture, engineering, and construction industry.

Since completing her PhD study, Dr Li has been continuing her academic pursuits. She secured a lecturer position – in competition with many candidates – in the School of Business at East China University of Science and Technology. Based on her doctoral research, she began to focus on governance issues of life-cycle engineering consultancy – a new consulting system in the Chinese architecture, engineering, and construction industry. She also extends the bilateral governance research in her doctoral thesis to trilateral governance research, which enriches the knowledge body of project governance. Her solid research experience in Hong Kong is expected to help her progress further in academic research, teaching, and supervision in the new journey.





**Dr Ho Chun LOONG**

PhD, School of Biomedical Sciences



*Thesis Title* —————

**Glucose Deprivation-Induced Aberrant FUT1-mediated Fucosylation Drives Cancer Stemness in Hepatocellular Carcinoma**

*Supervisors* —————

**Dr S.K.Y. Ma**, School of Biomedical Sciences

**Professor X. Guan**, School of Clinical Medicine

During her research studies, Dr LOONG has investigated how rapidly growing tumour cells respond and adapt to environments that are deficient of oxygen and nutrients in their innermost tumour regions. Such nutrient-deprived tumours are commonly found in hepatocellular carcinoma (HCC). She identified a novel regulatory mechanism involving a post-translational modification called fucosylation by which glucose restriction promotes cancer stemness to drive drug resistance and tumour recurrence.

Dr Loong's findings identified fucosyltransferase 1 (FUT1) as a key component in a novel molecular mechanism underlying liver cancer drug resistance and tumour recurrence. By targeting FUT1 to inhibit HCC tumour growth at its roots, this research has laid the foundation for the future development of new treatments. Further, FUT1 overexpression and/or CD147, ICAM-1, EGFR, and EPHA2 fucosylation may also be good prognostic markers for HCC patients.

On top of her own PhD project, Dr Loong also worked on the establishment of HCC three-dimensional organoids with other members in the lab. This model is known to be more physiologically relevant when compared with cell lines. She then collaborated with other labs in HKU to perform drug screening using this model, and they were able to co-publish in a number of high impact factor journals. She has also been awarded several presentation prizes and scholarships throughout her research postgraduate studies.

Right after Dr Loong received her PhD degree, she moved to the UK and is currently working as a Post-doctoral Fellow at the Francis Crick Institute in London, continuing her academic journey in cancer and retroviral immunology research.





**Miss Chung Sze OR**

MPhil, School of Clinical Medicine



*Thesis Title* —————

**Deciphering the Molecular Mechanism of Human Gastric Tumour Anchorage Dependency**

*Supervisors* —————

**Dr H.H.N. Yan**, School of Clinical Medicine

**Professor S.Y. Leung**, School of Clinical Medicine

In Miss OR's research, she studied the cell-cell and cell-matrix anchorage dependence in 54 patient-derived tumour organoids. This valuable opportunity was made possible by the establishment of a comprehensive gastric organoid biobank by her ex-colleagues, which covers most of the histological and molecular subtypes of gastric cancer. She discovered several factors that are crucial for the acquisition of anchorage independence, such as the loss of a cell adhesion molecule named E-cadherin, as well as the upregulation of survival mediators such as RhoA/ROCK. As gaining anchorage independence is beneficial for tumour survival during metastasis, her findings might provide insights on blocking tumour metastasis in patients.

Throughout the two years of MPhil study, the lessons from her supervisors and patients increased Miss Or's curiosity in cancer research. When she observed her supervisor dissecting a specimen, she began to realise the uniqueness of every patient's pathogenic story and became aware of the areas of knowledge in which she was lacking. "A fish cannot be satisfied with the scenery in the sunlight zone if it wants to explore the beauty of the sea. Similarly, I wish to explore the world beyond the epithelia, so as to utilize the valuable information gathered by senior researchers in cancer research."

Currently, Miss Or is pursuing a PhD degree in immunology at HKU, under the guidance of Dr V.S.F. Chan and Professor W.C.S. Lau. She hopes to further her knowledge in cancer biology and genomics and beyond, in order to provide new angles in studying the pathogenic stories of cancer patients.





**Dr Ling RAO**

PhD, School of Biomedical Sciences



*Thesis Title* —

**Oncogenic Signals Driven by PIK3R2 in Ovarian Cancer**

*Supervisors* —

**Dr W.T.L. Cheung**, School of Biomedical Sciences

**Professor D. Jin**, School of Biomedical Sciences

Understanding genomic aberrations to drive cancer is essential to cancer precision medicine. Dr RAO comprehensively revealed PIK3R2 aberration as a driver in ovarian cancer with significant clinical implications. Patients with high PIK3R2 expression have worse survival rates. She identified the underlying abnormal signalling network that can be blocked to suppress ovarian cancer development. Her outstanding PhD work has great potential translational impact on the targeted therapy of ovarian cancer.

Dr Rao is passionate about disease-to-target discovery. "A target is a cellular structure for understanding a specific disease at the molecular level, which is key to discovering effective therapies." With experience in the biomedical industry, she was excited to identify the target value of PIK3R2 and explore its machinery for an anti-cancer strategy. Globally, ovarian cancer is a deadly disease among women due to a lack of early diagnosis and limited treatment options. PIK3R2 could be a promising biomarker for ovarian cancer screening and a target for therapeutic intervention to improve patients' survival. Her findings were recognized by distinguished researchers at an international conference and published in a leading journal *Nature Communications*.

Dr Rao is dedicated to a career in translational cancer medicine and is currently a young researcher in the BayRay Innovation Center at Shenzhen Bay Laboratory. She runs a team focused on drug discovery technologies and target proof-of-concept studies for innovative anti-cancer drugs. She actively cooperates with academic scholars to develop early-stage drug projects, striving to contribute to bridging the gap between academia and industry.



**Dr Zhenquan SUN**

PhD, Department of Chemistry

*Thesis Title* —————**Total Synthesis of Malacidin A and Development of a Rapid Peptide/Protein Desulfurization Method***Supervisor* —————**Professor X.C. Li, Department of Chemistry**

During his PhD period, Dr SUN focused mainly on the total synthesis of natural products with potent bioactivity and easy-to-use methodology for chemical protein synthesis/modification. As life-threatening infection from multidrug-resistant pathogens is increasing globally nowadays, the development of new antibiotics for clinical use is urgently needed. In his first project, he completed the first total synthesis and structure elucidation of Malacidin A, which showed excellent antibacterial activity against gram-positive pathogens with multidrug resistance. Further study of its structure-activity relationship and chemical modification may offer a chance for this candidate to defend “superbugs” in clinical use. In the second project, he developed a superfast desulfurization strategy, which can efficiently remove thiol handles of peptides/proteins. Compared with previous established methods with complicated operations, such a method can be applied in just an add-and-done manner. Various peptides and proteins have been examined by this superfast desulfurization method, and it provides a powerful tool to construct peptides/proteins with tailor-made modification for investigating fundamental chemical biology and developing protein-based therapeutics.

The most precious thing, Dr Sun said, that he learnt in those projects is to face the challenge bravely and solve the problem comprehensively. He believes that science is buried in difficulties and that we should keep our enthusiasm for unveiling it. He sees his PhD study not as the end of his research but instead the beginning. Dr Sun is now a Post-doctoral Fellow under the supervision of Professor X.C. Li at HKU and he is focusing on developing the next generation therapeutics based on biomacromolecules. “I’d love to spend my whole life exploring the unlimited world of chemical biology, either in academia or in industry.”





**Mr Mohith Mukund VARMA**

MPhil, Department of Psychology



*Thesis Title* —————

**Suppressing Unwanted Emotional Memories Disrupts Their Neural Representation and Amplifies Subsequent Negative Emotional Reactivity: Evidence from EEG-Based Decoding**

*Supervisors* —————

**Dr X. Hu**, Department of Psychology

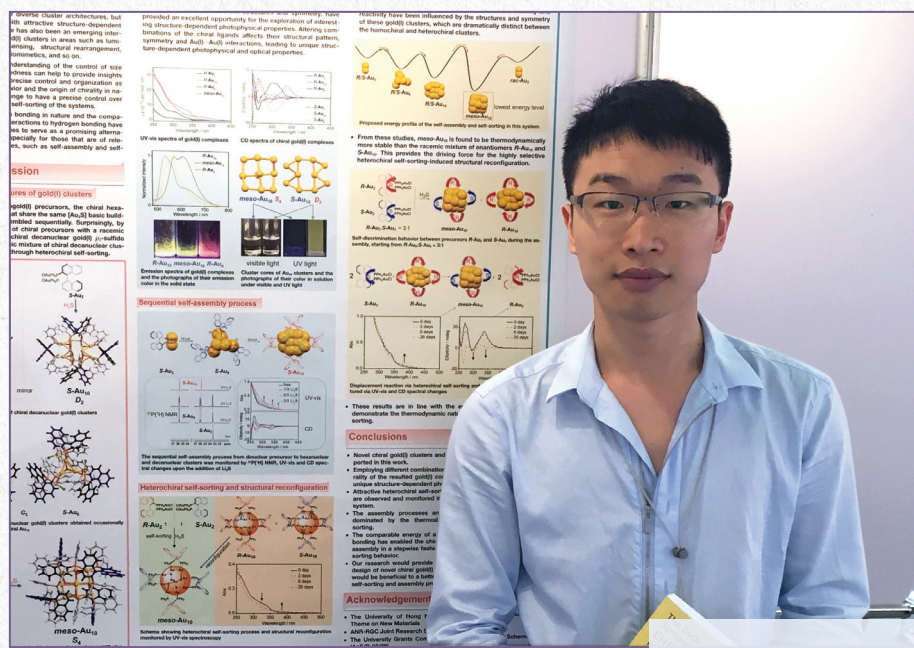
**Professor T.M.C. Lee**, Department of Psychology

Working at the intersection of cognitive neuroscience and affective science, Mr VARMA's research broadly examines the dynamic relationship between memories and emotions. Adept at flexibly using behavioural, neuroimaging, and machine learning decoding techniques in his research, Mr Varma conducted two very important and unique research projects concurrently during his MPhil: (i) neural mechanisms of memory suppression on emotional experience; and (ii) enhancement of emotional well-being during COVID-19 via prosocial engagement. Findings from these two projects not only advance existing theoretical accounts within their respective research fields but also have the potential to directly support people's mental health during and following severe stressful/traumatic events.

The high quality of Mr Varma's research has yielded multiple first-author publications (including those based on his undergraduate thesis) in leading journals and prizes at major international conferences. In addition to research, Mr Varma's engagement in university teaching in the role of a teaching assistant at the Department of Psychology garnered him the Associate Fellowship in Higher Education.

Since completing his MPhil, Mr Varma has continued to conduct cognitive neuroscience research, employing neuroimaging techniques like EEG and fMRI, specifically on the topics of working memory and reward processing, as a Research Assistant at Hong Kong Baptist University.





Dr Liangliang YAN

PhD, Department of Chemistry

## Thesis Title

## Design and Synthesis of Polynuclear Gold(I) Clusters and Gold(I) Cluster Cages: From Cluster-To-Cluster Transformation to Cluster-To-Cage Evolution

## Supervisor

Professor V.W.W. Yam, Department of Chemistry

Gold(I) complexes have been known to show remarkable gold(I)–gold(I) interactions, which have been coined as “aurophilicity”. Such aurophilicity has served as an effective approach for the construction of diverse self-assembled architectures. In the past few decades, there has been an increasing interest in the study of the self-assembly of polynuclear gold(I) complexes via aurophilic interactions, owing to the diverse configurations and rich photophysical properties of these complexes. In particular, polynuclear gold(I)-sulfido complexes represent an interesting subclass in the gold family due to the comparatively facile synthesis and highly stable structure. An exploration into their transformation represents a challenging area of research. During Dr YAN’s PhD studies, he took on this challenge. Not only has a reversible concentration-modulated cluster-to-cluster transformation between a hexanuclear and a dodecanuclear gold(I)-sulfido complex been demonstrated, but also an unprecedented substituent-mediated transformation from pentanuclear to octadecanuclear gold(I)-sulfido complex has been achieved. In addition, a “de-aurophilic” interaction strategy has been employed to construct three-dimensional gold(I) cluster cages. Through the judicious design of diphosphine ligands, an unprecedented class of gold(I) cluster cages with adaptive structures has been constructed. These works reveal the fundamental understanding of polynuclear gold(I) complexes in terms of structures and bonding, self-assembly, cluster-to-cluster transformation, and cluster-to-cage evolution. These studies are fundamentally important and could help us to understand the formation mechanism of these clusters and give important insights into their structure–property relationship.

Dr Yan’s research work has produced several publications in the *Journal of the American Chemical Society* and *CCS Chemistry* and made contributions to the field of supramolecular chemistry. Since completion of his PhD, he has continued to conduct supramolecular chemistry research as a Post-doctoral Fellow in the Department of Chemistry at HKU.





**Dr Yunlu YIN**

PhD, Faculty of Business and Economics



*Thesis Title* —

**Two Essays on Visual-Based Consumer Inferences**

*Supervisors* —

**Dr S.J. Jia**, Faculty of Business and Economics

**Professor W.E. Wan**, Faculty of Business and Economics

Dr YIN's PhD studies used interdisciplinarity thinking to create new consumer research paradigms – in the intersection of social psychology, cognitive psychology, and consumer behaviour – and had high ecological validity in the marketplace phenomena. Specifically, his research explores visual perception information processing and memory of visual multimedia, which underlies the effectiveness of visual and digital media and advertising. His research examines two visual marketing strategies (i.e., slow motion video and consecutive display of visual marketing) that are commonly employed to overcome realistic marketing challenges but may backfire under certain circumstances. By leveraging an interdisciplinary experimental approach (e.g., field study on Facebook, eye-tracking study, and secondary data analysis) and discussing psychological and cognitive processes that may cause visual marketing strategy to backfire, his research enriches and extends our knowledge on visual marketing literature, as well as research on social cognition.

The findings from Dr Yin's thesis have produced two research papers, with both published in highly recognised international journals in business research (i.e., *Journal of Marketing Research* and *Journal of Consumer Research*). Because of the high academic potential demonstrated in his thesis, he received a job offer and later joined the School of Management at Fudan University as an Assistant Professor of Marketing after graduation.



# Li Ka Shing Prizes 2020-21

In 1990, Dr Li Ka Shing made a generous donation to the University. Part of the investment income earned on the donation has been used to establish the Li Ka Shing Prizes. The Prizes are awarded on the basis of academic excellence to four PhD theses and two MPhil theses annually in and after 2005-06. This Prize is highly competitive and the recipients are the best of our elite students.

## ***Selection Committees***

### **Faculties of Architecture, Arts, Business and Economics, Education, Law, and Social Sciences**

#### **Professor C. Cheng**

Associate Dean, Graduate School (Chairperson)

#### **Professor C.M.K. Chan**

Faculty of Business and Economics

#### **Professor H.Y. Chan**

School of Humanities (Music), Faculty of Arts

#### **Professor L.F. Zhang**

Faculty of Education

### **Faculties of Dentistry, Engineering, Medicine, and Science**

#### **Professor B.P. Chan**

Associate Dean, Graduate School (Chairperson)

#### **Professor M.G. Botelho**

Faculty of Dentistry

#### **Professor A.N.Y. Cheung**

School of Clinical Medicine, Li Ka Shing Faculty of Medicine

#### **Professor Z.D. Wang**

Department of Physics, Faculty of Science





**Mr Hao Ran BAO**

MPhil, School of Clinical Medicine



*Thesis Title* —

**Genome-Wide CRISPR/Cas9 Knockout Library Screening Identified PTPMT1 for Cardiolipin Synthesis as a Crucial Metabolic Regulator for Hypoxic Survival in Hepatocellular Carcinoma**

*Supervisors* —

**Dr C.C.L. Wong**, School of Clinical Medicine

**Professor I.O.L. Ng**, School of Clinical Medicine

Liver cancer is incurable and the second-most lethal cancer worldwide. Hypoxia – low oxygen availability – is an important feature for all tumours and is significantly associated with liver cancer’s aggressiveness. Novel therapeutic options are needed urgently to improve the survival and quality of life of liver cancer patients.

In Mr BAO’s study, a functional genome-wide CRISPR library screening was employed to identify novel therapeutic targets for the survival of liver cancer cells under hypoxia. Protein-tyrosine phosphatase mitochondrial 1 (PTPMT1) ranks just after hypoxia-inducible factor (HIF)-1 $\alpha$  and HIF-1 $\beta$ , the famous master regulators for hypoxic response. PTPMT1 produces cardiolipin (CL) that makes up the mitochondrial inner membrane to anchor electron transport chain (ETC) complexes for efficient electron transfer during respiration. Without PTPMT1 and CL, ETC complexes disassemble. Electrons leak from mitochondria to produce toxic reactive oxygen species that eventually kill hypoxic cancer cells. PTPMT1 inhibitor effectively shrunk liver tumours in mice. The implication of this CRISPR library screening goes beyond PTPMT1, as the study nominates a list of other druggable targets with potential translational values for the treatment of not only liver cancer but also other solid tumours.

“Do what you love, love what you do”, his team’s motto, constantly reminds Mr Bao why he started science and motivates him to propel forward. Their strong team-bonding atmosphere went beyond the lab, including activities such as hiking. “Working hard and having fun together is a memorable experience for me as a postgraduate student in Dr Carmen Wong’s lab at HKU.”

Mr Bao is currently undertaking a physiotherapy programme at Curtin University in Australia. He credits his HKU MPhil study for equipping him with the scientific research knowledge and igniting his passion to dedicate himself to a medical healthcare career.





**Miss Lok Lam YIM**

MPhil, Department of Law



*Thesis Title* —

**In Defence of a Moral Right to Immigrate: Explicating the Moral Importance of the Right to Immigrate from a Moral Commitment to the Right to Domestic Migration and Freedom of Exit**

*Supervisors* —

**Professor T.S. Veitch**, Faculty of Law

**Professor U.B. Steinhoff**, Department of Politics and Public Administration

During her MPhil studies at HKU, Miss YIM undertook research on the ethics of migration with Professor Scott Veitch and Professor Uwe Steinhoff from the Faculty of Law and Faculty of Social Sciences, respectively. In her work, she argues for a moral right to immigrate, that is, all private individuals have a moral right to enter and settle in a state of their own preference. The method adopted in this thesis is analytical reasoning. Specifically, Miss Yim's argument is one of logical extension: she is concerned with what inferences one should draw from a strong moral commitment – that everyone, regardless of citizenship or nationality, has a moral right to domestic migration within the state one resides in and a moral right to exit any state – to the question of immigration.

Miss Yim is currently a PhD student at Princeton University in the United States. She hopes to conduct research on contemporary democratic theory and global justice during her PhD studies. More specifically, she is planning to pursue research on the all-affected-interests principle, the idea that democratic principles should not be restricted to territorial boundaries. Miss Yim believes that expanding the boundaries of democratic principles is important in our current world, where global issues such as climate change require a collective solution.





**Dr Leyla Jianyu HAN**

PhD, Faculty of Business and Economics



*Thesis Title* —

**Essays on Beliefs, Information, and the Asset Market**

*Supervisors* —

**Professor Y. Luo**, Faculty of Business and Economics

**Dr T.A. Maurer**, Faculty of Business and Economics

Dr HAN's research interests include macro-finance and asset pricing. Her dissertation consists of three related essays, aiming to understand how investors' beliefs and information influence the financial market and macroeconomy. All three chapters have been presented at research seminars at various universities and international conferences.

In the first essay, Dr Han studies how investors form expectations and react to new information in the economy. She shows two empirical facts: revisions of consensus forecasts of macroeconomic variables positively predict announcement day forecast errors, whereas stock market returns on forecast revision days predict announcement day returns in the opposite direction. She then develops a dynamic noisy rational expectations model with periodic macroeconomic announcements to both qualitatively and quantitatively account for these findings. This paper has received two awards: the 2021 Northern Finance Association Meetings Best PhD Student Paper Award and the 2020 Western Finance Association Cubist Systematic Strategic PhD Candidate Award for Outstanding Research.

The second essay in Dr Han's thesis provides a micro-foundation for intermediation by incorporating ambiguity and information processing constraints into the model of intermediary asset pricing. In her third and final essay, she shows that monetary policy announcements require a significant risk compensation in the cross-section of equity returns. This paper has been published in the *Journal of Financial Economics*.

After receiving her PhD in Economics from HKU, Dr Han joined the Department of Finance in the Questrom School of Business at Boston University, USA, as a tenure-tracked Assistant Professor of Finance.





**Dr Lu PENG**

PhD, Department of Civil Engineering

*Thesis Title*

**Tailoring Morphology of Polyamide Thin Film Composite Membranes with Nanobubble Chemistry for Enhanced Separation Performance in Desalination and Water Reuse**

*Supervisor*

**Professor C. Tang**, Department of Civil Engineering

Dr PENG's PhD thesis work systematically investigated the chemistry-morphology-performance relationship of thin film composite reverse osmosis (RO) membranes for desalination and water reuse, a topic with great significance to freshwater production and pollution control.

In particular, this thesis focused on the spontaneous formation of nanovoids and related roughness features in RO membranes – a topic that has puzzled researchers for decades. Dr Peng developed a new theoretical framework (interfacial nano-foaming), which provides critical guidance to membrane design and synthesis towards more efficient desalination and water reuse. This thesis delivers a major leap in a frontier research topic in her field.

During her PhD studies, Dr Peng has demonstrated exceptional research performance and comprehensive ability. She won the Outstanding Teaching Assistant Award (2018-2019) in her department, showing her great passion for and excellence in research and teaching. She won the Championship of the Three Minute Thesis (3MT®) Competition of HKU (2021) in recognition of her outstanding research quality and presentation skills. Dr Peng has an excellent research track record. She has published 19 articles including one corresponding-author and six first-author papers in high-reputation journals. One of her papers is recognized as an ESI Highly Cited Paper.

Dr Peng has a clear vision to further develop high-performance novel membranes for resilient and sustainable water supply. She proposed a detailed research plan for this vision and received the prestigious RGC (Research Grants Council) Postdoctoral Fellowship (2022-2025). Her research plan addresses the critical research needs for RO technology.





**Dr Jialing SHEN**

PhD, School of Clinical Medicine

#### *Thesis Title*

**Functional Roles and Therapeutic Implications of the Histone Chaperone FACT Complex in Hepatocellular Carcinoma**

#### *Supervisors*

**Dr C.M. Wong**, School of Clinical Medicine

**Professor I.O.L. Ng**, School of Clinical Medicine

Dr SHEN's thesis represents a significant piece of work in the field of liver cancer research. Her thesis presents an original and hypothesis-driven study on cancer epigenetics. This study revealed a novel mechanism of stress adaptation of cancer cells and identified a new therapeutic target for liver cancer treatment.

Hepatocellular carcinoma (HCC) is the most common type of primary liver cancer. Despite great advances in the past decades and several targeted therapies as well as immunotherapies that have been approved by the US Food and Drug Administration, their effects are only modest and HCC patients present resistance to current therapies. Dr Shen's PhD study mainly focused on a histone chaperone complex – the FACT complex – that is highly expressed in HCC and facilitates transcription elongation of stress response genes to help cancer cells adapt to stressed conditions. Combined treatment by targeting the FACT complex remarkably sensitized the anticancer effects of hepatic artery ligation surgery and current HCC therapies.

During her PhD study, Dr Shen published two first-authored papers and a number of co-authored papers in leading journals. Her research has great scientific metrics and clinical impacts, not only advancing our understanding of the molecular mechanism of liver carcinogenesis but also shedding light on the development of novel cancer therapies for HCC patients. Among other honours, she received the Dr K.P. Stephen Chang Gold Medal, Yu To Sang and Yu Shing Keung Memorial Fund Scholarship, and Hong Kong PhD Fellowship during her PhD study.

Since completing her PhD, Dr Shen has been pursuing a research career at Eisai, a leading pharmaceutical company in Japan. Her current research focuses on multi-drug resistance in HCC patients. She aims to make the translation of scientific discoveries "from bench-side to bedside" faster and more efficient.





**Dr Sean Philip SMITH**

PhD, School of English



*Thesis Title* —————

**“Untouched” Myanmar: An Ethnography of a Tourism Frontier**

*Supervisors* —————

**Professor A. Jaworski**, School of English

**Professor J.C. Kuehn**, School of English

Dr SMITH’s research examines how discourse shapes development and consumption in the contexts of the environment, tourism, and social media. In his PhD research, he investigated the languages, narratives, and imagery shaping the construction of Myanmar (Burma) as a new tourism destination. Analysing historical documents alongside contemporary social media posts while interviewing locals and tourists, this project revealed the colonial ideologies underpinning global tourism and further located discourse as a prime agent in development. This interdisciplinary approach drew upon scholarship in sociolinguistics, postcolonial studies, and anthropological ethnography, which has led to some unique publications in scholarly journals – although Dr Smith said working with different disciplinary traditions can also pose difficulties in finding an academic home after the PhD!

At present, Dr Smith is an FWO (Research Foundation – Flanders) Postdoctoral Fellow at KU Leuven in Belgium, where he has begun a new project focusing on how concepts of nature and the environment change through global and local discourses. His research site is Oman, in the Arabian Gulf, where newfound interest in outdoor activities has recently been kindled through global trends in social media and the inability to travel abroad during the COVID-19 lockdowns. The context offers a case study for understanding the relationship between (social) media and the environment around the world, and how we are all encountering nature in new ways in this era of climate change.

Looking ahead, the environment will figure prominently in Dr Smith’s research, although he said, “I hope to eventually bring my focus much closer to home – wherever that ends up being!”





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