



**PhD in Biomedical Sciences**  
**List of Potential Supervisors and Research Topic(s)**

<b>Supervisor</b>	<b>Research Topic(s)</b>
Prof. Chuxia DENG	Oncogenes and tumor suppressor genes Stem cells, Cancer metastasis and Drug development
Prof. Wei GE	Genetic analysis of growth and reproduction in the zebrafish model Impacts of environmental endocrine-disrupting chemicals (EDCs) on reproduction and public health Zebrafish as a model for aging, human diseases and drug discovery
Prof. Han-Ming SHEN	Autophagy: Regulatory mechanisms and biological functions in cancer Mitophagy: Novel regulatory mechanisms Cancer metabolism: Targeting glucose metabolism in lung cancer
Prof. Ren-He XU	Mesenchymal stem cells: the development, heterogeneity, functions, and therapeutic application
Prof. Guokai CHEN	Metabolic regulation in stem cell maintenance and differentiation Novel mechanisms involved in cardiomyocyte differentiation and maturation Skin cell differentiation for regenerative medicine Endoderm differentiation for disease model
Prof. Edwin CHEUNG	Mechanism of gene regulation in cancer Single cell analysis
Prof. Elaine Lai Han LEUNG	Application of culturomic to investigate the anti-cancer treatment mechanism of TCM Investigation of cancer drug resistance mechanism and response predictive markers Role of gut microbiota in immunomodulation
Prof. Kathy Qian LUO	Circulating tumor cells and cancer metastasis Drug resistant and anti-cancer drug discovery
Prof. Garry WONG	Bioinformatics and Computational Biology of Aging related neurodegenerative diseases
Prof. Yutao XIANG	Psychiatric epidemiology Health services research in psychiatry Evidence-based medicine in psychiatry COVID-19 related studies in psychiatry Cognition and psychiatric disorders
Prof. Zhen YUAN	Neuroscience and neuroimaging Biomedical Optics Optical Molecular Imaging and Cancer Nanomedicine
Prof. Wenhua ZHENG	Foxo and neuronal differentiation or new drugs development like artemisinin and metformin Drug development Neurodegenerative diseases The effect of Chinese medicine on tumor growth/metastasis and their underlying mechanisms
Prof. William Chong Hang CHAO	Structure and Function of Epigenetic Regulators
Prof. Yunlu DAI	Cancer nanomedicine Molecular imaging Drug delivery
Prof. Lijun DI	Remodeling of transcriptional program in cancer development by both endogenous and exogenous factors via regulating CtBP status Molecular mechanism of cancer metastasis Investigating the molecular mechanisms and identifying the potential therapeutic targets of obesity and related disease
Prof. Henry Hang Fai KWOK	Antibody / Venom-based peptide targeted therapy for anti-cancer prototype drug discovery & development (Novel multi-specific antibody platforms for immunotherapy; Novel protein expression system for large scale production of hard-to-express venom-based protein drugs Biomarkers identification and validation based on the hallmarks of cancer Tackling cancer metastasis and drug resistance: from mechanism to therapy (Glyco-engineering to improve antibody quality attributes for cancer therapy)



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Prof. Leo Tsz On LEE	Explore the role of GPCR biased signalling in cancers Proteomic and metabolic analyses of EPAC signaling in cancer cells
Prof. Gang LI	Cancer epigenetics: from mechanism to therapy Signal transduction pathways in Epigenetics
Prof. Tzu-Ming LIU	In vivo microscopy and spectroscopy of tumor microenvironment Develop serum fluoroscope for the diagnosis of organ function
Prof. Terence C.W. POON	Proteomics/Protein/Biomarker-based research in precision medicine Bioinformatics-based research in precision medicine
Prof. Joong Sup SHIM	Exploiting synthetic lethality for cancer target discovery
Prof. Kin Yip TAM	Development of small molecule inhibitors targeting cancer metabolism or Alzheimer's disease Combined use of metabolic inhibitors in lung cancer models
Prof. Peng WANG	Systems biology of cancer Algorithms for bio-medical big data
Prof. Vivien Ya-Fan WANG	Mechanism of gene regulation by NFkappaB and co-factors
Prof. Chris Koon Ho WONG	Transcription regulation of fungal metabolism and infection. Identification of novel fungal secondary metabolites with anti-cancer and antibiotic properties. Understanding the regulation of fungal spore dormancy and germination.
Prof. Ruiyu XIE	Develop transplantable platform for stem-cell based diabetic therapy Molecular switches in endodermal lineage specification Epigenetic regulation shapping tumor immune microenvironment in pancreas
Prof. Xiaoling XU	BRCA1 associated breast cancer and cancer metastasis
Prof. Hongjie ZHANG	Deciphering the mRNP code in epithelial morphogenesis Post-translational modification in tubular organ formation Sphingosine 1-phosphate signaling in luminal membrane integrity
Prof. Xuanjun ZHANG	Molecular probes for imaging/sensing and diagnosis Design of nanoreactors for biomedical applications
Prof. Qi ZHAO	Nanomedicine and target drug delivery Antibody-based therapeutics against tumors
Prof. Wa Kam CHANG	How cells polarize during cell migration, with a focus on the cytoskeleton and nuclear envelope proteins How aging affects cell polarization and how cell polarization contributes to aging defects Deciphering the acting mechanism of aging factors on the cellular and whole genome levels
Prof. Qiang CHEN	Molecular mechanisms of cancer development Regulation of metabolic homeostasis Mechanisms of drug resistance in cancer
Prof. Kai MIAO	Drivers and markers for tumor metastasis Gene therapy for cancer Applications of single cell related technology in cancer research
Prof. Chen MING	Detection of genetic variants affecting neurodegenerative diseases, especially Alzheimer's disease Multi-omics integration of neurodegenerative diseases. Genetic differences of neurodegenerative diseases in multiple human populations. Novel mechanisms of neurodegenerative diseases in the single cell and spatial transcriptomic levels
Prof. Ningyi SHAO	Study of lncRNA regulation in gender-biased diseases Integrated multi-omics analysis of tumor microevolution at the single cell level
Prof. Robert David SMITH	Mental health research Analysis of large clinical datasets for applied health sciences Health inequalities research