

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

Supervisor	Research Topic(s)
Prof Chuxia DENG	1) Oncogenes and tumor suppressor genes 2) Stem cells, Cancer metastasis and Drug development
Prof Wei GE	1) Genetic analysis of growth and reproduction in the zebrafish model 2) Impacts of environmental endocrine-disrupting chemicals (EDCs) on reproduction and public health 3) Zebrafish as a model for aging, human diseases and drug discovery
Prof Han-Ming SHEN	1) Autophagy: Regulatory mechanisms and biological functions in cancer 2) Mitophagy: Novel regulatory mechanisms 3) 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	1) Metabolic regulation in stem cell maintenance and differentiation 2) Novel mechanisms involved in cardiomyocyte differentiation and maturation 3) Skin cell differentiation for regenerative medicine 4) Endoderm differentiation for disease model
Prof Edwin CHEUNG	1) Mechanism of gene regulation in cancer 2) Single cell analysis
Prof. Jianguang JI	1) Cancer Epidemiology 2) Pharmacoepidemiology 3) Evidence-based medicine
Prof Elaine Lai Han LEUNG	1) Application of culturomic to investigate the anti-cancer treatment mechanism of TCM 2) Investigation of cancer drug resistance mechanism and response predictive markers 3) Role of gut microbiota in immunomodulation
Prof Garry WONG	Bioinformatics and Computational Biology of Aging related neurodegenerative diseases
Prof Yutao XIANG	1) Psychiatric epidemiology 2) Nursing research in psychiatry 3) Evidence-based medicine 4) COVID-19 related research in psychiatry
Prof Zhen YUAN	1) Neuroscience and neuroimaging 2) Biomedical Optics 3) Optical Molecular Imaging and Cancer Nanomedicine
Prof Wenhua ZHENG	1) Foxo and neuronal differentiation or new drugs development like artemisinin and metformin 2) Drug development 3) Neurodegenerative diseases 4) The effect of Chinese medicine on tumor growth/metastasis and their underlying mechanisms
Prof Gyeong Hun BAEG	1) Ageing 2) Stem cell self-renewal and differentiation 3) Nanomedicine
Prof William Chong Hang CHAO	Structure and Function of Epigenetic Regulators
Prof Yunlu DAI	1) Cancer nanomedicine 2) Molecular imaging 3) Drug delivery
Prof Lijun DI	1) Cancer development, metastasis, cancer metabolism 2) Metabolic diseases including obesity, diabetes, insulin resistance, angiogenesis etc 3) Tissue microenvironment, inflammation and associated disease

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Prof Henry Hang Fai KWOK	1) 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 2) Biomarkers identification and validation based on the hallmarks of cancer 3) Tackling cancer metastasis and drug resistance: from mechanism to therapy (Glyco-engineering to improve antibody quality attributes for cancer therapy)
Prof Leo Tsz On LEE	1) Explore the role of GPCR signaling in cancer tumor microenvironment 2) The using of RNA-dendrimer drugs in modulating cellular signaling cancer cells
Prof Gang LI	1) Cancer epigenetics: from mechanism to therapy 2) Signal transduction pathways in Epigenetics
Prof Tzu-Ming LIU	1) In vivo microscopy and spectroscopy of tumor microenvironment 2) Develop serum fluoroscope for the diagnosis of organ function
Prof Terence CW POON	1) Proteomics/Protein/Biomarker-based research in medicine 2) Bioinformatics-based research in medicine
Prof Joong Sup SHIM	(1) Exploiting synthetic lethality for cancer precision medicine (2) Cancer target discovery and drug development
Prof Kin Yip TAM	1) Development of small molecule inhibitors targeting cancer metabolism or Alzheimer's disease 2) Combined use of metabolic inhibitors in lung cancer models
Prof Peng WANG	1) Systems biology of cancer 2) 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	1) Transcription regulation of fungal metabolism and infection 2) Identification of novel fungal secondary metabolites with anti-cancer and antibiotic properties 3) Understanding the regulation of fungal spore dormancy and germination
Prof Ruiyu XIE	1) Develop transplantable platform for stem-cell based diabetic therapy 2) Molecular switches in endodermal lineage specification 3) Epigenetic regulation shapping tumor immune microenvironment in pancreas
Prof Hongjie ZHANG	1) Deciphering the mRNP code in epithelial morphogenesis 2) Post-translational modification in tubular organ formation 3) Sphingosine 1-phosphate signaling in luminal membrane integrity
Prof Xuanjun ZHANG	1) Molecular Probes and Nanosensors 2) Development of Phototheranostic Probes
Prof Qi ZHAO	1) Nanomedicine and target drug delivery 2) Antibody-based therapeutics against tumors
Prof Wa Kam CHANG	1) How cells polarize during cell migration, with a focus on the cytoskeleton, the primary cilium and the nuclear envelope 2) How aging affects cell polarization and how cell polarization contributes to aging defects 3) Identification and mechanistic studies of blood circulating aging/youth factors
Prof Qiang CHEN	1) Molecular mechanisms of cancer development 2) Regulation of metabolic homeostasis 3) Mechanisms of drug resistance in cancer

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Prof Qihan CHEN	1) Translational medicine 2) Development of novel technologies of Molecular Biology 3) Epigenetics and Evolutionary Biology
Prof Aifang CHENG	1) Pathogenesis of neurodegenerative diseases 2) Neuroprotective lead compounds discovery and drug repurposing
Prof Xiaofan DING	1) Tumor heterogeneity, evolution and immunity 2) Multiomic data analysis and single-cell analysis
Prof Jiajie HOU	1) Anti-cancer therapy and T cell signaling 2) Liver-specific cancer immunoediting and combinatorial immunotherapy
Prof Ka Yiu KONG	1) Mapping the degradation pathways of oncogenic fusion proteins 2) Deciphering the targeting specificity of different ubiquitin ligases for anti-cancer PROTAC development
Prof Chon Lok LEI	1) Mathematical and computational modelling for cardiac electrophysiology 2) Bridging experimental electrophysiology and systems biology under Bayesian statistics 3) Systems and computational biology for precision and translation medicine
Prof Kai MIAO	1) Drivers and markers for tumor metastasis 2) Lineage tracing 3) Applications of single cell related technology in cancer research
Prof Chen MING	1) Detection of genetic variants affecting neurodegenerative diseases, especially Alzheimer's disease 2) Multi-omics integration of neurodegenerative diseases 3) Genetic differences of neurodegenerative diseases in multiple human populations 4) Novel mechanisms of neurodegenerative diseases in the single cell and spatial transcriptomic levels
Prof Ningyi SHAO	1) Study of lncRNA regulation in gender-biased diseases 2) Integrated multi-omics analysis of tumor microevolution at the single cell level
Prof Robert David SMITH	1) Mental health research 2) Analysis of large clinical datasets for applied health sciences 3) Health inequalities research
Prof Zhenghai TANG	1) Mechanistic understanding of immune checkpoints for cancer immunotherapy 2) Identify novel immune checkpoints by CRISPR screening for cancer therapy 3) Development of CAR macrophages against cancer