

THE UNIVERSITY OF HONG KONG
LI KA SHING FACULTY OF MEDICINE

2020 Health and Medical Research Fund (HMRF) Funded Projects

Principal Applicant	Department/School/Centre	Project Title	Awarded Amount (HK\$)
Dr. KY Au	School of Biomedical Sciences	Utilizing a human ES cell model of the campomelic dysplasia SOX9Y440X mutation to understand the molecular basis of spine and joint disorders	1,500,000
Dr. CP Chan	School of Biomedical Sciences	Dual roles of zinc-finger antiviral protein ZAP in ASRA-CoV-2 restriction and feedback inhibition of PACT-mediated antiviral response	1,500,000
Professor D Chan	School of Biomedical Sciences	Leveraging bone marrow skeletal progenitor cells for treating bone mass disorders	1,499,184
Dr. HPH Cheung	School of Biomedical Sciences	Roles of SARS-CoV-2 accessory protein Orf9b in pathogenesis of severe COVID-19 through activation of HIF-1 α -mediated production of vascular epithelial growth factors	1,474,660
Dr. WYP Ching	School of Biomedical Sciences	Characterisation of the role of long non-coding RNA, NORAD on HBX mediated chromosome instability.	1,500,000
Dr. SY Fung	School of Biomedical Sciences	Type I Interferon antagonism of severe respiratory syndrome coronavirus 2 NSP5 protein	1,351,852
Professor JD Huang	School of Biomedical Sciences	Functional, phenotypical, and multimodal analysis of the tertiary lymphoid structure (TLS) and TLS B cells as potential novel biomarkers and immunotherapeutic targets for lung cancer.	1,495,692
Dr. A Javed	School of Biomedical Sciences	Solving unresolved neuromuscular disease cases via multi-omics integrative analytics	1,474,480
Dr. SWC Lai	School of Biomedical Sciences	Mechanisms underlying eye movement desensitization and reprocessing (EMDR) on fear memory trace erasure	1,499,748
Professor SKY Ma	School of Biomedical Sciences	Significance of serine protease inhibitor Kazal-type 1 (SPINK1) in liver cancer: function, regulation and therapeutic implication	1,497,248

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Dr. TL Wong	School of Biomedical Sciences	A pre-clinical study on targeting FUT2 in hepatocellular carcinoma (HCC) with PTEN loss using patient derived organoid culture and animal model	1,499,000
Dr. X Yu	School of Biomedical Sciences	Aptamer-mediated targeting of MMP14 as a potential therapeutic for osteoporosis	1,499,040
Dr. X Lin	School of Chinese Medicine	Targeting peroxisome proliferator-activated receptors in the treatment of Sjögren's syndrome	1,222,000
Dr. N Wang	School of Chinese Medicine	Hypoxia-induced FABP4 in myeloid-derived suppressor cells as a novel target for managing the recurrence of hepatocellular carcinoma after surgical resection	1,407,160
Professor KT Bae	Department of Diagnostic Radiology, School of Clinical Medicine	Deep learning-based muscle segmentation for reproducible fat and water quantification using magnetic resonance imaging – Applications to normal ageing and muscular dystrophy	1,472,724
Dr. P Cao	Department of Diagnostic Radiology, School of Clinical Medicine	Quantitative Myelin Assessment for Multiple Sclerosis Using Magnetic Resonance Fingerprinting	100,000
Dr. PK Lam	Department of Emergency Medicine, School of Clinical Medicine	Impact of early sepsis care with the National Early Warning Score 2-guided Sepsis Hour-1 Bundle in the emergency department: a hybrid type 1 effectiveness-implementation trial	1,344,100
Dr. AKC Wai	Department of Emergency Medicine, School of Clinical Medicine	Antibiotic stewardship through CRP-guided antibiotic treatment for patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD)	1,496,430
Dr. IL Mak	Department of Family Medicine and Primary Care, School of Clinical Medicine	Development and validation of a 10-year risk assessment tool for fragility fractures using electronic medical records for case finding of high-risk individuals in Hong Kong	1,391,664
Dr. SCW Chan	Department of Medicine, School of Clinical Medicine	Open-label, non-inferiority randomized controlled trial of dose reduction of biologic therapy in axial spondyloarthritis (SpA)	1,406,054
Dr. SF Chan	Department of Medicine, School of Clinical Medicine	Immunological characterization of PE/PPE proteins of Mycobacterium tuberculosis	1,308,610

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Dr. C Diaz Canestro	Department of Medicine, School of Clinical Medicine	Novel exerkinases: relationship with metabolic and cardiovascular outcomes	1,480,957
Dr. TWD Lui	Department of Medicine, School of Clinical Medicine	The effect of simvastatin on bone density in postmenopausal women with type 2 diabetes: a double-blind, randomized, active-comparator (ezetimibe) controlled clinical trial	1,478,393
Dr LY Mak	Department of Medicine, School of Clinical Medicine	Effectiveness of a smartphone app in promoting weight loss in patients with non-alcoholic fatty liver disease: a pilot multi-center randomized controlled trial	948,528
Dr. GHH Singh	Department of Medicine, School of Clinical Medicine	Efficacy and safety of ropeginterferon alfa-2b for pre-fibrotic primary myelofibrosis and DIPSS low/intermediate-1 risk myelofibrosis – the ROPEG-MF trial	1,189,872
Professor SCW Tang	Department of Medicine, School of Clinical Medicine	The role of mitochondrial translocator protein TSPO in progressive kidney disease	1,474,796
Professor A Xu	Department of Medicine, School of Clinical Medicine	Branched-chain amino acids mediate the crosstalk between gut microbiome and adipose tissues to induce metabolic inflammation	1,432,160
Professor LW Yick	Department of Medicine, School of Clinical Medicine	An investigation of targeting ICOS-ICOSL pathway for the treatment of neuromyelitis optica spectrum disorders	1,482,344
Dr. H Cao	Department of Microbiology, School of Clinical Medicine	Genome-based antibiotic resistance predictions with deep learning	967,080
Dr. LL Teng	Department of Microbiology, School of Clinical Medicine	First detection of pandemic clone Salmonella ST34-carrying mcr-3: prevalence and characteristics of multidrug resistant Salmonella in humans and foods in Hong Kong	1,500,000
Dr. ML Yeung	Department of Microbiology, School of Clinical Medicine	Unravelling protein interaction networks of the newly discovered SARS-CoV-2 cell entry mechanism mediated by circulating soluble ACE2 (sACE2): potential therapeutic target for COVID-19	1,500,000

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Dr. S Yuan	Department of Microbiology, School of Clinical Medicine	Beneficial roles of mannose supplementation and phosphomannose isomerase inhibition in respiratory virus infection	1,489,300
Dr. CKF Lee	Department of Obstetrics and Gynaecology, School of Clinical Medicine	Application of miR-125a-3p,b-catenin interacting protein 1 (CTNNBIP1), and Wnt-signaling molecules for predicting embryo implantation in IVF treatment	1,438,000
Dr. CL Lee	Department of Obstetrics and Gynaecology, School of Clinical Medicine	Placental extracellular vesicle-derived siglec-6 and CD147 on the early detection of preeclampsia	1,110,692
Dr. AKN Lam	Department of Ophthalmology, School of Clinical Medicine	Developing AI-Powered Retinal Layer Segmentation to Improve the Detection of Glaucoma & Its Progression from Wide-Field OCT Imaging	1,500,000
Dr. ACY Lo	Department of Ophthalmology, School of Clinical Medicine	Preclinical evaluation of extra virgin olive oil and lutein-in-extra-virgin-olive-oil supplementation as a new avenue for prevention of retinopathy of prematurity	1,499,998
Dr. KC Shih	Department of Ophthalmology, School of Clinical Medicine	Deep Learning Colour Fundus Image Analysis for Triage of Chinese Elderly Patients presenting with chronic vision loss	1,092,748
Dr. VYL Leung	Department of Orthopaedics and Traumatology, School of Clinical Medicine	Developing a primitive human nucleus pulposus cell line capable of differentiation via inducible N-cadherin gene editing	1,436,800
Dr. JSH Wong	Department of Orthopaedics and Traumatology, School of Clinical Medicine	Atypical femoral fractures - a personalised risk assessment tool powered by machine learning combining clinical, radiographic, and genetic risk factors	95,895
Professor KWK Yeung	Department of Orthopaedics and Traumatology, School of Clinical Medicine	Investigation of hydrogel dressing materials with embedded photoresponsive carbon quantum dots/zinc oxide (CQDs/ZnO) antibacterial nanostructures for the treatment of wound infections	1,379,660
Dr. T Zhang	Department of Orthopaedics and Traumatology, School of Clinical Medicine	A multi-center prospective validation of 'SpineNets' virtual spinal evaluation platform enabling non-contact AI auto-diagnosis and follow-up of spine malalignment	934,600

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Dr. SHS Chan	Department of Paediatrics and Adolescent Medicine, School of Clinical Medicine	Risk of cognitive impairment and microstructural brain alteration, and its genetic regulation in Duchenne Muscular Dystrophy	1,281,344
Dr. P Ip	Department of Paediatrics and Adolescent Medicine, School of Clinical Medicine	Prevalence, genetic risk factor and the use of intradermally-administered inactivated influenza vaccine with topical imiquimod in influenza vaccine non-responsive children	1,070,128
Professor YL Lau	Department of Paediatrics and Adolescent Medicine, School of Clinical Medicine	Epidemiology of measles vaccine failure in young adults in Hong Kong	1,499,752
Dr. APY Liu	Department of Paediatrics and Adolescent Medicine, School of Clinical Medicine	Clinical utility of epigenomic profiling for primary liver tumors in Chinese children	1,472,344
Professor ANY Cheung	Department of Pathology, School of Clinical Medicine	Ferroptosis as potential target in ovarian cancer therapy	1,498,248
Professor PPC Ip	Department of Pathology, School of Clinical Medicine	Improved patient management through genomic analysis of uterine smooth muscle tumor of uncertain malignant potential (STUMP)	1,110,624
Dr. CCL Wong	Department of Pathology, School of Clinical Medicine	Genome-wide CRISPR/Cas9 library screening identifies metabolic vulnerabilities and therapeutic targets in glutamine-addicted liver cancer	1,500,000
Professor JWP Yam	Department of Pathology, School of Clinical Medicine	The blockage of tumor-endothelial crosstalk as a therapeutic approach for liver cancer	1,497,582
Dr. VCH Lui	Department of Surgery, School of Clinical Medicine	Cilia malformation and dysfunction in Biliary Atresia	1,446,782
Dr. SM Tang	Department of Surgery, School of Clinical Medicine	Dissecting the role of microtubule-related genes in pathogenesis of Hirschsprung disease: stem cell and/or niche defect?	1,257,912
Dr. PH Chau	School of Nursing	Online group-based dual-task training to improve cognitive function of community-dwelling older adults: A feasibility study	100,000

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Dr. ST Cheung	School of Nursing	Development of a mobile chat-based exercise counselling intervention (ChatEx) for increasing and maintaining exercise behaviour in older cancer survivors	100,000
Dr. PH Choi	School of Nursing	Epidemiology of measles vaccine failure in young adults in Hong Kong	100,000
Dr. JJ Lee	School of Nursing	Instant message-delivered early psychological intervention in stroke family caregivers: a mixed-method study	970,776
Professor CC Lin	School of Nursing	Implementing a nurse-led advance care planning (ACP) intervention to improve ACP uptake in residential care homes: an implementation science and pragmatic cluster randomized controlled trial	1,499,498
Dr. TT Luk	School of Nursing	Effectiveness of mobile chat messaging for preventing relapse in smokers who have recently quit smoking: a randomised controlled trial	1,398,630
Professor DSF Yu	School of Nursing	The effects and cost-effectiveness of a Dyadic Empowerment-based Heart Failure Management Program (De-HF) on self-care, HRQL and hospital readmission: A randomized controlled trial	1,497,494
Dr. CL Cheung	Department of Pharmacology and Pharmacy	The effect of zoledronate on the prevention of pneumonia in hip fracture patients (Zoo-P): An open-label, pragmatic, randomised controlled trial	1,499,331
Dr. SF Chow	Department of Pharmacology and Pharmacy	Mild magnetic hyperthermia induced by smart amyloid- β peptide targeted nanoparticles: A pilot study for simultaneous diagnosis and therapy of Alzheimer's disease	1,405,184
Dr. RLC Hoo	Department of Pharmacology and Pharmacy	Adipocyte fatty acid binding protein (A-FABP) as a potential therapeutic for osteoporosis	1,497,000
Dr. FTT Lai	Department of Pharmacology and Pharmacy	Applying machine learning to identify and characterize multimorbidity profiles with increased cardiovascular, cerebrovascular, and all-cause mortality risks in a retrospective cohort of antipsychotic users	802,608

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Dr. W Wang	Department of Pharmacology and Pharmacy	Development of photoresponsive prodrug nanoparticles based on mTOR inhibitors for the treatment of skin cancer	1,491,200
Dr. ST Ali	School of Public Health	"Assessment of seasonality of influenza and COVID-19 transmission to predict their subsequent dynamics and burden in Hong Kong"	1,021,680
Dr. WH Chin	School of Public Health	SARS-CoV-2 inactivation on surface coatings and the implications on fomite transmission	1,328,016
Professor BJ Cowling	School of Public Health	Longitudinal follow-up of COVID-19 seroprevalence in health care workers, 2022-24	1,500,000
Dr. Z Du	School of Public Health	Proactive COVID-19 testing strategies in the time of mass vaccination in Hong Kong	1,021,680
Dr. TY Lam	School of Public Health	Characterising the virome of urban rodents in Hong Kong	760,778
Dr. KSM Leung	School of Public Health	Estimating transmission dynamics of COVID-19 from cross-sectional viral load distributions in the roll-out of vaccination programs	531,260
Dr. BD Montero	School of Public Health	Exercise-induced erythropoiesis: the mechanistic role of angiotensin II	604,670
Dr. TKL Tsang	School of Public Health	Employing school absenteeism data for nowcasting and forecasting of influenza epidemics in Hong Kong	851,680
Dr. YT Wong	School of Public Health	Establishing thresholds for the severity of influenza and COVID-19 epidemics in Hong Kong	529,420
Dr. P Wu	School of Public Health	Characterisation of heteroresistance in commensal Escherichia coli isolates in relation to therapeutic use of antibiotics	1,105,092
Dr. B Yang	School of Public Health	Optimizing border control measures to prevent importations of COVID-19 or another pandemic infection	945,044